POLICY ROUNDTABLES

Prosecuting Cartels without Direct Evidence

2006

Introduction

The OECD Global Forum on Competition debated prosecuting cartels without evidence of agreement in February 2006. This document includes an executive summary and the documents from the meeting: an analytical note by Mr. John Clark for the OECD, written submissions from Algeria, Argentina, Brazil, Chile, Croatia, the Czech Republic, Estonia, the European Commission, France, Jamaica, Japan, Korea, Lithuania, Romania, the Russian Federation, Switzerland, Chinese Taipei, Turkey, the United States, Zambia, and BIAC, as well as an aide-memoire of the discussion.

Overview

Circumstantial evidence is employed in cartel cases in all countries. The better practice is to use circumstantial evidence holistically, giving it cumulative effect, rather than on an item-by-item basis. Complicating the use of circumstantial evidence are provisions in national competition laws that variously define the nature of agreements that are subject to the law.

There are two general types of circumstantial evidence: communication evidence and economic evidence. Of the two, communication evidence is considered to be the more important. Economic evidence is almost always ambiguous. It could be consistent with either agreement or independent action. Therefore it requires careful analysis. National treatment of cartels, such as whether they are prosecuted as crimes or as administrative violations, can affect the burden of proof that applies to the cases, and hence the use of circumstantial evidence. It can be difficult to convince courts to accept circumstantial evidence in cartel cases, especially where the potential liability for having violated the anti-cartel provisions of the competition law is high.

There are circumstances in countries that are relatively new to anti-cartel enforcement that could affect the extent to which they rely on circumstantial evidence in their cases.

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Global Forum on Competition

PROSECUTING CARTELS WITHOUT DIRECT EVIDENCE OF AGREEMENT

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EXECUTIVE SUMMARY

by the Secretariat

Considering the discussion at the roundtable, the delegates' written submissions and the Secretariat's background paper, several key points emerge:

1. Circumstantial evidence is employed in cartel cases in all countries.

Competition law enforcement officials always strive to obtain direct evidence of agreement in prosecuting cartel cases, but sometimes it is not available. Cartel operators conceal their activities and usually they do not co-operate with an investigation of their conduct, unless they perceive that it is to their advantage to participate in a leniency programme. In this context, circumstantial evidence can be important. Almost every country making a written or oral contribution to the roundtable described at least one case in which circumstantial evidence was used to significant effect. At the same time, there are limits to the use of circumstantial evidence. Such evidence, especially economic evidence, can be ambiguous. It must be interpreted correctly by investigators, competition agencies and courts. Importantly, circumstantial evidence can be, and often is, used together with direct evidence.

2. The better practice is to use circumstantial evidence holistically, giving its cumulative effect, rather than on an item-by-item basis.

One delegate described the methodology for evaluating circumstantial evidence as like an impressionist painting, comprising many dots or brush strokes which together form an image. Another likened the process to a jig-saw puzzle. In this way, circumstantial evidence, which by definition does not describe the specific terms of an agreement, can be better understood. The materials submitted for the roundtable described a few cases in which courts declined to use this holistic approach, requiring instead that each item of evidence be linked directly to a specific agreement. The result was that the cases failed. Of course, given the ambiguous nature of some circumstantial evidence, the holistic approach can result in errors. Business representatives urged that no case be based solely on circumstantial evidence, given the significant liability facing businesses that are found to have participated in a cartel. It did not appear that any other delegation embraced this position. On balance, the holistic approach is much preferable to a requirement that each item of circumstantial be linked directly to a specific agreement.

3. Complicating the use of circumstantial evidence are provisions in national competition laws that variously define the nature of "agreements" that are subject to the law.

The anti-cartel provisions of all competition laws apply to more than straightforward explicit agreements. Laws use such terms as "concerted practice," "understanding" and "arrangement." When evaluating an evidentiary record, the nature of the agreement to which it applies may not be fully clear. This issue arises in the context of "facilitating practices." These are practices, such as information exchanges, which can facilitate an underlying cartel agreement. Evidence of them is circumstantial evidence of a cartel agreement, but it is probably not sufficient by itself to prove such an agreement. In some countries, courts have separately evaluated facilitating

practices for their anticompetitive effect. In others, however, an underlying cartel agreement must be shown. In other respects, it seems that in most countries the evidentiary burden facing the law enforcement agency does not vary according to whether the conduct is considered to be an "agreement" or some other kind of concerted action described in the law.

4. *There are two general types of circumstantial evidence: communication evidence and economic evidence. Of the two, communication evidence is considered to be the more important.*

Communication evidence is evidence that cartel operators met or otherwise communicated, but does not describe the substance of their communications. It includes, for example, records of telephone conversations among suspected cartel participants, of their travel to a common destination and notes or records of meetings in which they participated. Communication evidence can be highly probative of an agreement. Almost all of the circumstantial cases described by delegations included communication evidence; in some the evidence was compelling.

5. *Economic evidence is almost always ambiguous. It could be consistent with either agreement or independent action. Therefore it requires careful analysis.*

Economic evidence can be categorized as either conduct or structural evidence. The former includes, most importantly, evidence of parallel conduct by suspected cartel members, e.g., simultaneous and identical price increases or suspicious bidding patterns in public tenders. It can also include evidence of facilitating practices, though that conduct could also be characterised as "quasi-communication evidence." Structural economic evidence includes evidence of such factors as high market concentration and homogeneous products. Of these two types of economic evidence, conduct evidence is considered the more important. Economic evidence must be carefully evaluated. The evidence should be inconsistent with the hypothesis that the market participants are acting unilaterally in their self interest. Economics, including the use of game theory, can be instructive on how to make this judgment. It appears that in most countries, however, that kind of analysis is not yet employed. But further, economic evidence can play an important role in the initial stages of a cartel investigation. A proper analysis of it could provide a basis for deciding which of several possible cases are likely to be the most fruitful to pursue, with the hope and expectation that better evidence of agreement, both direct and circumstantial, will be discovered.

6. *National treatment of cartels, such as whether they are prosecuted as crimes or as administrative violations, can affect the burden of proof that applies to the cases, and hence the use of circumstantial evidence.*

In most countries, cartels (and other violations of the competition law) are prosecuted administratively. The principle administrative sanctions applied to this conduct are fines, usually only assessed against organisations but sometimes against natural persons, and remedial orders. In a minority of countries, but a growing one, cartels are prosecuted criminally. In most instances the burden of proof facing the competition agency is higher in a criminal case. The result is that it is usually more important that direct evidence of agreement be generated in these cases. The United States has long used the criminal process in the cartel cases prosecuted by the government, and virtually all of its cases are built on direct evidence. Still, circumstantial evidence is admissible, and useful, in that country and elsewhere.

7. *It can be difficult to convince courts to accept circumstantial evidence in cartel cases, especially where the potential liability for having violated the anti-cartel provisions of the competition law is high.*

A few jurisdictions in which there has been judicial review of decisions by competition agencies in cartel cases reported that courts sometimes view cases built on circumstantial evidence with scepticism. In this regard, as more cases are appealed to courts, the standards that they apply to circumstantial evidence are continuing to evolve. Hopefully, courts will come to see that circumstantial evidence subjected to sound economic analysis and viewed holistically can be highly probative.

8. *There are circumstances in countries that are relatively new to anti-cartel enforcement that could affect the extent to which they rely on circumstantial evidence in their cases.*

A country just beginning to enforce its competition law may face obstacles in obtaining direct evidence of a cartel agreement. It probably will not have in place an effective leniency programme, which is a primary source of direct evidence. There may be lacking in the country a strong competition culture, which could make it more difficult for the competition agency to generate co-operation with its anti-cartel programme. In short, the competition agency could have relatively greater difficulty in generating direct evidence in its cartel cases, which would imply that it will have to rely more heavily on circumstantial evidence. A few delegations confirmed that this is the situation in their countries. But there is a countervailing phenomenon: the relatively high incidence in these countries of "naïve cartels" – cartels in which their members do not attempt to conceal their activity, either because they are unaware that their conduct is unlawful or because they are not sufficiently sophisticated to do so. In the case of naïve cartels direct evidence is relatively plentiful, rendering circumstantial evidence less important. Another point was made by a few countries in which cartels were prosecuted as crimes initially under their new competition laws. It seemed that the higher burden of proof associated with criminal prosecution made the competition agency's anti-cartel burden more difficult. The advice from these countries was to begin administratively, perhaps later moving to criminal prosecution. Finally, there was general agreement in the discussion that a strong competition culture is an essential component of a successful anti-cartel programme. Education and public persuasion are important means of developing such a culture, but an even better one is vigorous enforcement of the law. The competition agency should strive to generate good cartel cases in important sectors, supported by strong evidence and demonstrating the benefits to consumers of effective anti-cartel enforcement.

BACKGROUND NOTE

Circumstantial evidence is of no less value than direct evidence for it is the general rule that the law makes no distinction between direct and circumstantial evidence but simply requires that before convicting a defendant the jury must be satisfied of the defendant's guilt beyond a reasonable doubt from all of the evidence in the case.

* * *

In order to prove the conspiracy, it is not necessary for the government to present proof of verbal or written agreements. Very often in cases like this, such evidence is not available. You may find that the required agreement or conspiracy existed from the course of dealing between or among the individuals through the words they exchanged or from their acts alone.

The above quotations, taken from the jury instructions in the recent successful criminal prosecution of the Chairman of the Sotheby's auction house,[1] illustrates that cartel conspirators can be prosecuted, even against the highest standards of proof, without direct evidence of the agreement or of their involvement in it. Indirect (circumstantial) evidence is used in most jurisdictions including those with the longest and most successful records of cartel prosecutions, where competition law enforcers now enjoy the virtuous circle of strong sanctions in past cases energising leniency programs, which generate direct evidence in new cases, and more strong sanctions.[2] Indirect evidence is particularly important for competition law enforcers in jurisdictions without such enforcement records, given that cartel conspiracies are cloaked in secrecy and direct evidence is not forthcoming.

The focus of this paper is on the use of indirect evidence in cartel investigations, typically triggered by an episode of suspicious parallel pricing or other behaviour that is not readily explained by usual market forces. When the competition agency suspects that the conduct is the result of an agreement but cannot discover direct evidence to prove the existence of an agreement, what amount and quality of circumstantial evidence is sufficient for this purpose?

The key points for the reader to take from the paper are:

- The provisions of competition laws prohibiting anticompetitive agreements apply not only to explicit agreements but also to other types of joint arrangements, variously identified as "arrangements," "combinations" or "concerted practices." In all cases, however, liability for a competition law violation can be imposed only if it can be shown that the parties reached some "conscious commitment to a common scheme."

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1 Available on the web site of the American Bar Association, at: http://www.abanet.org/antitrust/committees/criminal/taubman.doc.

2 It should be noted that the United States, well along on the virtuous circle, would not normally bring a criminal cartel case on indirect evidence alone. Even in the Sotheby's case, there was direct evidence of the agreement, and there was some direct evidence linking Sotheby's Chairman to it. Much of the evidence against him, however, was circumstantial.

- Cartels pose a special problem for enforcers because they operate in secret, and their members usually do not co-operate with investigations of their conduct. In experienced jurisdictions, competition authorities in most cases use direct evidence to prove an unlawful conspiracy. It can be difficult to obtain direct evidence of a cartel agreement, however. Enforcers may be faced with the task of proving the existence of a cartel agreement without the benefit of direct evidence.

- Circumstantial evidence can come in several forms, including evidence of communications between rivals and economic evidence. Economic evidence consists of firm conduct, market structure, and evidence of facilitating practices. All types of evidence can be useful in a case and they should be employed together.

- Economic theories of oligopoly provide several valuable insights for competition law enforcers: They show that acts consistent with unilateral incentives can lead to a different outcome than when firms act collectively, and that oligopoly does not inevitably lead to cooperation and collective action to increase prices. As a result, enforcers and decision makers should carefully examine whether firm conduct can be described as actions in unilateral self-interest absent an agreement to act jointly, or as actions in the collective interest of all competitors. Conduct consistent with unilateral self interest does not constitute good evidence in a circumstantial cartel case.

- Consistent with economic theory, a long line of case law has recognised that evidence of parallel conduct, such as simultaneous price increases by rivals, alone is not sufficient proof of a cartel agreement. There must be additional evidence, which tends to prove the existence of an unlawful agreement as required under the applicable standards of proof. Courts sometimes refer to this additional evidence as "plus factors."

- An important type of plus factor is evidence showing that there were communications among the suspected cartel operators in the course of which they could have reached agreement. Economic evidence is another important class of circumstantial evidence. It includes evidence both of conduct by market participants suggesting that they are acting jointly and of market structure that lends itself to collusive activity. One method of analysing economic conduct evidence is to consider whether the conduct would have been in the self interest of the actors if they had not been acting jointly.

- Circumstantial evidence should be considered in a holistic fashion. The decision maker should assess the cumulative effect of all evidence, rather than require that each item unequivocally support the hypothesis of agreement.

- Countries differ in the way that they develop evidence in cartel cases. Several factors contribute to these differences, including whether cartels are prosecuted administratively, civilly or criminally; and whether a country has been prosecuting cartels for a long time or has begun an anti-cartel programme only recently. There is a trend in OECD countries toward building cases based on direct evidence. But countries continue to bring cases employing mostly circumstantial evidence where it is appropriate.

- It is likely that countries just beginning an anti-cartel programme will have some difficulty generating direct evidence, and hence will have to rely more on circumstantial evidence in early cases. While these cases can be difficult, it is important that the new agency establish credibility for its competition law and for its anti-cartel effort.

1. Cartel agreements

All competition laws prohibit, among other things, anticompetitive conduct by two or more parties acting jointly. Competition laws are written broadly to apply to all forms of agreements, formal and informal, explicit and implicit. Thus, for example, the United States' Sherman act applies to any "contract, combination . . . or conspiracy;"[3] Article 81(1) of the EC Treaty applies to "agreements between undertakings, decisions by associations of undertakings, and concerted practices;" Mexico's competition law applies to "contracts, agreements, arrangements, or combinations;"[4] Chinese Taipei's competition law applies to "concerted actions," which is defined as including any "contract, agreement or any other form of mutual understanding;"[5] and Tanzania's law applies to "any agreement, arrangement or understanding between two or more persons, whether or not it is: (a) formal or in writing; or (b) intended to be enforceable by legal proceedings."[6]

As the broad statutory language suggests, unlawful agreements among competitors can take many forms. The most common in the business context is the explicit agreement, in which the parties communicate directly, either orally or in writing, specifying the relevant terms and conditions of their enterprise. But agreements do not have to be formal. They can be reached through informal means of communication, including conversations at an association meeting; public statements by senior officers; price announcements or advertisements; or communications through customers. One US court famously noted: "A knowing wink can mean more than words."[7]

It is important, however, that in all cases competition laws will impose liability for entering into an unlawful agreement only if firms have consciously acted together, whether through formal or informal means of communication. To prove a competition law violation, it must be shown that there has been a "meeting of the minds" toward a common goal or result, or, in other words, some "conscious commitment to a common scheme."[8] Conversely, liability cannot be found where firms communicated purely in the form of market place action, or where firms communicated, but did not develop some "conscious commitment to a common scheme."[9]

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3 Sherman Act § 1.

4 Article 9.

5 Articles 7 and 14.

6 Articles 2 and 8.

7 Esco Corp. v. United States, 340 F.2d 1000, 1007 (9th Cir. 1965).

8 The reader should be careful, though, and not put too much emphasis on these definitions. As other observers have noted, trying to come up with common definitions of "agreement" is not a useful exercise in cases where circumstantial evidence is used to identify a cartel. It is better to describe agreement in terms of what courts in circumstantial evidence cases actually require in terms of firm behaviour that supports the inference of agreement. *See, e.g.*, Jonathan B. Baker, *Identifying Horizontal Price Fixing in the Electronic Market Place*, 65 Antitrust L. J. 41 (1996) (arguing that this approach emphasizes the (forbidden) process of reaching supracompetitive market outcomes, rather than the outcome itself, which in turn ensures that remedies focus on forbidden acts that can be enjoined.).

9 In a recent article Greg Werden notes the confusion in terminology that is employed in this field. The terms "express," "explicit," "tacit" and "co-ordinated" are often found, but users do not always ascribe the same meaning to them. For example, the term "tacit collusion" has been used to describe an alleged cartel agreement for which only indirect evidence is available, but also to describe cases of parallel, interdependent conduct that does not amount to an unlawful conspiracy. Werden uses the term "spoken agreement" to refer to an unlawful conspiracy. Gregory J. Werden, *Economic Evidence on the Existence of*

Proving the existence of a cartel agreement, whether formal or informal, poses special problems for the competition law enforcer. Cartels are usually formed and conducted in secret; their participants understand that their conduct is unlawful, and that their customers would object to the conduct if they knew about it, and so they take pains to conceal it. If an investigation into their conduct is undertaken, the participants usually do not co-operate with it, except through a leniency programme. Obtaining *direct* evidence of a cartel agreement -- evidence that identifies a meeting or communication between the subjects and describes the substance of their agreement -- requires special investigative tools and techniques, which the authority may lack.[10] Thus, the competition law enforcer may be faced with the task of proving the existence of a cartel agreement without the benefit of direct evidence. The following section discusses which types of evidence a competition enforcer might be able to use to prove the existence of a cartel, focusing on various types of indirect evidence.

2. Available evidence for proving a cartel agreement

2.1 Categories of evidence

Evidence used to prove a cartel agreement can be classified into two types: direct and circumstantial. Circumstantial evidence, in turn, consists of "communication" evidence and economic evidence, which include firm conduct, market structure, and evidence of facilitating practices.

Common types of *direct evidence* include:

- A document or documents (including email messages) essentially embodying the agreement, or parts of it, and identifying the parties to it.

- Oral or written statements by co-operative cartel participants describing the operation of the cartel and their participation in it.

There are different types of *circumstantial* evidence. One is evidence that cartel operators met or otherwise communicated, but does not describe the substance of their communications. It might be called "communication" evidence for purposes of this discussion. It includes:

- records of telephone conversations between competitors (but not their substance), or of travel to a common destination or of participation in a meeting, for example during a trade conference.

- other evidence that the parties communicated about the subject – e.g., minutes or notes of a meeting showing that prices, demand or capacity utilisation were discussed; internal documents evidencing knowledge or understanding of a competitor's pricing strategy, such as an awareness of a future price increase by a rival.

A broader category of circumstantial evidence is often called *"economic"* evidence. Economic evidence identifies primarily firm conduct that suggests that an agreement was reached, but also conduct of the industry as a whole, elements of market structure which suggest that secret price fixing was feasible, and certain practices that can be used to sustain a cartel agreement.

Collusion: Reconciling Antitrust Law with Oligopoly Theory, 71 Antitrust L. J. 719, 735-36 (2004). This paper will generally use the terms "agreement" or "cartel agreement" to refer to an unlawful conspiracy.

10 The secret video tapes generated in the *Lysine* investigation certainly qualify; they continue to represent the gold standard in cartel evidence. Unfortunately, obtaining such "real time" evidence of agreement is usually not possible.

Conduct evidence is the single most important type of economic evidence. As noted earlier, observation of certain, suspicious conduct frequently triggers an investigation of a possible cartel. And as the section in this paper on economics highlights,[11] careful analysis of the conduct of parties is important to identify behaviour that can be characterised as contrary to the parties' unilateral self-interest and which therefore supports the inference of an agreement. Conduct evidence includes, first and foremost:

- parallel pricing – changes in prices by rivals that are identical, or nearly so, and simultaneous, or nearly so. It includes other forms of parallel conduct, such as capacity reductions, adoption of standardised terms of sale, and suspicious bidding patterns, e.g., a predictable rotation of winning bidders.

Industry performance could also be described as conduct evidence. It includes:

- abnormally high profits;
- stable market shares;[12]
- a history of competition law violations.

Evidence related to *market structure* can be used primarily to make the finding of a cartel agreement more plausible, even though market structure factors do not prove the existence of such an agreement. Relevant economic evidence relating to market structure includes:

- high concentration;
- low concentration on the opposite side of the market;
- high barriers to entry;
- high degree of vertical integration;
- standardised or homogeneous product.

The evidentiary value of structural evidence can be limited, however. There can be highly concentrated industries selling homogeneous products in which all parties compete. Conversely, the absence of such evidence cannot be used to show that a cartel did not exist. Cartels are known to have existed in industries with numerous competitors and differentiated products.[13]

A specific kind of economic conduct evidence is "*facilitating practices*" – practices that can make it easier for competitors to reach or sustain an agreement. It is important to note that conduct described as facilitating practices is not necessarily unlawful.[14] But where a competition authority has found other

11 Section 3, *infra at p.* 24.

12 Market shares, of course, are also an element of market structure. Stable market shares are classified as conduct for purposes of this discussion because they could be the result of a conscious agreement among competitors not to compete.

13 Consider, for example, the French case against the mobile phone operators, discussed *infra* at p. 376. The market was concentrated, but mobile phone services would normally not be considered a homogenous product.

14 Sometimes, however, and depending on the circumstances, facilitating practices have been condemned in their own right as competition law violations, without the need for showing an underlying anticompetitive

circumstantial evidence pointing to the existence of a cartel agreement, the existence of facilitating practices can be an important complement. They can explain what kind of arrangements the parties set up to facilitate the formation of a cartel agreement, monitoring, detection of defection, and/or punishment, thus supporting the "collusion story" put together by the competition law enforcer. Facilitating practices include:

- information exchanges;[15]
- price signalling;[16]
- freight equalisation;[17]
- price protection and most favoured nation policies;[18] and
- unnecessarily restrictive product standards.[19]

2.2 A brief example

Consider the following brief description of a recent Italian cartel case. It illustrates nicely how a competition authority can combine a range of different types of evidence into a persuasive story of collusion.

2.2.1 Italy – Baby Milk[20]

In October, 2005 the Italian Competition Authority announced that it had fined seven sellers of baby milk, comprising three legal entities, a total of €9,743,000 for engaging in a cartel in violation of Article 81 of the EC Treaty. The Italian Government had noted during the period 2000-2004 that these firms had engaged in parallel pricing of their products, and that their prices in Italy were significantly higher – between 150% and 300% – than prices in other European countries. The Authority developed evidence of

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agreement. See, e.g., Donald S. Clark, *Price-Fixing Without Collusion: An Antitrust Analysis of Facilitating Practices After Ethyl Corp.*, 1983 Wisconsin Law Review 887.

15 Problematic *information exchanges* include those containing information about current prices, costs, business plans, capacity utilisation, or other nonpublic, business sensitive information. The use of this information in facilitating a cartel is obvious – it aids both in setting the terms of agreement and in monitoring compliance with it.

16 *Price signalling* is a form of information exchange, usually conducted by means of public announcements of future prices or pricing policy. This information obviously can assist rivals in reaching agreement.

17 *Freight equalisation* schemes, whereby products are sold on a delivered basis (freight is absorbed by the seller), or by using a "basing point" system in which freight is charged by all sellers as though their products were shipped from a single location, eliminate a variable component of prices, making it easier for rivals to define the cartel price and to monitor it.

18 *Price protection (meeting competition) and most favoured nation* clauses, whereby buyers are guaranteed the lowest price offered either by a seller's rivals (price protection) or by a seller to other buyers (MFN), are by no means always anticompetitive, but in the right circumstances they can serve as enforcement or punishment mechanisms in a cartel agreement.

19 Agreement on unnecessarily *restrictive product standards* operates to exclude new entry, which could destabilise a cartel.

20 *See* the press announcement of the case on the Competition Authority's website, at http://www.agcm.it/eng/index.htm.

contacts between the firms, both direct and indirect, that supported a finding of concerted action. Direct contacts included participation in special meetings at the headquarters of the manufacturers' Association, following a request by the Health Minister to reduce prices. The evidence showed that there was open discussion among the manufacturers regarding their response to the Minister's request, and that they agreed not to reduce prices by more than 10%.

Indirect contacts occurred as the respondents established recommended resale prices for pharmacies, which were the principal retail outlet for their product. Special characteristics of the market made it possible for sellers to compute their rivals' wholesale prices by reference to their recommended resale prices.

The Authority noted that since it began its case in 2004, prices of baby milk had declined by 25% and there had been other procompetitive developments in the market, including more advertising and consumer information, the introduction of new products and a greater presence of the respondents' products in supermarket chains.

Here is a list of the types of evidence apparently uncovered by the authority:

- direct evidence: the producers apparently agreed on a maximum price reduction;
- communication evidence: the producers had met at the trade association and discussed prices, although with the exception of the maximum price reduction there was no direct evidence that they had reached an agreement;
- conduct evidence: parallel pricing; steep price reductions and increased competition following the investigations which suggested that earlier high prices were not the result of competitive behaviour;
- conduct of the entire industry: across the board, the prices were significantly higher than in other European countries;
- market structure evidence: this was a highly concentrated industry with only three independent suppliers, and they sold a relatively homogenous product; and
- facilitating practices: recommended resale prices for pharmacies with significant price transparency, sales occurred predominantly through pharmacies which eliminated outlets such as grocery stores that likely would have used discount prices.

2.2.2 Some General Comments about Evidence

There are a few general points to be made about these categories of evidence. First, there is not necessarily a bright line between direct and circumstantial evidence, especially when considering various forms of communication evidence. Second, all types of evidence – direct and circumstantial – are helpful to the competition law enforcer. They can be, and often are, used together. And third, quality matters. Direct evidence in the form of testimony from a single, unconvincing witness is less credible than strong and cumulative circumstantial evidence.

There is a broad range of conduct and other factors that enforcers and courts have considered relevant in circumstantial cases against cartels. Decisions have typically identified how much evidence is the

critical mass of evidence for a successful case.[21] This makes the task of the competition enforcer more difficult and outcomes of cases less predictable, but appears to be the inevitable result of the fact specific nature of each case. However, a closer analysis of cases and economic theory suggest that two types of circumstantial evidence are most important, including whether the parties communicated or at least had the opportunity to communicate and an analysis of whether firm conduct was in the firm's best unilateral self interest, absent an agreement to act collectively.[22]

Circumstantial evidence typically is ambiguous; often it is subject to more than one interpretation. For example, certain parallel conduct may also be consistent with independent action; a meeting of parties and communications during the meeting may have had benign purposes. The principal task of the competition law enforcer when it has only circumstantial evidence is to carefully examine whether the conduct under investigation is simply the result of independent action by market participants, each acting according to its own judgment as to its best interests. When it has come to the conclusion that this was not the case, it must convince the decision maker that the evidence proves the existence of an unlawful agreement under the relevant evidentiary standards. Economics has an important role in informing the decision maker as to how to make that judgment.

3. Economic reasoning can help identify probative indirect evidence

Using economic evidence to indirectly prove the existence of a cartel agreement raises a fundamental problem: how to distinguish conduct which is likely due to an unlawful agreement from conduct which arises "innocently" as the product of independent decision-making in a concentrated industry. To make that distinction, some background in economics is necessary. This section briefly describes how economic theory may help to better understand the behaviour of firms that seem to be operating as if they had formed a cartel. The section first explains economic theories that can be used to describe firm behaviour. It then discusses how these theories can help to identify "good" economic evidence that tends to support the finding of an unlawful agreement. Last, it provides some suggestions for the use of economic evidence in cartel cases based on circumstantial evidence.

Generally speaking, one can distinguish three broad categories of economic models that describe firm behaviour. First, firms can independently pursue their "unilateral non-cooperative best response" given what rivals are doing. In these types of models the market equilibrium is determined when each firm pursues it best response given their [its?] rivals' best response. This type of equilibrium – best responses to best responses – is typically called a Nash equilibrium. Two elementary models that use this concept to determine the market equilibrium price and output were outlined long ago.[23] Indeed, much like these very

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21 *See, e.g.,* Andrew I. Gavil et al., *Antitrust Law in Perspective: Cases, Concepts, and Problems in Competition Policy* 283 (2002).

22 These two factors are discussed in greater detail below. *See infra*, at p. 29.

23 In 1838 Cournot proposed that firms choose their optimal output level given their rivals' outputs and 1883 Bertrand proposed instead that firms choose the optimal price given their rivals' prices. Both the Cournot and Bertrand models are examples of one shot games. In such games, participants expect that the game will last only for one period. In repeated games (for example, models associated with the Folk Theorem), the players play the one shot game repeated. Repeated games typically identify multiple equilibria and there appears to be a widely held view among economists that the actual outcomes in an oligopoly are determined by factors outside those models. Such factors can include, in particular, agreements among competitors. As a result, the usefulness of in particular infinitely repeated game models to explain firm conduct in circumstantial evidence cases has been questioned, and they are not discussed in greater detail in the text. For an analysis of this issue *see* Gregory J. Werden, *supra* note 9, at 759-765.

Whatever model the parties propose as lawful explanation of their conduct, competition authorities must check that the model's underlying assumptions are a good description of the industry in question.

old models, modern economics makes extensive use of the Nash equilibrium concept to model firm behaviour in many different types of markets.[24]

A second class of "models" argues that firms may at times recognise that mutual accommodation is in their best interests. Theories of this type indicate that certain actions by a firm are only profitable given an accommodating response by their rivals. And, when there is accommodation, firms' actions become "coordinated" in the sense that neither could have achieved that result without the help of the other.[25] Importantly, it should be understood that in models which feature accommodation, firms do not reach an explicit (unlawful) agreement through communication with each other, but rather come to understand what was in their mutual best interests through market place interactions.[26]

A third class of firm behaviour involves cartels. Here the key feature is that firms explicitly reach an agreement through direct communication with one another. The key difference between cartel behaviour and accommodation is that firms directly communicate with each other as they might in the proverbial smoke filled room or as in the US FCC spectrum auction case where firms communicated with each other through the prices they submitted.[27]

Notably, in cartel cases that primarily rely on circumstantial evidence there is no "silver bullet" showing that the parties reached an agreement. Thus, the authority must build a case that attempts to separate accommodating and unilateral behaviour from behaviour tending to show that rivals reached an explicit agreement. The key question is what types of circumstantial evidence tend to push aside the idea of legitimate competition and support the finding of an explicit agreement among competitors

In order to identify economic evidence that is of high quality and hence useful at discriminating among competing theories, the competition authority should have a good sense of the appropriate model that best describes the unilateral incentives of a firm to compete in the market that is being investigated. First, the authority must identify the set of actions that can be characterised as unilateral, non-cooperative best response behaviours in a given case. Then, and only then, can it identify actions that are inconsistent with that behaviour and thus support the hypothesis that an illegal cartel was formed. In other words, actions compatible with unilateral, non-cooperative best response behaviour serve as a benchmark to which a firm's behaviour can be compared during the period of suspicious activity.

The following two examples of dominant-firm price leadership and Cournot oligopoly illustrate this point. A model of dominant-firm price leadership indicates that when the dominant firm's marginal cost goes up, the optimal price charged by it and all of the firms in the market also goes up. Indeed, the price of all firms in the market changes simultaneously. In this model, there is no accommodation, let alone an

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24 Following up on these developments, competition authorities have made extensive use of unilateral effects theories and today many legal complaints are brought primary based on a unilateral effects concern.

25 This reasoning has been the basis of numerous complaints by competition authorities in a variety of merger cases when they speak of a coordinated effects concern.

26 Certain economically minded students of antitrust policy have argued that coordinated or accommodating behaviour by firms should be treated as a violation of competition law. *See* Richard A. Posner, Antitrust Law 94 (2nd ed. 2001). The prevailing view is, however, that cases where competitors have not reached an agreement should not be held to violate competition laws as it would be difficult or next to impossible to design an appropriate remedy. *See, e.g.*, Jonathan B. Baker, *Identifying Horizontal Price Fixing in the Electronic Market Place*, 65 Antitrust L. J. 41, 48 (1996). *See also* Gregory J. Werden, *supra* note 9, at 773-77, for a discussion of Posner's view.

27 See United States v. Omnipoint Corporation, No. 1:98CV02751 (D.D.C. November 10, 1998); United States v. Mercury PCS II, L.L.C., No. 1:98CV02751 (D.D.C. November 10, 1998); United States v. 21st Century Bidding Corporation, No. 1"98CV02752 (D.D.C. November 10, 1998).

explicit cartel. Instead, each firm is pursuing its unilateral, non-cooperative best response. This very elementary model, at the very least, serves as a warning that simultaneous or near simultaneous price movements can be consistent with alternative theories of behaviour and not just cartel conduct – let alone identifying the dominate firm as the cartel ringmaster. As mentioned earlier, the competition authority must check whether that model best describes the unilateral incentives of a firm to compete in the market that is being investigated. In the example discussed here, when parties submit that a dominant-firm price leadership model can explain firm behaviour under investigation as legitimate, unilateral conduct, a competition authority must examine whether the assumptions of that model appropriately describe the industry in question. The relevant questions could include, for example, whether in light of industry structure, price setting and other market conduct in the past (during non-collusive periods), the price leadership model is a good explanation for how prices are formed.

Similarly, the Cournot model highlights that evidence showing that prices are higher in markets where there are fewer players than in markets where there are many can be consistent with the independent, unilateral behaviour of a firm, and not only with the actions of a cartel. In fact, higher prices with fewer firms in a market is consistent with unilateral theories, accommodating behaviour and cartel actions. This type of economic evidence would not support the finding of an agreement, and therefore by itself would be of little value in a circumstantial evidence case.

Because it is necessary in each case to carefully identify which actions are in a firm's unilateral self-interest, the broad notion that "interdependent pricing may often produce economic consequences that are comparable to those of classic cartels" is not helpful in analysing circumstantial evidence cases. This point is explained below.

The prisoner's dilemma provides a good example of how unilateral incentives lead to a different outcome than when firms act collectively.[28] For purposes of this paper, the fundamental point of the prisoner's dilemma is that unilateral incentives may lead each firm away from pricing high and earning high profits and towards lowering prices, even though each firm anticipates that the rival will cut prices as

[28] The following table identifies two competitors: firm 1 and firm 2 and defines the profits that correspond to the sets of actions that are available to firm 1 and 2, respectively.

Table: Prisoner's Dilemma

		Firm 2	
		Price High	Price Low
Firm 1	Price High	10, 10	3, 15
	Price Low	15, 3	4, 4

For example, if firm 1 prices high and firm 2 prices low then firm 1 earns 3 and firm 2 earns 15. To find the Nash equilibrium and to highlight how unilateral incentives determine the Nash equilibrium let's begin in the box where both firm 1 and firm 2 are pricing high. This box indicates that both firm 1 and firm 2 each earn 10 in profits. Call these the profits that each would earn if they explicitly agreed to fix prices. In order to understand the incentives facing each firm ask what firm 1 should do if it thinks that firm 2 will price high. If firm 2 prices high then firm 1's profit can be 10 if it also prices high or 15 if instead it defects on the cartel and prices low. Because 15 is more than 10 it is in firm 1's unilateral interest to price low. Now, firm 2 knows that if firm 1 prices low that it could earn 4 if it also priced low or 3 if it continues to price high. Because 4 is more than 3, firm 2 will choose to price low as well. This is, as it turns out, is the Nash equilibrium because each firm's best response to the other firm's best response is for both to price low.

well. Conversely, matching the high price of a competitor may be in the collective interest of all competitors, but is not necessarily consistent with unilateral self interest. Thus, when analysing circumstantial evidence, care must be taken not to conflate the two separate concepts of unilateral self-interest and collective interest of all competitors.

Using the insight of game theory that cooperation cannot be expected to happen spontaneously, Stigler's work on oligopoly emphasised the incentives of cartel members to defect if they believe that they can gain larger profits by cheating than by conforming to the cartel agreement.[29] Stigler identified three "problems" that cartels need to be overcome. First, they need to reach a consensus on the terms of their agreement. This task may be extremely difficult to accomplish without communication – as game theory puts it, there is an abundance of riches, too many possible decisions of market players. Second, cartels need a detection mechanism to ensure that every member follows the cartel rules. Third, a mechanism is needed to punish those who cheat, in order to deter members from defection.[30] Like the prisoner's dilemma, Stigler's model of oligopoly highlights that oligopoly does not inevitably lead to cooperation and collective action to increase prices.[31]

Courts have not always been careful to distinguish between actions in unilateral self-interest and those in the collective interest of all competitors and to realise that increased prices are not a necessary result of oligopoly absent collusion. A good example where a court seems to have made an error in this regard occurred in *Reserve Supply*.[32] In that case, a private action, the plaintiffs cited a series of parallel price increases during a period when demand was low. The defendant countered that it would have been "irrational to attempt to increase sales by maintaining lower prices, because lower prices would be met by their competitors, leaving no increase in market share and reduced profit levels." Finding that demand was inelastic, the court reasoned that by maintaining lower prices the defendant could have attracted only customers of the defendant's competitors. The court concluded that failing to keep prices low "does not suggest that [the defendants] 'acted in a way, that but for the hypothesis of joint action, would not have been in their interest.'" Significantly, this statement is exactly the wrong reasoning. In essence the court failed to appreciate that, depending on the circumstances, firms in the pursuit of their own interests may compete prices down from high levels in ways similar to that described by the prisoner's dilemma game.[33]

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29 George J. Stigler, *A Theory of Oligopoly*, 72 J. Pol. Econ. 44-61 (1964).

30 For a good hypothetical, using numerical examples, of the problems faced by firms considering a cartel *see* Andrew I. Gavil et al., *supra note* 21, at 228-35.

31 Stigler's description of the problems faced in the formation and operation of a cartel can provide useful guidance to a competition authority which attempts to build a cartel case using circumstantial evidence since attempts by cartel members to overcome these problems may have created an evidence trail. When seeking to establish that the companies' behaviour was not consistent with unilateral self interest, a competition authority can strengthen its "conspiracy story" if it has evidence that explains how the cartel solved the problems of formation, detection, and/or punishment. For example, the competition authority may be able to explain that certain facilitating practices were used by the cartel member to monitor their compliance with the agreement and provide for the possibility to punish defectors. The Italian baby milk case, discussed supra, at p. 22, provides a nice illustration of this point (facilitating practices included measures to create price transparency, and use of sales channels where price discounts were unlikely). On "facilitating practices," *see supra* at p. 21 Note, however, that evidence concerning the solution of the three cartel problems will not always be available.

32 Reserve Supply Corporation v. Owens-Corning Fiberglas Corporation, 971 F. 2d 37 (7th Circuit 1992).

33 For further examples on the use of the concept of actions against unilateral self interest *see infra* at p. 31.

A classic example of an agency putting together circumstantial evidence showing that firms did not behave in accordance with their unilateral, non cooperative interest comes is *American Tobacco*.[34] In that case the court found a "record of price changes" was "circumstantial evidence of the existence of a conspiracy." On June 23, 1931 the big 3 tobacco firms in the United States all announced simultaneous price changes and no "economic justification for this raise was demonstrated." Other simultaneous price changes followed over the next several years. Precisely because of the simultaneity and because no economic justification (like higher costs) was demonstrated, the court found that this circumstantial evidence was enough to convict the defendants all on criminal charges. In contrast, if costs had increased around the times of the price increases then it would not be clear at all whether there was a conspiracy or not.

To summarise the discussion in this section, below are four points Werden has identified that focus attention on key issues regarding the use of economic evidence:[35]

- First, "something more than interdependence must be shown before agreement can be inferred." For example, when a competitor raises price in response to a rival raising price such activity may be fully consistent with the each firm's unilateral non cooperative best response given its rivals' responses. If we cannot condemn a firm for lowering its price in response to rivals' lowering their prices then we also cannot do so for price increases. Something more needs to be shown. (This 'extra' is further elaborated in the following text).

- Second, "the existence of an agreement cannot be inferred from actions consistent with Nash, non-cooperative equilibrium in a one shot game." Such behaviour, in fact, is fully consistent with vigorous competition and provides a useful benchmark against which suspicious activity can be gauged.

- Third, actions that are inconsistent with the one-shot Nash non-cooperative equilibrium can be used to infer the existence of an agreement, even if they may be consistent with actions taken in an infinitely repeated game model. Infinitely repeated game models do not provide a useful benchmark to identify action contrary to self interest.

- Fourth, for practical and policy considerations, the "existence of an agreement should not be inferred absent of evidence of communications of some kind among the defendants through which an agreement could have been negotiated." This kind of evidence is a useful indication that the conduct observed in the market place was the result of an unlawful agreement and thus can be an important factor to avoid enforcement action in cases of unilateral or accommodating behaviour.

4. Cases inferring an agreement from circumstantial evidence

Cartel cases in which there is no direct evidence of agreement often begin in a familiar way: there is an episode of suspicious parallel pricing or other behaviour that is not readily explained by usual market forces. By definition the competition agency cannot directly prove that the conduct is the result of an agreement. The question presented is, what amount and quality of circumstantial evidence is sufficient for this purpose?

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34 American Tobacco Co. v. United States, 328 US 781 (1946).

35 Gregory J. Werden, *supra* note 9, at 779-80.

Over the years, courts, competition authorities and competition experts have come to accept that "conscious parallelism," which involves nothing more than identical pricing or other parallel behaviour deriving from independent observation and reaction by rivals in the marketplace, is not unlawful.[36] As explained above, this view is well grounded in economic theory. Economic theory and case law have made it clear that something more than conscious parallelism is required. Defining that "something more" has proved difficult; courts in a few jurisdictions have wrestled with the problem for decades. One formulation, developed in the United States in civil cases (criminal cases are discussed below), requires that there exist certain "plus factors," which prove that agreement is more likely the cause of the parallel conduct than independent action. One US court described the standard in a recent decision as follows:

> . . . [W]e have required that plaintiffs basing a claim of collusion on inferences from consciously parallel behaviour show that certain "plus factors" also exist. Existence of these plus factors tends to ensure that courts punish "concerted action"—an actual agreement—instead of the "unilateral, independent conduct of competitors." In other words, the factors serve as proxies for direct evidence of an agreement.[37]

Other jurisdictions do not use the same terminology as US courts, but it seems that the analysis that they apply is similar.[38] This section will first more closely look at how decision makers have used the two factors commonly seen as the most important types of circumstantial evidence: communication or opportunity to communicate; and action against self-interest.

4.1 Communications

One important type of plus factor is that which indicates that the parties communicated about prices in a manner that permitted them to reach an agreement, or at least had the opportunity to communicate. The evidence falls short, however, of proving an explicit agreement. The following civil case from the United States highlights the importance of communication evidence.

4.1.1 Flat Glass[39]

This case, decided in 2004, is useful because the court considered allegations of price fixing in two separate markets, one for flat glass and one for automotive replacement glass. It concluded that in the former there was sufficient circumstantial evidence of price fixing to support a finding of unlawful agreement, while in the latter the evidence was insufficient.[40] In the flat glass market there had been

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36 See, e.g., 6 Phillip E. Areeda and Herbert Hovenkamp, *Fundamentals of Antitrust Law* (3d ed. 2004), ¶1433a, at 236: "The courts are nearly unanimous in saying that mere interdependent parallelism does not establish the contract, combination or conspiracy required by Sherman Act §1;" Ivo Van Bael & Jean-François Bellis, *Competition Law of the European Community* (4th ed. 2005), at 55: "Parallel behaviour between two or more undertakings as such does not constitute sufficient evidence to establish the existence of a concerted practice. The EC Treaty "does not deprive economic operators of the right to adapt themselves intelligently to the existing and anticipated conduct of their competitors." (quoting from Case 48/69, ICI v. Commission, [1972] ECR 619, para. 118).

37 In re Flat Glass Antitrust Litigation, 385 F 3d 350, 359-60 (3d Cir. 2004).

38 For discussions of the EU jurisprudence on the topic of circumstantial evidence in cartel cases, see, e.g., Mark Jephcott, *Horizontal Agreements and EU Competition Law* (2005); Sigrid Stroux, *US and EC Oligopoly Control* (2004); Lennart Ritter and David Braun, *European Competition Law: A Practitioner's Guide*, 100-110 (3d ed. 2004) ; Richard Whish, *Competition Law*, 514-16 (5th ed. 2003).

39 In re Flat Glass Litigation, *supra* note 37.

40 Most of the recent US civil cases dealing with this topic have been presented to US appellate courts upon appeal from a dismissal of the case by the trial court before a complete factual record had been made.

significant episodes of parallel pricing by the defendants. Several times in the relevant period they raised their list prices by identical amounts and within close time frames. The market structure was consistent with possible collusion. There was high concentration, featuring just a few sellers. The product was relatively homogeneous, where price was the most important distinguishing feature. There were high fixed costs; there was a substantial amount of excess capacity in the industry; and demand was static. The industry was, in the words of the court, "a text book example of an industry susceptible to efforts to maintain supra competitive prices."[41]

There was also evidence that the price increases implemented by the defendants were not consistent with actions which would occur in a competitive market. The increases were not prompted by any change in costs or demand, and their result was to attract a new entrant. They were, concluded the court, actions "contrary to the self interest" of the defendants unless there existed a collusive agreement (that concept is discussed further below). But the court said that while this evidence was important, it was not sufficient in this case: "The most important evidence will generally be non-economic evidence 'that there was an actual, manifest agreement not to compete.' "[42] There was also ample evidence of this kind. There had been a series of meetings and communications in which prices were discussed. Internal records of the participants indicated that they typically had knowledge of one another's pricing policies that they could not have acquired by public means. The court held that in its totality the circumstantial evidence was sufficient to support the finding of an unlawful agreement.

In contrast, in the automotive replacement glass market the circumstantial evidence relating to communications between the defendants was much more sparse. The conduct that formed the principle basis for the allegation of price fixing was a practice by which the industry members provided certain pricing information to a third party trade association, which then published it in a form that permitted the participants to calculate one another's prices. The court found this evidence, standing alone, to be insufficient. Publication of pricing information, it noted "can have a procompetitive effect." It declined to "rest on [an] inference of collusion from this ambiguous, or even procompetitive, fact."

4.2 Economic evidence

Communication evidence is undeniably important – many would say critical in a circumstantial case. Certain economic evidence, however, also can play an important role in these cases. The following decision, written by the influential American jurist and scholar, Richard A. Posner, is a good example of how to analyse circumstantial economic evidence.

Under US "summary judgment" procedures the court can grant judgment in advance of a full trial if the moving party can show that all necessary factual issues are settled or so one-sided they need not be tried. A different, more lenient (to the proponent) legal standard applies to summary judgment motions than to a final judgment. In these cases the appellate court is not deciding finally whether an agreement has been proved, but only whether there is sufficient evidence of agreement to permit that question to be submitted to the fact finder (judge or jury). Nevertheless, these cases are instructive on the issue of proof of agreement in horizontal cases.

41 *Id.*, at 361.

42 Ibid, quoting from an opinion by Judge Richard Posner in In re High Fructose Corn Syrup Antitrust Litig., 295 F.3d 651 (7th Cir. 2002).

4.2.1 High Fructose Corn Syrup[43]

The four principal manufacturers of high fructose corn syrup (HFCS), a sweetener made from corn, were alleged in a private civil damages case to have conspired to fix the price of their product during the period 1988-95. The trial court dismissed the case, but the appeals court reversed, sending the case back for trial.

Judge Posner succinctly classified the types of evidence relevant to proof of agreement under the Sherman Act:

> The evidence upon which a plaintiff will rely will usually be and in this case is of two types—economic evidence suggesting that the defendants were not in fact competing, and non economic evidence suggesting that they were not competing because they had agreed not to compete. The economic evidence will in turn generally be of two types, and is in this case: evidence that the structure of the market was such as to make secret price fixing feasible (almost any market can be cartelised if the law permits sellers to establish formal, overt mechanisms for colluding, such as exclusive sales agencies); and evidence that the market behaved in a non competitive manner.[44]

The court noted various elements of economic evidence in the case that were consistent with an agreement: high concentration on the selling side, a "highly standardised" product; a lack of close substitutes for HFCS, a significant amount of excess capacity maintained by the defendants, market-wide price discrimination.[45] The court then turned to (economic) conduct evidence that suggested an agreement. It described a change to a pricing formula that was not based on cost. It also pointed to a change in the length of contracts imposed by the defendants and to a suspicious pattern among defendants of buying and selling from one another. It also noted an unusual stability of market shares in the industry, under circumstances in which one would expect more volatility. And the court gave some credibility to expert testimony showing that the prices for HFCS were higher during the period of the alleged conspiracy than they were before or after.

The court also found that there was communication evidence in the record that supported such a conclusion. It consisted of documents and other statements by officers of the defendants that referred obliquely to agreements and understandings, and gave indications that they had non-public information about their rivals' pricing decisions. The court held that the evidence in its entirety was sufficient for a trier of fact to conclude that there had been agreement.

4.2.2 "Action against self interest"

This is a concept employed in US courts in recent years. As explained in greater detail in the economics section, it is a critical step in the evaluation of economic evidence.[46]

An action against self interest is one that would be against the self interest of the actor in the absence of agreement. The firm would not have acted as it did if it had been acting unilaterally. An action against self interest might take the form of a refusal to deal with a customer or supplier, when there appear to be no

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43 In re High Fructose Corn Syrup Antitrust Litig., *supra* note 422.

44 *Id.*, at 655.

45 Price discrimination is not always anticompetitive, and the existence of it does not always indicate collusion. Judge Posner discusses at some length in the decision why it is relevant in this case. *Id.* at 658.

46 *See supra*, at p. 24.

economic reasons why the party would refuse such a business opportunity.[47] It could involve a pattern of information exchanges – cost information, for example, or information about transaction prices – that businesses normally consider to be confidential, and which rivals in a competitive market could use to their advantage. It could involve a pricing structure that bears no relation to cost, or that otherwise seems to have no market-based justification.

A case in which this concept was important was *Blomkest Fertiliser*.[48] It involved allegations by fertiliser manufacturers that eight potash producers, six of them Canadian, had conspired to fix the price of potash between 1987 and 1994 (potash is an important input into fertiliser). The plaintiffs' case consisted mostly of economic evidence, which included evidence of a pattern of price verifications by the defendants, a form of economic "conduct" evidence described above in Part II.

The case was heard by all of the eleven judges on the appeals court, a rarity in US practice.[49] The eleven judges split six to five in favour of the defendants, affirming the decision of the trial court to dismiss the case The majority found the price verification evidence unpersuasive, first because it occurred only as to *past* transactions, and as such would have minimal implications for future pricing, and second, because in the court's words:

> The price verifications relied upon were sporadic and testimony suggests that price verifications were not always given. The fact that there were several dozen communications is not so significant considering the communications occurred over at least a seven-year period in which there would have been tens of thousands of transactions. Furthermore, one would expect companies to verify prices considering that this is an oligopolistic industry and accounts are often very large. We find the evidence falls far short of excluding the possibility of independent action.[50]

The minority argued persuasively that such conduct would not have been in the defendants' interest if they had not been participating in a cartel:

> . . . if there were no reciprocal agreement to share prices (and the producers certainly do not argue that there was), an individual seller who revealed to his competitors the amount of his privately negotiated discounts would have been shooting himself in the foot. On the other hand, if there were a cartel, it would be crucial for the cartel members to cooperate in telling each other about actual prices charged in order to prevent the sort of widespread discounting that would eventually sink the cartel.[51]

As noted above, however, this view did not prevail in the case.

A good illustration of use of the "action against self interest" concept to determine whether parallel conduct should be regarded as indirect evidence of an agreement is the appeals court opinion in *Brand Name Prescription Drugs*.[52] There, a class of customers brought a case against drug manufacturers alleging that their uniform practice of price-discriminating among groups of customers, as a result of which the plaintiffs were forced to pay higher prices, should be viewed as (indirect) evidence that the defendants had entered into a cartel agreement. The court rejected the plaintiffs' argument, however. It reasoned that

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47 See Petruzzi's IGA v. Darling-Deleware, 998 F.2d 1224, 1243-45 (3d Cir. 1993)

48 Blomkest Fertilzer v. Potash Corp. of Sask., 203 F. 3d 1028 (8th Cir. 2000) (en banc).

49 Most appeal cases in the US Federal system are heard by a panel of only three judges, chosen at random.

50 *Id.*, at 1034-35.

51 *Id.,* at 1047.

52 *In re* Brand name Prescription Drugs Antitrust Litig., 186 F3rd 781 (7th Cir. 1999).

as each defendant drug manufacturer had market power as a result of the patent protection of its drugs, it was consistent with each manufacturer's self interest to exercise that market power and price discriminate among groups of customers, depending on their willingness to pay. The fact that all defendants had adopted similar price discrimination strategies therefore was consistent with action in each defendant's self interest and could note be viewed as evidence of an agreement among them.

4.3 Holistic v. item-by-item approaches to circumstantial evidence

One important issue that affects how courts evaluate circumstantial evidence is whether the court is willing to consider all evidence that is proffered as a whole, giving it cumulative effect, or whether it requires that each item unequivocally support the hypothesis of agreement. In *High Fructose Corn Syrup* Judge Posner strongly adopted the holistic approach. The trial judge in the case had refused to consider the communication evidence that was offered

> … because he thought its character was such as to "require that a substantial inference be drawn in order to have evidentiary significance." This is correct in the sense that no single piece of the [communication] evidence . . . is sufficient in itself to prove a price-fixing conspiracy. But that is not the question. The question is simply whether this evidence, considered as a whole and in combination with the economic evidence, is sufficient to defeat summary judgment.[53]

Judge Posner noted that a "trap" that confronts the court in these cases is to suppose that if no single item of evidence presented by the plaintiff points unequivocally to conspiracy, the evidence as a whole cannot defeat summary judgment.

> It is true that zero plus zero equals zero. But evidence can be susceptible of different interpretations, only one of which supports the party sponsoring it, without being wholly devoid of probative value for that party. Otherwise what need would there ever be for a trial? The question for the jury in a case such as this would simply be whether, when the evidence was considered as a whole, it was more likely that the defendants had conspired to fix prices than that they had not conspired to fix prices.[54]

It should be noted, however, that there are different views even within the United States. Other federal appeals courts have examined each item of circumstantial evidence independently as to whether it tended to exclude independent, unilateral action of competitors.[55]

It appears that in *Wood Pulp*, an important European Union case dealing with circumstantial evidence in a price fixing case, the European Court of Justice court took a similarly strict approach on this issue of evaluating individual items of evidence.

4.3.1 Wood Pulp[56]

The European Commission had declared that more than 40 producers of wood pulp and three associations of producers had engaged in concertation during two periods between 1975 and 1981, in which their announced prices were nearly identical. It was the practice in the industry for buyers and sellers to enter into long term contracts, which gave buyers the right to purchase a minimum quantity of

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53 *Id*., at 661.

54 *Id*., at 655-56.

55 *See* Williamson Oil Co. v. Philip Morris USA, 346 F.3rd 1287 11th Cir. 2003).

56 Cases C-89/85 etc., Ahlstrom Oy v. Commission, [1992] ECR I-1307.

wood pulp at prices no higher than announced prices. The producers announced their prices each quarter, at virtually the same time. The Commission produced a substantial quantity of economic evidence, in addition to the parallel pricing conduct, in support of its decision: a large number of sellers, who differed significantly from one another in terms of national origin (they were from Finland, Sweden, Spain, Portugal, the US and Canada); varying cost structures; differing freight costs; variation in national markets across the Community; announced prices significantly above spot market prices; apparent breakdowns in price discipline twice during the period; prices published in the trade press; prices announced in advance of their application; all prices quoted in US dollars.

The Commission also adduced communication evidence supporting concertation, consisting of documents and telexes from the files of the parties showing that they had attended meetings at which prices were discussed. However, the ECJ required the Commission to link each document to concertation between specific producers and for specific periods. The Commission took the position that it need not do so, that the evidence was relevant generally to the alleged concertation. The ECJ did not accept the Commission's view, however, and excluded the documents from consideration.

The court then turned to whether the economic evidence alone was sufficient to establish concertation. The standard that it applied to this inquiry was whether "concertation constitutes the only plausible explanation for such conduct." It concluded that there were valid business reasons for the long term relationships and the pricing practices that had evolved in the industry. The court had employed two experts, who did not rule out concertation but who also found legitimate reasons for the conduct under consideration. The simultaneity and parallelism of announced prices could be explained by the "very high degree of transparency that existed in the market."[57]

The strict standard adopted by the court for evaluating the economic evidence in the case – that concertation constitutes the only plausible explanation for such conduct – may have been the principal reason for reversing the Commission decision, but it is likely that the ECJ's unwillingness to consider in a holistic fashion the communication evidence that was proffered also contributed substantially to the result. In subsequent cases decided by the Commission and EU courts, however, it does not appear that the authorities have adopted such a strict approach.[58]

It is inevitable under such an "itemised" approach that each item of circumstantial evidence will almost always be ambiguous if analysed in isolation. If the evidence is cumulative, on the other hand, the overall ambiguity may be ameliorated. It would seem that the better approach, as articulated by the court in *High Fructose Corn Syrup,* would be to be consider the available evidence as a whole and evaluate whether all evidence in its entirety can be sufficient under the applicable standards of proof.

5. Cartels and circumstantial evidence – the national experience

Circumstantial evidence is treated differently in different countries.[59] The law regarding the use of circumstantial evidence in cartel cases will undoubtedly develop according to these national norms. Other factors will also dictate how these cases evolve across countries, notably whether cartels are administrative or civil violations, or whether they are prosecuted as crimes. Further, countries are at different places in

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57 Id. at para. 81. See also, Suiker Unie v. Commission (*Sugar Cartel)*, OJ [1973] L 140/17.

58 *See, e.g.*, *PVC II*: OJ [1994] 239/14, substantially upheld on appeal, Cases T-305/94 etc., Limburgse Vinyl Maatschappij v. Commission [1999] ECR II-931 (CFI confirming that "…items of evidence should be regarded not in isolation but in their entirety […] and individual items of evidence cannot be divorced from their context"); *Plasterboard*, OJ [2005] L. 166/8.

59 Although, as suggested above, there might be differences even within one and the same country.