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Mind the gap: Platform ethics and competition issues

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Abstract

The algorithm driven conduct of platform operators, as the expert handlers of big data, is starting to challenge the way in which competition law needs to be enforced. Businesses, especially platform operators, acquire data and particularly pricing information from other businesses in real-time. This leads to specific potential problems with autonomous actors engaged in algorithmic tacit collusion. These problems are compounded when usual legal tests for collusive price fixing require both a meeting of the minds of the colluding firms and a commitment to the price fixing conduct. It is not clear that bots meet either of these tests. The paper finds that price fixing is unethical using multiple analytical lenses but that the illegality of algorithmic tacit collusion is less clear. By considering the issues associated with concerted practices from a legal and ethical perspective, the paper charts some approaches that might be applied. It uses changes in competition law in Australia to highlight potential ways of dealing with algorithmic tacit collusion, but also highlights the potential unintended consequences associated with such changes.

Keywords: Algorithmic tacit collusion, bots, business ethics, cartel conduct, concerted practices, price fixing

Introduction

There are always tensions in examining the question ‘is it legal, is it right’ in respect of business conduct. This tension is partly driven by the fact that the law usually represents a minimum threshold of ethical conduct. In order to be able to act ethically, considerations beyond the law need to be taken into account.

This paper considers the effects on both law and ethics of the use of algorithm driven price comparison bots. It does this by considering a single research question, ‘If autonomous bots engage in algorithmic tacit collusion, should the firms which write those algorithms be held accountable?’

The algorithm driven conduct of platform operators, as the expert handlers of big data, is starting to challenge the way in which competition law needs to be enforced. This has been recognised by the Organization for Economic Cooperation and Development,¹ the UK House of Lords,² the French and German competition authorities,³ the European Commission⁴ and the European Union⁵. The Dutch competition authority has also commenced a market inquiry in the field.⁶

One of the important aspects of using big data in real time, is the way in which businesses, including platform operators, respond to information that is available from other businesses. Typically, this response is algorithmically driven. Control of an algorithm would normally be expected to be in the hands of the operator. However, data collection actors with boundedly rational instructions would be an efficient

¹ Ania Thiemann and Pedro Gonzaga, ‘Big Data: Bringing Competition Policy to the Digital Era’ (2016).

² House of Lords, ‘Online Platforms and the Digital Single Market’ (2016).

³ Autorité de la concurrence and Bundeskartellamt, ‘Competition Law and Data’ (2016).

⁴ European Commission, ‘Online Platforms and the Digital Single Market Opportunities and Challenges for Europe’ (2016).

⁵ European Data Protection Supervisor, ‘EDPS Opinion on Coherent Enforcement of Fundamental Rights in the Age of Big Data’ (2016).

⁶ Netherlands Authority for Competition and Markets (ACM), *Taking a Closer Look at Online Video Platforms* (2016) <<https://www.acm.nl/en/publications/publication/16342/Taking-a-closer-look-at-online-video-platforms/>>.

implementation of a response to data signalling. This raises a problem with both a prudential (legal) aspect and an ethical dimension.

The problem is whether a business should allow its algorithm based actors to act in a way that might be illegal, but undetectable or legal and sub-optimum. The problem is compounded by three issues. The first is the fact that in-house counsel and corporate social responsibility team generally only get involved in algorithm design after things have gone wrong. The second is that what might be seen as an anti-competitive effect *ex post*, might not have been foreseeable *ex ante*. The third issue is the one of ‘coincidence or conspiracy’. If the agents of two separate platforms use information from each other and this leads to an effect that may appear anti-competitive *ex ante*, should competition authorities automatically regard this as illegal coordinated conduct, or should there be a ‘coincidence’ defence?

This paper commences by reviewing some of the operational and ethical issues in the analysis of algorithm driven price comparison bots. Some of this analysis follows the approach provided by Ariel Ezrachi and Maurice Stucke.⁷

The paper moves on to follow the two usual approaches that are taken to complex legal issues. These are doctrinal analysis using EU and US law combined with a comparative law analysis from the same jurisdictions. It does this by analysing the way in which Australia is responding to challenges in competition law. Specifically, how common information sources might be used in an anticompetitive fashion but without the usual ‘meeting of the minds’ required in price fixing or cartel conduct.⁸

The paper concludes by considering how existing competition law could be amended to reach beyond the current potential limitations. To do this it analyses whether the anticompetitive actions of pricing bots, as boundedly rational actors, is the same as the action of the firm. That is, whether bots are agents of the firm for the purposes of the

⁷ Ariel Ezrachi and Maurice E Stucke, *Virtual Competition* (Oxford University Press, 2016).

⁸ Salil K Mehra, ‘Antitrust and the Robo-Seller: Competition in the Time of Algorithms’ 1323, 1352.

current tests for price fixing or concerted practices. The paper suggests that proposed changes to the Australian competition law might provide a solution for this specific issue, but that the effects may well be further unintended consequences.

Ethical and operational issues

One way of conceiving of the tools which compares prices is to think about a price comparison website. In order to be able to compare prices, the price comparison website needs to be able to collect prices from potential suppliers. In principle, the price comparison website could simply ‘scrape’ prices from other websites in order to be able to get that after that it needs. In practice, it is more useful to have an autonomous agent continually monitoring websites for price changes.

The autonomous agent needs to have a set of rules or instructions as to what to do with prices but it obtains and how to monitor changes. It makes sense to have this agent implemented with a degree of intelligence and a limited instruction set. That is, the agents will be boundedly rational.

In order to ensure that these bots are efficient, they will be driven by an algorithmic approach.

Initially, such algorithms are likely to be based on efficient search and data capture. However, the efficiency of algorithms can be improved using either by incremental improvements or by radical changes. In developing a typology for innovation in the ICT sector, Bauer and Shim⁹ draw a distinction between radical innovation (which implies ‘that many aspects of a process, a product, or of the competencies of participants in the innovation system are affected’) and incremental innovation. They argue that innovation can be divided into modular innovations (which have low levels of coordination between the modular innovation and the remainder of the system) and coupled innovations (which are highly integrated and require technical and economic connection between multiple

⁹ JM Bauer and W Shim, ‘Regulation and Innovation Behavior in Telecommunications’ (Michigan State University, 2012).

layers of the system). In this analysis, the form of innovation that captures supernormal profits is radical and modular.

One way of developing algorithms that have these characteristics is to use evolutionary algorithms.¹⁰

There are two issues that flow from the use of algorithmic driven bots for price discovery. The first is that the operation of the bot is generally independent of the business that created it. The second is that the operation of the bot may not be understood by the business that created it, especially if evolutionary approaches were used.

The ethical problems that bot trading creates in the financial services sector are reasonably well understood.¹¹ The application to antitrust law is a little more recent.¹²

The issue is made more complex by the potential for the complex adaptive systems effect of ‘emergence’. This effect is the sign of complex outcomes from a population of boundedly rational actors.¹³ Analysis of these effects have been applied to both financial regulation¹⁴ and antitrust¹⁵.

The problem arises when two bots determine that it is more efficient to swap prices than to separately acquire them. The logical extension of this efficiency arises when the

¹⁰ See, for example, Melanie Mitchell, *An Introduction to Genetic Algorithms* (MIT Press, 1996); Melanie Mitchell, ‘Complex Systems: Network Thinking’ (2006) 170(18) *Artificial Intelligence* 1194.

¹¹ See, for example, Michael P Wellman and Uday Rajan, ‘Ethical Issues for Autonomous Trading Agents’ [2017] *Minds and Machines* 1.

¹² See, for example, Ezrachi and Stucke 2017, above n 16.

¹³ See, for example, Melanie Mitchell, *Complexity: A Guided Tour* (Oxford University Press, 2009).

¹⁴ Richard Bookstaber, *The End of Theory: Financial Crises, the Failure of Economics, and the Sweep of Human Interaction* (Princeton University Press, 2017); Prasanna Gai, Andrew Haldane and Sujit Kapadia, ‘Complexity, Concentration and Contagion’ (2011) 58(5) *Journal of Monetary Economics* 453; Andrew Haldane, ‘Rethinking the Financial Network’ (Bank of England, 2009); Sreekala Kochugovindan and Nicolaas J Vriend, ‘Is the Study of Complex Adaptive Systems Going to Solve the Mystery of Adam Smith’s “Invisible Hand”?’ (1998) 3(1) *The Independent Review* 53.

¹⁵ Avishalom Tor, ‘Understanding Behavioral Antitrust’ (2014) 92(3) *Texas Law Review* 573; Avishalom Tor, ‘Boundedly Rational Entrepreneurs and Antitrust’ (2016) 61(4) *Antitrust Bulletin* 520.

bots agree that they will both have the same price to increase efficiency. That is, the bot engages in the cartel conduct of price fixing.

Ariel Ezrachi and Maurice Stucke consider the ways in which algorithmic tacit collusion might operate.¹⁶ They argue that ‘one would expect it in markets with several important characteristics’:¹⁷

Algorithmic tacit collusion would likely arise in concentrated markets involving homogenous products where the algorithms can monitor to a sufficient degree the pricing and other key terms of sale ... and once deviation is detected, a credible deterrent mechanism exists.

Ezrachi and Stucke argue that the third characteristic¹⁸ is the one described in the European Union *Merger Guidelines* that ‘the reactions of outsiders, such as current and future competitors not participating in the coordination, as well as customers, should not be able to jeopardise the results expected from the coordination’.¹⁹

In effect, the argument put is that the most likely market conditions for algorithmic tacit collusion are similar to those in which human collusion has occurred in the past.

There is then a question as to whether the bot is an agent of the firm. This is a genuine ethical dilemma. The programmers of the bot, regardless of whether evolutionary techniques are used, are likely to be bound by a professional code of ethics. The firm that employs them is likely to have made corporate social responsibility commitments to its stakeholders. It may even have bound itself to a code of ethics. In addition, the employees of the firm will have their own personal ethical standards (a moral compass) which may be threatened by the action of the bot. The matter to be resolved is ‘is it legal, is it right?’. If the answer is that the legality threshold is met, then the issue becomes an ethical one.

¹⁶ Ezrachi and Stucke, ‘Two Artificial Neural Networks Meet in an Online Hub and Change the Future (Of Competition, Market Dynamics and Society)’; Ezrachi and Stucke 2016, above n 7.

¹⁷ Ezrachi and Stucke 2017, above n 16, 3.

¹⁸ *Ibid*, 4.

¹⁹ EC Merger Guidelines para 41.

The paper now turns to the legal analysis before returning to whether an ethical analysis is required.

Doctrinal and comparative law analysis

The Australian position

In its report on competition law and policy in Australia, the Harper Panel concluded that the current provisions on price signalling and information exchanges in the *Competition and Consumer Act 2010* (Cth) (**CCA**) were not adequate and needed to be replaced.²⁰ A key concern identified by the review was that the current provisions were unlikely to capture certain inappropriate coordinated conduct between competitors like information exchanges about commercial strategy, consumers or prices.²¹ They highlighted how such an issue was created due to the perception that under the current law some level of ‘obligation’, ‘agreement’ or ‘commitment’ between competitors was required to establish unlawful collaborative conduct and that mere evidence of a pattern of price signalling or information exchange was not enough to constitute an offence.²²

Under the current law, corporations are prohibited from entering into a contract or arrangement, or to arrive at an understanding that has the purpose or effect of substantially lessening competition.²³ The Harper Panel recommended to extend the current law to include the concept of ‘concerted practices’ to remedy the above concerns.²⁴ As such, the Panel recommended that section 45 of the *CCA* be extended to include the following,

Section 45

(1) A corporation must not:

...

²⁰ Ian Harper et al, ‘Competition Policy Review Final Report’ (2015).

²¹ *Ibid* 369–370.

²² *Ibid*.

²³ *Competition and Consumer Act 2010* (Cth), s 45(2).

²⁴ Harper et al 2015, above n 20, 9.

*(c) engage with one or more persons in a **concerted practice** that has the purpose, or has or is likely to have the effect, of substantially lessening competition (emphasis added).*²⁵

The purpose of these changes is to ensure that conduct between competitors which has the purpose or effect of substantially lessening competition is captured by the provisions irrespective of whether such conduct falls short of coming from an express agreement, arrangement or understanding between those competitors, which are currently prohibited under s.45(1)(a) and s.45(1)(b) of the CCA.

Such a movement towards introducing the concept of ‘concerted practices’ within Australia’s competition law framework demonstrates an increased willingness by the Commonwealth government to align Australian competition law with the laws of the United Kingdom, European Union and United States.²⁶ However, given the concept of ‘concerted practices’ is new to the Australian legal landscape, issues arise as to how it will be defined and applied in Australia. The concept of ‘concerted practices’ is not explicitly defined in the Bill. The Explanatory Memorandum to the Bill the simple suggests that the word ‘concerted’ has a clear and practical meaning. The Explanatory Memorandum states that a concerted practice may exist in addition to, or ancillary to, a contract, arrangement or understanding.²⁷

If the change in Australian law removes the need for a person to be involved in the creation of a concerted practice, it is useful to understand how different international jurisdictions have dealt with the concept (or ‘concerted actions’ as labelled under US antitrust law). Two relevant jurisdictions include the US and EU, both of which have long

²⁵ Competition and Consumer Amendment (Competition Policy Review) Bill 2017 (Cth), Schedule 3 Part 1.

²⁶ Harper et al 2015, above n 20, 369.

²⁷ Explanatory Memorandum – Competition and Consumer Amendment (Competition Policy Review) Bill 2017 (Cth), 33.

histories of prohibiting ‘concerted actions’ or ‘concerted practices’ respectively.²⁸ As such, this paper will examine the US and EU’s approaches to concerted practices. It will provide an analysis of ‘concerted practices’ in US and EU law, tracing the how the concept has developed in these jurisdictions and outlining its precedential and legislative history. It should be noted that for consistency purposes the US analysis will only focus on Federal antitrust law and the rulings of the Federal Trade Commission (**FTC**) and Federal Department of Justice (**DOJ**).

Concerted actions under US antitrust law

The concept of concerted actions (or concerted practices) finds its basis in US antitrust law under section 1 of the *Sherman Antitrust Act* (1890). Section 1 prohibits ‘every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations’.²⁹ In general, US courts have interpreted the words ‘contract’, ‘combination’ and ‘conspiracy’ to mean an ‘agreement’.³⁰ The term ‘agreement’, however, is a broad and ill-defined concept in US antitrust law and thus the courts have applied section 1 to a broad spectrum of arrangements other than formal and express agreements.³¹ Most relevantly, US courts have been willing to apply antitrust prohibitions to the following situations:

- (i) where competitors have not entered into an express anti-competitive agreement but rather there is only circumstantial evidence like parallel market behaviour which implies that inappropriate coordinated conduct amongst competitors has occurred;

²⁸ Framework for Concerted Practice Guidelines, Australian Competition and Consumer Commission, September 2016, 2-3; see also Harper et al 2015, above n 20, 369.

²⁹ U.S. 15 § 1.

³⁰ ‘EU Concerted Practices & US Concerted Actions: Beyond William H. Page’s Proposal’ (2013), 17.

³¹ See Gregory J. Werden, ‘Economic Evidence on the Existence of Collusion: Reconciling Antitrust Law with Oligopoly Theory’, (2004) *Antitrust Law Journal* 71, 719–778.

- (ii) where a corporation has unilaterally disclosed sensitive information to the market in either private or public and in turn invited its competitors to collude;
- (iii) where competitors have arranged an information exchange of market sensitive information like information concerning commercial strategy, consumers or prices; and
- (iv) in instances where hub-and-spoke conspiracies or horizontal collusion has occurred.

Through prohibiting the above types of actions under the *Sherman Act*, the doctrine of concerted actions has developed in the US. Such developments are discussed in turn below.

A Using Circumstantial Evidence and Parallel Behaviour to Establish a Concerted Action

Modern judicial efforts to define the concept of ‘concerted actions’ under section 1 of the *Sherman Act* stem from five key Supreme Court cases. These cases imply that a concerted action between competitors can result from means other than direct assurances or explicit agreements between parties.

The first of these cases is *Interstate Circuit, Inc v United States (Interstate)*.³² In that case, the representatives of two first-run movie exhibitors wrote a letter to its distributors asking them to amend their licensing agreement to impose restrictions on second-run exhibitors that required them to raise their admission prices and not show double-features. The distributors largely agreed to the demands of one of the representatives but uniformly rejected the demands of the other. Despite there being no evidence of the direct communications amongst the distributors, the Supreme Court held that a conspiracy had occurred and thus the actions of the exhibitors and distributors were punishable under section 1. In coming to this conclusion, the Court stated that the form of letters, which included all distributors as addressees and thus ensured that they were all

³² 306 U.S. 208 (1939).

aware that they all received the same proposal, and the uniformity in which they accepted the first letter but rejected the second indicated that there had been some coordination between the distributors.³³ As such, the Court stressed that an express agreement is not necessary to show a conspiracy but rather it could be inferred from circumstantial evidence, including parallel price increases and market behaviour. Thus, this was the first case in which the US Supreme Court defined the requirements for a concerted action:

‘[w]hile the District Court’s finding of an agreement of the distributors among themselves is supported by the evidence, we think that in the circumstances of this case such agreement for the imposition of the restrictions upon subsequent-run exhibitors was not a prerequisite to an unlawful conspiracy. *It was enough that, knowing that concerted action was contemplated or invited, the distributors gave their adherence to the scheme and participated in it* (emphasis added)’.³⁴

Nine years later, the Supreme Court in *United States v Paramount Pictures, Inc (Paramount)*,³⁵ upheld the standard in *Interstate*. In that case, the Court held that Paramount had engaged in anti-competitive conduct contrary to sections 1 and 2 of the *Sherman Act* by upholding a broad policy of reciprocity with the other four big movie production-distribution companies in Hollywood to give them first-run status in their theatres. In explaining its decision, the court stated that, ‘the conspiracy was inferred from the pattern of price-fixing disclosed in the record. We think there was adequate foundation for it too. *It is not necessary to find an express agreement in order to find a conspiracy. It is enough that a concert of action is contemplated and that the defendants conformed to the arrangement* (emphasis added)’.³⁶ The Supreme Court once again emphasised that a conspiracy or agreement could be implied by circumstantial evidence like parallel market

³³ Ibid 222.

³⁴ Ibid 226.

³⁵ 334 U.S. 131 (1948).

³⁶ Ibid 142.

behaviour amongst competitors and did not require express assurances between these parties.

The Court further clarified the position under *Interstate* and *Paramount* in the case *American Tobacco Co. United States (American Tobacco)*,³⁷ in which the Supreme Court inferred a conspiracy based on repeated parallel price changes as such behaviour did not appear to be economically justified due to the cost and demand conditions of the Tobacco industry. In stating its decision, the Court in *American Tobacco* reiterated the position under *Interstate* regarding agreement, stating that ‘no formal agreement is necessary to constitute an unlawful conspiracy’.³⁸ However, the Court went on further to explain that for a finding of conspiracy to be held all that was required was ‘a unity of purpose, a common design and understanding, or a meeting of the minds’.³⁹

Moreover, in *Theatre Enterprises, Inc v Paramount Film Distributing (Theater Enterprises)*,⁴⁰ the Supreme Court further clarified its position in regard to the use of circumstantial evidence to establish a concerted practice. In that case, the plaintiff argued that the defendant movie distributors violated section 1 by uniformly restricting first-run pictures to downtown Baltimore theatres on eight separate occasions. The Court held that the defendants had based their decision to deny the plaintiff first-run pictures on valid and independent business motives that considered the conditions of the local movie industry and thus a conspiracy could not be inferred despite there being evidence of parallel behaviour. In coming to its decision, the Court explained that, ‘circumstantial evidence of consciously parallel behaviour may have made heavy inroads into the traditional judicial attitude toward conspiracy; but ‘conscious parallelism’ ha[d] not read conspiracy out of the Sherman Act’.⁴¹ Consequently, this case stands for the principal that a conspiracy will

³⁷ 328 U.S. 781 (1946).

³⁸ Ibid 809.

³⁹ Ibid 810.

⁴⁰ 346 U.S. 537 (1954).

⁴¹ Ibid 541.

not be found in situations where despite the accused parties actions being *consciously parallel* (as is likely to be the case in a oligopolistic market), these parties can show that their decisions were independently made and economically justified.

The above issue regarding ‘conscious parallelism’ was reconsidered by the Supreme Court in 1968 in the case *First National Bank v Cities Services Co (First National)*.⁴² In that case, the Court reaffirmed its position in *Theater Enterprises* stating that consciously parallel conduct could not be used to imply an agreement amongst competitors to collude where the defendants produced evidence indicating that they had no motivation to engage in joint action.⁴³ It should be noted that in *First National*, the burden was on the defendant to produce such evidence (in contrast to the cases discussed below).

The above five cases were foundational to establishing the concept of concerted actions in US antitrust law. In particular, these cases create three key principles:⁴⁴

- (i) A concerted action can be established by means other than an express agreement between competitors and may be prohibited under section 1 of the Sherman Act;
- (ii) An agreement or conspiracy may be inferred by circumstantial evidence like parallel market behaviour that indicates that competitors have engaged in inappropriate coordinated conduct; and
- (iii) An agreement or conspiracy will not be found where the plaintiff only shows that the defendants’ actions were simply consciously parallel (i.e. the defendants recognised their interdependence and simply mimicked their rivals’ pricing

⁴² 391 U.S. 253.

⁴³ Ibid 289 (‘Essentially all that the lower courts held in this case was that [FED. R. CIV. P.] 56(e) placed upon the [plaintiff] the burden of producing evidence of the conspiracy he alleged only after respondent Cities Service conclusively showed that the facts upon which he relied to support his allegation were not susceptible of the interpretation which he sought to give them. That holding was correct.’)

⁴⁴ See ‘Plus Factors and Agreement in Antitrust Law’, 11 (the summary of these principles has been adapted from the summary provided in that paper).

behaviour) and there is no evidence to show that their parallel behaviour was not economically unjustified.

Subsequent Supreme Court cases have adapted the above principles into a new approach – the ‘plus factors’ approach. Specifically, the Supreme Court has extended the third principle above which was first introduced in *Theatre Enterprises*. The two most relevant cases to understanding the development of this new approach include *Monsanto Co. v Spray-Rite Service Corporation (Monsanto)*,⁴⁵ and *Matsushita Electrical Industrial Co. v Zenith Radio Corporation (Matsushita)*.⁴⁶

In *Monsanto*, the defendant, Monsanto Co, was an agricultural herbicide manufacturer who entered into an agreement to sell its herbicides to the plaintiff distributor, Spray-Rite. In general, Spray-Rite would purchase the herbicides from Monsanto and then sell them to consumers at a discounted rate. In 1968, Monsanto terminated its supply contract with Spray-Rite after receiving complaints from other distributors about Spray-Rite’s discounting practices. Spray-Rite alleged that Monsanto had conspired with the other distributors to fix the price of herbicide products and thus their actions breached section 1 of the *Sherman Act*. The District Court and Court of Appeals found in favour of the plaintiffs. The Supreme Court upheld the decision, however, the Court challenged the reasoning of the lower Courts. They stated that Court of Appeals applied the wrong standard of proof to the case and that a price-fixing agreement could not be inferred simply from the existence of complaints from other distributors or evidence that the supply contract was terminated in response to these complaints. Rather, the Court held that the ‘correct standard is that there must be evidence that tends to exclude the possibility of independent action by the [parties]. That is, there must be direct or circumstantial evidence that reasonably tends to prove that [the parties] had a conscious commitment to a common scheme designed to achieve an unlawful objective’.⁴⁷ The

⁴⁵ 465 U.S. 752 (1984).

⁴⁶ 475 U.S. 574 (1986).

⁴⁷ *Monsanto* 465 U.S. 752, 768.

Supreme Court's articulation of the burden of proof is significant here. That is, the Court emphasised how the burden to establish the fact of an unlawful agreement is on the plaintiff. This is particularly significant instances where the defendant applies to dismiss or for a motion for summary judgment as discussed in the case *Matsushita*.

In *Matsushita*, the Supreme Court developed the modern 'plus factors' formula that is now applied to cases where parties rely on circumstantial evidence to establish a concerted action that breaches section 1 of the *Sherman Act*. In that case, the plaintiff, a US-based manufacturer of consumer electronic products, argued that the defendants, which included twenty-one Japanese consumer electronics manufacturers, had conspired to price fix. The plaintiffs claimed that the defendants had set artificially low prices in the US market to offset their artificially high prices in Japan to harm and ultimately drive US companies out of both markets. As such, the plaintiffs claimed the defendant Japanese companies committed an offence by violating section 1 of the *Sherman Act* and other antitrust laws. The defendant Japanese manufacturers filed for summary judgment, claiming that there was no evidence of direct communications between them and that the circumstantial evidence of parallel market behaviour and price changes was not enough to establish a jury issue or answerable case. The Supreme court held in favour of the Japanese companies. Regarding the issue of the standard applied to circumstantial evidence to establish a concerted action, the court held that 'antitrust law limits the range of permissible inferences from ambiguous evidence in a Section 1 case...[and highlighted that] conduct as consistent with permissible competition as with illegal conspiracy does not, standing alone, support an inference of antitrust conspiracy'.⁴⁸ The Court went on to further clarify that when a plaintiff relies solely on circumstantial evidence to establish a concerted action and the defendant applies for a motion to dismiss or a summary judgment, the position under US antitrust law is,

⁴⁸ *Matsushita* 475 U.S. 574, 588.

‘To survive a motion for summary judgment or for a directed verdict, a plaintiff seeking damages for a violation of Section 1 must present evidence that ‘tends to exclude the possibility’ that the alleged conspirators acted independently [Plaintiffs] in this case, in other words, must show that the inference of conspiracy is reasonable in light of the competing inferences of independent action or collusive action that could not have harmed [plaintiffs]’.⁴⁹

In this way, the decision in *Matsushita* instructs courts to assess the economic justifications of the defendant’s actions when considering circumstantial evidence and parallel behaviour. US courts including lower Courts have applied the rule in *Matsushita* to mean that plaintiffs must not only produce evidence of conscious parallelism (or parallel market behaviour amongst competitors) but also produce extra evidence that make the possibility of inappropriate coordinated behaviour more likely than not to establish a concerted action in violation of the *Sherman Act*.⁵⁰ Such extra evidence are known as ‘plus factors’.⁵¹ In *City of Tuscaloosa v Harcros Chemicals, Incorporation*,⁵² the 11th Circuit Court summarised the rule in *Matsushita* as follows, ‘[In the absence of direct evidence,] the plaintiffs first must produce evidence showing that the defendants engaged in consciously parallel action. Second, the plaintiffs must show ‘plus factors’ that tend to exclude the possibility that the defendants merely were engaged in lawful conscious parallelism. One prominent ‘plus factor,’ to which antitrust plaintiffs often take recourse, is a showing that the defendants’ behaviour would not be reasonable or explicable (i.e. not in their legitimate economic self-interest) if they were not conspiring to fix prices or

⁴⁹ Ibid.

⁵⁰ See e.g. *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544 (2007) at 554: ‘The inadequacy of showing parallel conduct or interdependence, without more, mirrors the ambiguity of the behavior: consistent with conspiracy, but just as much in line with a wide swath of rational and competitive business strategy unilaterally prompted by common perceptions of the market’.

⁵¹ See *In re Musical Instruments and Equipment Antitrust Litigation (Guitar Center)*, 798 F.3d 1186 (9th Cir. 2015) at 1194: ‘[plus factors are] economic actions and outcomes that are largely inconsistent with unilateral conduct but largely consistent with explicitly coordinated action’.

⁵² 158 F.3d 548, (11th Cir. 1998).

otherwise restrain trade—that is, that the defendants would not have acted as they did had they not been conspiring in restraint of trade’.⁵³

As such, the current law regarding circumstantial evidence and concerted actions under section 1 of the *Sherman Act* can be summarized as follows:⁵⁴

- (i) Conscious parallelism (or parallel conduct by competitors like parallel price changes) is not a *per se* breach of section 1 of the *Sherman Act*;
- (ii) Rather, conscious parallelism may be used as a defence against an allegation of price fixing or other coordinated anti-competitive behaviour where circumstantial evidence is relied upon as the basis of such an allegation; and
- (iii) To establish a breach of the *Sherman Act*, a plaintiff must first show that there has been parallel behaviour and second the existence of other ‘plus factors’, which exclude the possibility that the defendants merely were engaged in lawful conscious parallelism.⁵⁵

Moreover, the Supreme Court has applied similar requirements to the standard of pleadings in conspiracy cases. In *Bell Atlantic Corporation v Twombly*,⁵⁶ the plaintiff claimed that the defendant, an incumbent telco, had colluded with other incumbent telcos to restrict the operations of local competitors in certain markets and not enter into the

⁵³ *Ibid* 572.

⁵⁴ See <<https://www.antitrustcriminalattorney.com/antitrust-schemes/conscious-parallelism>> (the summary of these principles has been adapted from the summary provided in that paper).

⁵⁵ See for commentary on the ‘plus factor’ approach, ‘Plus Factors and Agreement in Antitrust Law’, 18–20 (‘Two basic problems have attended judicial efforts to identify and evaluate plus factors. First, courts have failed to establish an analytical framework that explains why specific plus factors have stronger or weaker evidentiary value or to present a hierarchy of such factors...[this] ad hoc approach makes judgments about the resolution of future cases problematic and gives an impressionistic quality to judicial decision making in agreement-related disputes...The second problem results from the development of new arguments, rooted in the modern economics literature dealing with repeated games, that market performance associated with collusive schemes can result from interdependent, consciously parallel conduct in some industry settings. Firms in a number of industry settings may be able to achieve collusive outcomes without resorting to conduct that might be characterized as an agreement.’).

⁵⁶ 550 U.S. 544 (2007).

traditional service areas of the other incumbents. In regard to the standard of pleading required by the plaintiff, the Court stated that, ‘when allegations of parallel conduct are set out in order to make a claim [under section 1 of the *Sherman Act*], they must be placed in a context that raises a suggestion of a preceding agreement, not merely parallel conduct that could just as well be independent actions’.⁵⁷ As such, the Court further explained that what was required of the plaintiff were ‘enough facts to state a claim to relief that is plausible on its face’.⁵⁸

B Unilateral Disclosures: Attempts to Monopolize and Invitations to Collude

The above section discussed situations in which parallel market behaviour by competitors may be captured by the prohibition in section 1 of the *Sherman Act*. This section discusses another form of concerted action – invitations to collude. In general, an invitation to collude occurs where a corporation or their representative unilaterally discloses sensitive information like that on price, consumers or corporate strategy to the market in an attempt to solicit their competitors to enter into an horizontal price-fixing or market allocation agreement.⁵⁹ Such disclosures are unlawful where the agreement entered into by the competitors does not have any countervailing procompetitive benefit.⁶⁰ A clear example of such conduct can be found in the case *United States v. American Airlines, Inc.*,⁶¹ in which the president of American Airlines called the president of their main competitors Braniff Airlines and proposed to raise his company’s fares ‘[if Braniff] raised their goddamn fares by twenty percent’.⁶² The conduct of American Airline’s president was held to be a clear invitation to collude on price and thus an offence under US antitrust law.

⁵⁷ Ibid 555.

⁵⁸ Ibid 556.

⁵⁹ EU Concerted Practices & US Concerted Actions: Beyond William H. Page’s Proposal’ (2013), 23.

⁶⁰ Ibid.

⁶¹ 743 F. 2d 1114 (5th Cir. 1984).

⁶² Ibid 1116.

Invitations to collude are prohibited under section 2 of the *Sherman Act* (**section 2**) and section 5 of the *Federal Trade Commission Act* (1914) (**section 5**). Section 2 prohibits any acts which ‘monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce’.⁶³ In contrast, section 5 is more general in nature and provides that any ‘unfair methods of competition in or affecting commerce...are unlawful’.⁶⁴ As such, section 5 applies to situations of anti-competitive behaviour even where it is difficult to establish the existence of an agreement between counterparties.

Invitations to collude may flow from private communications between competitors in which one party unilaterally discloses sensitive information to the other or from public announcements in which a corporation unilaterally discloses sensitive information to the market in general. The law regarding both types of disclosures is discussed below.

The position of US antitrust law concerning private disclosures can be illustrated by three key cases. In each case, the FTC prosecuted the respondent corporations on the basis that they had breached section 5 of the *FTC Act* following complaints they received from competitors. The first case is *Quality Trailer Products Corporation*.⁶⁵ In that case, the officials from the respondent company allegedly approached the employees of a competitor to discuss the price of a group of axle products. The officials alleged stated that the competitor was selling the products at a price that was too low and gave them assurances that the respondent company would not sell the products below a certain floor price. More specifically, the officials allegedly stated that ‘there was plenty of room in the industry for both firms, and that there was no need to compete on price’. The FTC held that if the respondent and its competitor did reach an agreement as to the price of the axle products following the respondent’s advances, then this agreement would be in violation

⁶³ 15 U.S.C. § 2.

⁶⁴ Federal Trade Commission Act § 5 (FTC Act).

⁶⁵ 115 FTC 944 (1992).

of section 5. The second case is *AE Clevite, Incorporation*.⁶⁶ In that case, a manager from the respondent company sent aftermarket price information to a competitor to inform them that the price that they were charging for certain products were too low. The FTC held that such unilateral disclosure of price information constituted an invitation by the respondent to its competitor to not compete on price, and thus breached section 5. The third case is *In the Matter of YKK (USA) Incorporated*.⁶⁷ In that case, the respondent, a zipper manufacturer, allegedly told a rival zipper manufacturer to stop giving free zipper installation equipment to customers who purchased zippers. The FTC held that such conducted breached section 5, as the respondent's request would eliminate a form of discount in the market and thus substantially lessen competition.

Conversely, where there has been a public disclosure of information, it is more difficult to identify what course of action the authorities should take. This is because a public announcement by a corporation is in essence a public data source that is available to all their competitors and thus it is more difficult to establish an invitation to collude. The following cases provide two examples of where public disclosures may be captured by section 5. The first is *In the Matter of Valassis Communications, Incorporation*.⁶⁸ In that case, the CEO of the respondent company, Valassis Communications, announced the company's intention to raise the price of newspaper advertising inserts in a public call with analysts. Evidence produced by the FTC suggested that the respondent's CEO was aware that its main competitor, News America, would be listening to the call. The FTC held that there was no reasonable business justification for the respondent to disclose pricing information on the call and thus the CEO's conduct constituted a breach of section 5. The second case is *In the Matter of U-Haul Int'l Incorporation and AMERCO*.⁶⁹ In that case, managers from the respondent company, U-Haul, approached Budget, one of U-

⁶⁶ 58 Fed. Reg. 35,459 (FTC July 1,1993).

⁶⁷ 116 F.T.C. 628 (1993).

⁶⁸ 141 F.T.C. (C-4160) (2006).

⁶⁹ FTC File No. 081-0157 (2010).

Haul's main competitors, and asked them to match U-Haul's higher prices. At the same time, U-Haul's CEO stated that the company was showing price leadership on a public investor conference call. The FTC held that the U-Haul's public and private disclosures breached section 5 as they created a significant risk of anti-competitive behaviour.

C Arrangements to Exchange Information

Another form of concerted action includes where counterparts arrange to exchange sensitive information. Such arrangements may be in violation of section 1 of the *Sherman Act*. The position regarding arrangements to exchange information under US antitrust law was summarized in *United States v Container Corporation of America et al.*⁷⁰ In that case, the Supreme Court stated that the 'dissemination of price information is not itself a per se violation of the Sherman Act',⁷¹ but such conduct would be unlawful where it 'had an anticompetitive effect in the industry, chilling the vigor of price competition'.⁷² As such, the Court confirmed that under US antitrust law an arrangement to exchange information is not an offence per se, rather it will only be an offence where such an arrangement has an anti-competitive purpose. Further to this, the FTC and DOJ have both stated that whether the arrangement is anti-competitive depends on the nature of the information exchanged.⁷³

⁷⁰ 393 US 333 (1969).

⁷¹ *Ibid* 339.

⁷² *Ibid* 337.

⁷³ See U.S. Department of Justice & Federal Trade Commission, Statements of Antitrust Enforcement Policy in Health Care, Statement 6: Enforcement Policy on Provider Participation in Exchanges of Price and Cost Information (Aug 1996 revision), available at <http://www.ftc.gov/bc/healthcare/industryguide/policy/statement6.pdf>; See also U.S. Department of Justice & Federal Trade Commission, Antitrust Guidelines for Collaborations Among Competitors (April 2000), available at <http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf> (at 6: '[t]he Agencies recognized that sharing of information among competitors may be precompetitive and is often reasonably necessary to archive the precompetitive benefits of certain collaboration; for example, sharing certain technology, know-how, or other intellectual property may be essential to achieve the precompetitive benefits of an R&D collaboration').

D Hub-and-spoke Conspiracies

The discussion above focuses on the law regarding horizontal arrangements. However, the notion of concerted actions has been extended to apply to vertical arrangements as well in the US, specifically in relation to hub-and-spoke conspiracies. In order to review the approach to hub-and-spoke cases, this paper adopts the Falls and Saravia taxonomy in an effort to gain a better understanding of the types of hub-and-spoke cases.⁷⁴ This taxonomy divides hub-and-spoke conspiracies into three forms: vertical, horizontal or both. These are categorized according to the type of harm caused and/or the type of market power that derives from each situation.

The first class of conspiracy is the increase of market power or reduction of competition at the level of the vertical party. With this type of hub-and-spoke conspiracy, a distributor typically acts as the joining hub by instigating agreements with manufacturers to take action against other rival distributors⁷⁵. It is within this class that the anti-competitive incentives of each party, particularly the distributors, are highlighted. Not only is majority of competition removed from the distributor level, but those within the manufacturer level are more likely to be compliant to the distributor's agreement either to avoid exclusionary action established by the distributor or to ensure a split of the distributor's supernormal profits⁷⁶. Whilst there is a horizontal agreement between the manufacturers, the (vertical) harm occurs at the distributor level (such that other distributors are inhibited from purchasing or on-selling goods provided by the manufacturers).

The second class of hub-and-spoke conspiracies differs from its prior counterpart as harm is now shifted towards the horizontal party members. With a horizontal hub-and-spoke conspiracy, the vertical player (in this example, the distributor) is less likely to be

⁷⁴ Craig G Falls and Celeste C Saravia, 'Analyzing Incentives and Liability in "Hub-and-Spoke" Conspiracies' (2015) 19(1) *Distribution*.

⁷⁵ *Ibid*, 10-11.

⁷⁶ *Ibid*, 10.

the instigator or organiser of the conspiracy⁷⁷. This is because benefits of a horizontal arrangement will lie with the vertical parties (the retailers). The vertical party acts as facilitator and relays information to form the horizontal agreement between the retailers⁷⁸. In this instance, the harm occurs at the horizontal level, with the retail consumers being the group that suffer the greatest from collusive action such as fixed or increased prices across the industry.

An example of a horizontal hub-and-spoke conspiracy was the e-Books case⁷⁹. Prior to formation of Apple as a competitor within the industry, Amazon held the dominant market share in terms of selling e-Books. The agreement that Amazon shared with the publishers was similar to a 'wholesale distribution model', where Amazon would resell the e-Books to their consumers at their own prices. The issue with this model was that Amazon set all their pricing of e-Books at \$9.99, raising fears amongst publishers that such a low price would increase cannibalisation of sales for hard copy books (averaged around \$26.00 per book)⁸⁰. However, with the introduction of Apple and its iPad, Apple created a new arrangement with publishers whereby Apple acted as an agent and instead each publisher was given control to set their own prices for e-Books. Publishers threatened to withdraw from Amazon's kindle agreement and subsequently Amazon also converted to the agency model. Ultimately, this move towards an agency model left consumers paying a much higher price for e-Books. This matter was brought forth in the US and the UK jurisdiction, with both courts agreeing that there was the existence of a concerted practice⁸¹.

The third class of hub-and-spoke conspiracies is a hybrid of the two previously discussed classes. The case *United States v Apple Inc* demonstrates how it is also possible

⁷⁷ *Ibid*, 11-12.

⁷⁸ *Ibid*.

⁷⁹ Case COMP/39.847/E-Books [2013].

⁸⁰ *Ibid*, [20]-[25].

⁸¹ *E-Books* 2013 above n 79, [87]-[93]; *United States v Apple Inc*, No 12 Civ 2826 (S.D.N.Y. July 10, 2013), 48.

for the e-Books case to be classified as a hybrid hub-and-spoke case⁸². Whilst Apple did facilitate for a horizontal agreement, with the harm being associated at the horizontal level, the agreements that Apple had with the publisher included a ‘most-favoured-nation’ clause. Such a clause meant that publishers were required to offer Apple the lowest set retail price when compared to other competing retailers, effectively forcing competitor retailers to comply with the agency model or completely lose access to e-Book products⁸³. This also meant that Apple was also gaining a significant financial advantage over the other distributors (suggesting harm occurred on both levels).

Concerted practices under European Union law

The US was the first country to introduce antitrust laws under the *Sherman Act*. As such, the development of the EU’s competition law framework has been greatly influenced by the American experience. Anti-competitive behaviour was first prohibited in the EU under Article 85 of the *Treaty of Rome* (1957) which has been replaced by the *Treaty on the Functioning of the European Union* (TFEU). Following several amendments to the TFEU, the anti-competitive prohibitions are nowadays found in Article 101 of the treaty. In general, Article 101 prohibits ‘all agreements, decisions by associations of undertakings and concerted practices’ which have an anti-competitive purpose or effect.⁸⁴

Unlike section 1 of the *Sherman Act*, the term ‘concerted practice’ is explicitly used in Article 101.⁸⁵ The purpose of this was to ensure that the prohibition applies to all types of inappropriate coordinated conduct, not just express agreements between

⁸² Ibid.

⁸³ Brent Fisse, ‘Facilitating Practices, Vertical Restraints and Most Favoured Customers’ *Competition Law Conference* (2016).

⁸⁴ Treaty on the Functioning of the European Union (1957), Art 101(1).

⁸⁵ The insertion of ‘concerted practices’ in Art 101 was greatly influenced by the development of the ‘concerted actions’ in US antitrust law; See the Opinion of Advocate General Mayras in Case 48/69, *ICI v Commissioner*, 1972 E.C.R. 619 at 669-670; See also the Opinion of Advocate General Vesterdorf in Case T-1/89, *Rhone-Poulenc v. Commissioner*, 1991 E.C.R. 11-867 at 11-927.

competitors.⁸⁶ As explained by the European Commission (**Commission**) in its decision in *Re Polypropylene*,⁸⁷ ‘the objective of the Treaty in creating a separate concept of concerted practice is to forestall the possibility of undertakings evading the application of Article [101] by colluding in an anticompetitive manner falling short of a definite agreement by (for example) informing each other in advance of the attitude each intends to adopt, so that each could regulate its commercial conduct in the knowledge that its competitors would behave in the same way’.⁸⁸

The concept of ‘concerted practices’ is not defined in the TFEU. As such, to determine how it has been applied in the EU, it is necessary to consider the case law on concerted practices. Such decisions are discussed in the section below.

A The Definition of Concerted Practices under EU law

The first time the European Court of Justice considered the definition of ‘concerted practices’ was in the case *ICI v Commissioner (Dyestuffs)*.⁸⁹ *Dyestuffs* concerned an investigation of ten dyestuffs producers, who controlled approximately eighty percent of the European dyestuffs market. The Commission claimed that the producers had engaged in a concerted practice aimed at fixing prices. In making this claim, the Commission pointed to three separate occasions between 1964 and 1967 in which the producers had uniformly raised prices. They pointed to evidence that representatives from the defendant producers had all met before each price increase to contend that they were a result of concerted practice.⁹⁰ In the Commission’s Opinion to the Court, Advocate General Mayras argued that a concerted practice could be distinguished from an anti-competitive agreement as it could not be separated from the broader effects it had on the market. That is, he maintained whilst an anti-competitive agreement may only have an anti-competitive

⁸⁶ ‘Horizontal agreements and concerted practices in EC competition law: Unlawful and legitimate contacts between competitors’, 4.

⁸⁷ Decision of the Commission in *Re Polypropylene* [Decision IV/31.149, 1986 O.J. (L 230)].

⁸⁸ *Ibid* 1.

⁸⁹ *ICI v Commissioner*, 1972 E.C.R. 619.

⁹⁰ *Ibid* 679.

objective and thus no material impact on the market, a concerted practice could only be established when such conduct had an identifiable anti-competitive effect.⁹¹ In its decision, the Court provided a broader definition of concerted practices than Advocate General Mayras, stating that it was,

‘a form of co-ordination between undertakings which, without having reached the stage where an agreement properly so-called has been concluded, knowingly substitutes practical cooperation between them for the risks of competition’.⁹²

The Court further explained that,

‘by its very nature, then, a concerted practice does not have all the elements of a contract but may inter alia arise out of co-ordination which becomes apparent from the behaviour of the participants’.⁹³

As such, the Court highlighted that although the behaviour of the counterparts was a crucial element to establishing a concerted practice, its impact on the market although relevant was not an explicit requirement.

Three year later, the Court reconsidered the issue of concerted practices in the case *Suiker Unie v Commissioner (Suiker)*.⁹⁴ In that case, the Commission claimed that the main sugar producers and distributors in the EU had engaged in a concerted practice to protect certain markets in Italy, Germany, and the Netherlands. The Commission pointed to evidence that the defendants had exchanged information on their future strategies in these markets to argue that a concerted practice had occurred. However, there was no evidence of a concrete plan or agreement between the defendants to engage in anti-competitive behaviour. In its decision, the Court rejected the defendants’ argument that for a concerted practice to be established, evidence of a premeditated plan to lessen

⁹¹ Ibid 671.

⁹² Ibid [64].

⁹³ Ibid [65].

⁹⁴ Joined Cases 40-48,50,54-56, 111, 113 & 114/73,1975 E.C.R. 1663.

competition was required. Rather, the Court explained that all that was required to establish a breach of Article 101 was, ‘any direct or indirect contact between operators, the object or effect whereof is either to influence the conduct on the market of an actual or potential competitor or to disclose to such a competitor the course of conduct which they themselves have decided to adopt or contemplate adopting in the market’.⁹⁵ The Court further explained that in order for the defendants behaviour to be not captured by Article 101 they would need to demonstrate that their actions were independent and not based on knowledge of their competitors future behaviour.⁹⁶

Dyestuffs and *Suiker* were foundational to establishing the concept of concerted practices in EU competition law. In particular, these cases highlight that the definition of concerted practice consists of two elements:⁹⁷

- (i) The existence of direct or indirect reciprocal contacts between undertakings aimed at knowingly removing uncertainty as to future market behaviour; and
- (ii) Subsequent behaviour in the market pursuant to the contact between the undertakings.

Subsequent cases have introduced a third causality element to the above definition. A good example of such a case includes *Huls v Commission (Huls)*.⁹⁸ In that case, the Commission claimed that several polypropylene producers had engaged in a concerted practice aimed at fixing prices. In making this claim, the Commission pointed to evidence of regular meetings between the producers where they discussed target prices and developed a system to split demand in the market. In its decision, the Court stated that for a concerted practice to be held three requirements needed to be satisfied: ‘(a) the undertakings concerting with each other; (b) subsequent conduct on the market; and (c) a

⁹⁵ Ibid [174].

⁹⁶ Ibid [175].

⁹⁷ See ‘Horizontal agreements and concerted practices in EC competition law: Unlawful and legitimate contacts between competitors’, 845 (the summary of these principles has been adapted from the summary provided in this paper).

⁹⁸ Case C-199/92P, 1999 E.C.R. 1-4287.

relationship of cause and effect between the two'.⁹⁹ In relation to this third element, the Court went on further to explain that once it can be established that there had been contact between undertakings aimed at removing uncertainty as to future market behaviour, there is a presumption that 'the undertakings taking part in the concerted action and remaining active on the market take account of the information exchanged with their competitors for the purposes of determining their conduct on that market'.¹⁰⁰ As such, *Huls* lowers the standard required by *Dyestuffs* and *Suiker* to establish a concerted practice. This is because the words of the Court tip the balance of the test in favour of the first element outlined above, meaning that a concerted practice may be inferred simply from contact between competitors and does not require the Commission to demonstrate that such contact produced any anti-competitive effects as this will be presumed.¹⁰¹

B Using Circumstantial Evidence and Parallel Behaviour to Establish a Concerted Practice

As discussed above, US authorities have often relied on circumstantial evidence like parallel market behaviour to establish the existence of a concerted practice. This is because documentary evidence like contracts between colluding parties are difficult to obtain as such parties are careful to not leave a trail.¹⁰² EU authorities face similar issues. As such, this section examines whether under EU competition law parallel behaviour by competitors would be sufficient to establish a concerted practice if it was the only evidence that such conduct had occurred.

The first case that considered this issue was *Dyestuffs*. In that case, the defendant producers argued that their uniform price increases were a result of the oligopolistic nature of the European dyestuffs market. In its decision, the Court made clear that whilst parallel

⁹⁹ *Ibid* [161].

¹⁰⁰ *Ibid*.

¹⁰¹ See for commentary, 'Horizontal agreements and concerted practices in EC competition law: Unlawful and legitimate contacts between competitors', 847.

¹⁰² *Ibid* 851 (see footnote 41 for an example of a company destroying the paper trail of collusive behaviour).

behaviour was relevant, it was not conclusive in establishing the existence of a concerted practice. More specifically, the held that,

‘Although parallel behavior may not in itself be identified with a concerted practice, it may however amount to strong evidence of such a practice if it leads to conditions of competition which do not correspond to the normal conditions of the market, having regard to the nature of the products, the size and number of the undertakings, and the volume of the said market’.¹⁰³

Albors-Lorens notes that whilst the Court stated that parallel behaviour would only provide ‘strong evidence’ and that consideration of the relevant market’s specific features was more relevant, it only superficially followed this standard. That is, he contends that the Court in *Dyestuffs* only superficially considered the characteristics of dyestuffs market in making its decision and instead treated the evidence that the defendants acted in a similar manner as conclusive. This in turn indicates that ‘that concerted practice could exist through a combination of parallelism and a deviation from normal market practices’.¹⁰⁴

Three years later, the Court reconsidered the issue of parallel conduct in *Suiker*. In its decision, the Court stated that ‘intelligent adaptations to the existing and anticipated conduct of competitors’ were legitimate.¹⁰⁵ The Court’s words have been interpreted to mean that conscious parallelism in an oligopoly is not an offence per se. That is, evidence of parallel behaviour by competitors in an oligopolistic market is not in itself enough to establish a concerted practice.¹⁰⁶

¹⁰³ *ICI v Commissioner*, 1972 E.C.R. 619, [66].

¹⁰⁴ See for commentary, ‘Horizontal agreements and concerted practices in EC competition law: Unlawful and legitimate contacts between competitors’, 853-4.

¹⁰⁵ *Joined Cases 40-48,50,54-56*, 111, 113 & 114/73,1975 E.C.R. 1663

¹⁰⁶ See the Commission decision in *Zinc Producers Group*, 1984 O.J. (L 220) 27, [75]-[76].

Ten years later, the Court decisively clarified its position regarding parallel conduct in *Ahlstrom Osakeyhtio v Commission (Woodpulp II)*.¹⁰⁷ In that case, the Commission claimed that a group of US and Scandinavian wood pulp producers had engaged in a concerted practice aimed at fixing prices by following a system in which they all gave advanced quarterly price announcements to their customers. Because of these announcements prices across the European wood pulp market increased uniformly. In its decision, the Court applied extended the standard established in *Dyestuffs* and *Suiker*, stating that ‘parallel conduct cannot be regarded as furnishing proof of concertation *unless concertation constitutes the only plausible explanation for such conduct* (emphasis added)’.¹⁰⁸ Moreover, unlike in *Dyestuffs*, the Court based its finding that the price announcements did not constitute a concertation on evidence of the wood pulp market forwarded by a panel of expert economists who contended that such behaviour was regular within the industry. As such, Albors-Lorens contends that the decision in *Woodpulp II* is significant for two reasons,

‘First, it clarified that, in the absence of evidence of contacts between market participants, parallel behavior will be a proof of collusion only where there is no other plausible explanation for such parallelism. This is a very high standard of proof. If, however, and as happened in *Woodpulp II*, there is a legitimate business justification for this parallel behavior, the latter would fall outside the scope of [Article 101]. Price signalling would, therefore, be permissible provided that there is a valid business explanation to support it. Secondly, the judgment made it very clear that, for [Article 101] to apply to oligopolistic markets, the competition authorities need to prove that the line that separates behaviour

¹⁰⁷ Joined Cases G-89/85, G-104/85, G-114/85, G-116/85, G-117/85 & G-125/85 to G-129/85. See ‘Horizontal Agreements’ at 856-8 for commentary.

¹⁰⁸ *Ibid* [126].

resulting from market structure and intelligent adaptation to market conditions from collusion has been unmistakably crossed by the undertakings in question'.¹⁰⁹

C Unlawful and Legitimate Exchanges of Information

As discussed above, information exchanges between competitors may constitute a concerted practice in certain circumstances. There is a fine line between legitimate exchanges of information and unlawful exchanges. The law around information exchanges has developed significantly in the EU. Some of the major cases are discussed here.

In Re Copelba,¹¹⁰ a trade association collected and published general market information on price, terms of sale and supply arrangements. The Court held that this would be a legitimate exchange of information so long as individual undertakings were not specifically identified or could be identified from the information. In this case, specific undertakings were named by the trade association and thus it was held to be unlawful. From this case, it follows the exchange of individual information on price and price related matters would be unlawful.¹¹¹

The case *Re Vegetable Parchment*¹¹² had similar facts to *In Re Copelba*. Here the Commission held that were a trade association collected and published general statistical information about an industry, then it would scrutinize this information where it was published in an itemized manner.¹¹³

Each of the *1968 Notice on Cooperation Agreements*¹¹⁴ and *Commission's 7th Report on Competition Policy*¹¹⁵ provided further guidance. The effect is that the

¹⁰⁹ 'Horizontal agreements and concerted practices in EC competition law: Unlawful and legitimate contacts between competitors', 854.

¹¹⁰ Commission Decision 77/592/EEC, 2 C.M.L.R. D28 (1977).

¹¹¹ Ibid [26]-[32].

¹¹² Commission Decision 78/252, 1978 C.M.L.R. 534.

¹¹³ Ibid [63]-[65].

¹¹⁴ Notice on Cooperation Agreements, 1968 O.J. (C 75) 3.

¹¹⁵ Seventh Report on Competition Policy (1977), pt 7.

Commission will consider three key criteria when determining whether an information exchange between counterparts is legitimate or unlawful. These are:

- (i) the nature of the information being exchanged;
- (ii) the structure of the market in which the counterparts participate; and
- (iii) whether the information exchange is likely to improve transparency within this market.

The first two of these criteria appear to be consistent with the position under US antitrust law, discussed above. However, the third criterion provides an interesting context as to the scope of prohibited conduct in the EU.

Both *Aalborg Portland v Commission*¹¹⁶ and *Boel v Commission*¹¹⁷ relate to situations where the defendant has attended a meeting in which other competitors have disclosed sensitive information and they have claimed that did not know that anti-competitive information would be discussed in these meetings or that they did not agree to take part in the collusive behaviour agreed by the other competitors at these meetings. In these cases, it was held that in order to not be liable under Article 101, the defendants would need to publicly distance themselves from what was discussed at the meetings or informed authorities of the nature of the meetings.¹¹⁸

D Hub-and-spoke Conspiracies under EU law

In the EU, as set out above, the prohibition on concerted practices has been applied to both horizontal and vertical arrangements. Hub-and-spoke conspiracies occur where there is no direct communication between competitors. However, this is a relatively new area of EU law. Most of the cases have come from the UK. In this context, it is important to note that law in UK is meant to be applied in a manner that is consistent with the EU and thus the UK decisions may have ramifications and application in broader EU law. The commonality of approach is created by Chapter 1 of the UK *Competition Act* having

¹¹⁶ Joined Cases C-204/00P, C-205/00P, C-211/00P, C-213/00P, C-217/00P & C-219/00P.

¹¹⁷ se T-142/89, 1995 E.C.R. 11-867.

¹¹⁸ *Aalborg* at [82], [84]; *Boel* at [89].

almost identical wording to Article 101 of the TFEU. It prohibits ‘any agreements between undertakings, decisions by associations of undertakings or concerted practices which (a) may affect trade within the United Kingdom and (b) have as their object or effect the prevention, restriction or distortion of competition within the United Kingdom’. Three cases provide examples of the EU approach.

The first is *Musique Diffusion Française v Commission*¹¹⁹ and this is an example of indirect contact between competitors. In this case, the supplier received a complaint from a French distributor concerning the influx of imports from the UK and Germany. The supplier informed British and German distributors of the French distributors complaint. The Court held that the Supplier was trying to pressure the British and German distributors to stop exporting their products to the French market.¹²⁰

The case *JJB Sports/All Sports v Office of Fair Trading*¹²¹ related to price fixing of replica football shirts in the UK market. The defendants were the retailers, JJB Sports and All Sports. Defendants complained to the manufacturer that another retailer, Sports Soccer, were discounting the price of replica football jerseys. The manufacturer subsequently exerted pressure on Sports Soccer to raise their price. It was held that the defendant retailers and the manufacturer had engaged in a concerted practice aimed at fixing prices. It was further held that general complaints by retailers to a manufacturer would not be unlawful. However, complaints in which a specific competitor is named are unlawful.¹²² The Court explained that: ‘if one retailer A privately discloses to a supplier B its future pricing intentions in circumstances where it is reasonably foreseeable that B may make use of that information to influence market conditions, and then B passes that pricing

¹¹⁹ Case 100/80,1983 E.C.R. 1825.

¹²⁰ *Ibid* [72]-[79].

¹²¹ Case 1021/1/1/03 and 1022/1/1/03, 2004 CAT 17.

¹²² *Ibid* [665].

information on to a competing retailer C, then in our view A, B, and C are all to be regarded on those facts as parties to a concerted practice'.¹²³

In *Argos & Littlewoods v Office of Fair Trading*¹²⁴, Argos and Littlewoods, both toy and games retailers, disclosed future pricing information to their supplier Hasbro who in return informed them of their pricing expectations. There was no direct contact between Argos and Littlewoods. However, the Court took a view that was similar to *JJB Sports/All Sports*. It held that there had been indirect contact through the third-party supplier. As a consequence, it held that the retailers and the supplier had engaged in a concerted practice aimed at fixing prices.¹²⁵

Amending the law, analysis and conclusions

In *Verizon Communications, Inc. v. Law Offices of Curtis v. Trinko*,¹²⁶ the Supreme Court found that 'Cartels remain the supreme evil of antitrust'.¹²⁷ That is, price fixing by natural persons or corporations is considered to be heinous. The effect of this is that it is highly unlikely that any ethical code, whether personal, professional or institutional, would countenance cartel conduct. The answer to the question 'is it right?' is 'no'.

Many businesses espouse ethical conduct and bind themselves to such conduct through a code of ethics or through their corporate social responsibility programs. Indeed, there are specific analytical techniques used at the organisational level of analysis of ethics.¹²⁸ Profession ethics apply to the computer scientists who implement (or evolve) the algorithms that have the potential to tacitly collude and these have been examined in

¹²³ Ibid [659].

¹²⁴ Case 1014 and 1015/1/1/03.

¹²⁵ Ibid [701]-[704].

¹²⁶ 540 U.S. 398 (2004)

¹²⁷ 540 U.S. 398 (2004), 408.

¹²⁸ See, for example, Michael S McLeod, G Tyge Payne and Robert E Evert, 'Organizational Ethics Research: A Systematic Review of Methods and Analytical Techniques' (2016) 134(3) *Journal of Business Ethics* 429.

the context of financial services.¹²⁹ In addition, there are personal ethical issues. Although bots might be autonomous actors, they are conceived of by people who have personal morals.

This creates a problem of nexus between the creators of bots and their longer-term relationship. If the creators regard the bot's conduct as being wrong, they would no longer condone the action and would stop the bots from tacitly colluding. That is, if the bots are agents of a firm, they would not be permitted to engage in conduct that would place the firm at legal risk. Each of the three ethical frames (institutional, professional and personal) would come into play.

However, they do not seem to have done so. This creates a situation where there is an assumption, whether tacit or express, that bots are autonomous actors. In effect, ethical consistency requires that bots are *not* agents of the firm if there is any prospect that they might engage in price fixing.

The problem facing antitrust regulators is whether autonomous actors engaged in algorithmic tacit collusion are in breach of the law. The problem facing competition law policy makers is whether autonomous actors engaged in algorithmic tacit collusion are causing an anticompetitive harm that needs to be prohibited. This issue is critical in the antitrust space, with approaches such as applying the essential facilities doctrine being suggested¹³⁰ and whole journal issues devoted to the topic.¹³¹

¹²⁹ See, for example, Michael Davis, Andrew Kumiega and Ben Van Vliet, 'Ethics, Finance, and Automation: A Preliminary Survey of Problems in High Frequency Trading' (2013) 19(3) *Science and Engineering Ethics* 851.

¹³⁰ Paul Lugard and Lee Roach, 'The Era of "Big Data" and EU/U.S. Divergence for Refusals to Deal' (2017) 31(2) *Antitrust* 58.

¹³¹ John M Newman, 'Complex Antitrust Harm In Platform Markets' (2017) 2(1) *CPI Antitrust Chronicle* 52; Frank Pasquale, 'When Antitrust Becomes Pro-Trust: The Digital Deformation Of U.S. Competition Policy' (2017) 2(1) *CPI Antitrust Chronicle* 46; Ramsi Woodcock, 'The Power of the Bargaining Robot' (2017) 2(1) *CPI Antitrust Chronicle* 40; Salil K Mehra, 'Robo-Seller Prosecutions And Antitrust's Error-Cost Framework' (2017) 2(1) *CPI Antitrust Chronicle* 36; Dylan I Ballard and Amar S Naik, 'Algorithms, Artificial Intelligence And Joint Conduct' (2017) 2(1) *CPI Antitrust Chronicle* 29; Michal S Gal, 'Algorithmic-Facilitated Coordination: Market And Legal Solutions' (2017) 2(1) *CPI Antitrust Chronicle* 22; Ariel Ezrachi and Maurice

As we have seen, the Australian law, consistent with the approaches of the US and EU, currently requires that there is an ‘agreement, arrangement or understanding’ for there to be price fixing conduct. Australian jurisprudence means that these terms require both the ‘meeting of the minds’ mentioned above, but also ‘commitment’.¹³² Even if bots are found to be agents of firms, it is not clear that algorithmic tacit collusion would meet either of these two tests. As Australian law and jurisprudence has not diverted significantly from US or EU law, then the same issue may arise in other jurisdictions.

The proposed amendment to the Australian law would prohibit a firm from engaging ‘in a concerted practice that has the purpose, or has or is likely to have the effect, of substantially lessening competition’. That is, the amended law would eliminate the need for the firms to have ‘a meeting of the minds’ or, at least potentially, ‘commitment’.

This might seem like a great outcome for the Australian legislature. If the proposed law is passed in 2017, then Australia might become one of the first jurisdictions to deal with algorithmic tacit collusion under competition law. However, it also indicates a potential problem. The legislation was not drafted to have an effect on automated price fixing. It was intended to deal with hub and spoke conspiracies and the shared use of a data source. Indeed, the Explanatory Memorandum¹³³ provides examples of such conduct. This should give pause for thought. If there are potentially favourable unintended consequences of the proposed legislation, then what are the potential unfavourable unintended consequences?

Competition law usually assumes that efficient market mechanisms are beneficial to consumers and only acts to prohibit restraints that have an adverse effect on competition. The challenge is to ensure that changes to the law are measured, appropriate and timely.

E Stucke, ‘Looking Up In The Data-Driven Economy’ (2017) 2(1) *CPI Antitrust Chronicle* 16; Paul Johnson, ‘Should We Be Concerned That Data And Algorithms Will Soften Competition?’ (2017) 2(1) *CPI Antitrust Chronicle* 10.

¹³² *Apco Service Stations Pty Ltd v Australian Competition and Consumer Commission* [2005] FCAFC 161 at [43] – [47].

¹³³ Explanatory Memorandum above n 27.

There is a significant risk if the law tries to ‘keep up’ with technology.¹³⁴ The debate mentioned earlier in this section is healthy but over-reaction or a premature response brings with it risks of creating inefficiency.

There is also a problem of over-enforcement. This is the ‘coincidence or conspiracy’ matter. The issue from an antitrust regulator perspective is that detection of cartels is difficult.¹³⁵ The risk is that conspiracies will be found, where coincidences should have been noted. Any amendment to the law needs to address this problem and it is not clear that the Australian legislative drafting meets this objective.

¹³⁴ Lyria Bennett Moses, ‘Agents of Change: How the Law Copes with Technological Change’ (2011) 20 *Griffith Law Review* 763.

¹³⁵ Caron Y Beaton-Wells, ‘Immunity for Cartel Conduct: Revolution or Religion? An Australian Case Study’ (2014) 2(1) *Journal of Antitrust Enforcement* 126; D Daniel Sokol, ‘Cartels, Corporate Compliance, and What Practitioners Really Think about Enforcement’ (2012) 78(1) *Antitrust Law Journal* 201; Yassine Lefouili and Catherine Roux, ‘Leniency Programs for Multimarket Firms: The Effect of Amnesty Plus on Cartel Formation’ (2012) 30(6) *International Journal of Industrial Organization* 624; Michael O’Kane, ‘International Cartel Criminalisation and Leniency: Recent Lessons from the UK and Global Comparisons’ (2012) 8(2) *Competition Law International* 55; Margaret C Levenstein and Valerie Y Suslow, ‘What Determines Cartel Success?’ (2006) 44(1) *Journal of Economic Literature* 1; Caron Y Beaton-Wells and Brent Fisse, *Australian Cartel Regulation* (Cambridge University Press, 2011).