

The role of information exchange in facilitating collusion- insights from selected cases

Reena das Nair and Liberty Mncube¹

Abstract

There is increasing recognition by the Competition Commission that cartel members may engage in practices such as information exchange that facilitate collusion by reducing strategic uncertainty of rivals' behaviour without constituting explicit agreements. If firms are uncertain about their competitor's prices, tacit collusion is harder to maintain as price undercutting is harder to detect. The key concern with information exchange therefore is that it increases transparency, allowing for better monitoring and more effective punishment of deviating members of a cartel. This paper draws on key international and South African cases that deal with information exchange to gain insights on conditions under which such exchanges could lead to anticompetitive outcomes. The general consensus is that the frequent exchange of individual, disaggregated price and quantity information, as well as the sharing of strategic, future plans between rivals and not the public, has the highest collusive potential. Aggregated information, if it allows for individual company data to be easily identified, could also be problematic. This is especially the case in markets that are highly concentrated with large barriers to entry and relatively homogenous products, all which are typical characteristics of many South African markets. The legal and economic debate on the effects on transparency and firms' incentives to collude is thus likely to continue to affect the Commission's enforcement activities as it focuses on cartel conduct.

1. Introduction

Suppressing competition by engaging in collusion or concerted practices even in very highly concentrated industries often requires 'something more' than mere parallelism in behaviour to ensure that consensus is reached and that this consensus is adhered to.² It is generally understood that for collusion between competitors to be sustainable, the following three elements should hold- the ability to reach agreement, the ability to monitor adherence to the agreement and the ability punish deviation from the agreement.³

Information exchange could facilitate collusion by enabling these three elements. It could arguably allow for agreement between competitors to be reached if the information discloses market strategies or works as a recommendation of a particular future market conduct.⁴ Of greater concern is that exchange of information, especially private, disaggregated and sensitive information shared on a regular basis, increases market transparency and reduces strategic uncertainty about competitors' actions. As such, information exchange may be used to monitor adherence to an agreed price or volume. This monitoring could lead to swift and more effective punishment of deviators. Cases of concerted practice or tacit collusion are particularly difficult to prove. Often however, some form of facilitating practice such as information exchange accompanies such conduct.

There could however be valid efficiency defences for the exchange of information under certain circumstances. Because of these, all instances of information exchange cannot unambiguously be classified as conduct facilitating collusion. Such cases therefore in international jurisdictions have typically been scrutinised through a rule of reason framework.

This paper looks at key international cases as well as South African experience of cases which deal with information exchange to gain insights on the conditions under which it could result in anticompetitive outcomes. The aim is to highlight what our competition authorities should look out for when dealing with such cases in the future. There has only been one case to date in the milk industry in which the Commission expressly dealt with the concept of information exchange. The Commission also initiated a restrictive horizontal practices case against fertiliser producers based on, amongst other indications, exchanges of highly disaggregated data through various forums. The Commission's increasing attentiveness to facilitating practices is further seen in recent investigations in the steel and petrochemicals industries which have some elements of information exchange.

A better understanding of the role of information exchange in facilitating collusion has particular significance for cartel enforcement in South Africa. Many South African markets are duopolistic or oligopolistic in nature with homogenous products and high barriers to entry. Extensive former state protection and support meant that in certain strategic industries, cartels were officially sanctioned by the state to ensure security of supply in the apartheid era. Industry and trade associations, or boards, where information was shared between members, were also established for collective planning to serve this purpose as well as to regulate markets. Many of these industry bodies still operate today. With this history and under such structural conditions, information exchange may well facilitate collusion that is endemic in many markets in South Africa today. Information exchange facilitating tacit collusion also raises concerns of whether cartel activity could persist tacitly, even after explicit agreements are uncovered by the Commission in markets where information exchange continues unhindered.

We begin with a simple theoretical framework on how information exchange could facilitate collusion in Section 2. We then assess information exchange in practice, highlighting the different forms and modes through which information can be exchanged in Section 3. This is followed by a review of key cases from the EU and the US that deal with this topic in Section 4. Section 5 looks at the South African experience with information exchange. Section 6 concludes and suggests a way forward in dealing with future cases involving information exchange.

2. Theoretical framework

It is relatively well-established in economics literature that collusion is made difficult if firms compete under a veil of ignorance concerning the actions of rivals. The seminal paper on the effect of information exchange on collusion is provided by Stigler (1964). Stigler (1964) concludes that without observability of prices, collusion will in general be more difficult to sustain, but can still arise if the cartel provides the right incentives. Green and Porter (1984) build on Stigler's approach and in their model, firms cannot distinguish whether a low realised price was due to exogenous demand fluctuations or due to rivals' undercutting. Information about rivals' past actions allows firms to avoid indiscriminate price wars by punishing only if undercutting was observed. Since then, examples of this literature include Tirole (1989, ch. 6), Kühn (2001), Ivaldi et al (2003) and Overgaard & Møllgaard (2008).

Suppose that two firms are engaged in repeated Bertrand competition with an infinite time horizon. Assume that the firms produce a homogenous good with constant marginal costs, c . The static Nash equilibrium involves marginal cost pricing. At this equilibrium all profits are competed away. If these firms compete repeatedly, they may be able to sustain a higher collusive price $p^c > c$ by reaching a tacit understanding that any deviation from this price would trigger a price war which would result in the firms reverting to the competitive price. Based on

such tacit collusion the firms could share the market and split the (industry level) collusive outcome, earning half of $\pi^c = (p^c - c)D(p^c)$ each.

The discount factor δ represents the weight that the firms place on future profits.⁵ If the firms have the same discount factor δ by holding on to the collusive price, each firm would earn $\pi^c / 2 + \delta\pi^c / 2 + \delta^2\pi^c / 2 + \dots = \pi^c / 2(1 - \delta)$. Each firm faces the temptation to deviate from the collusive price by undercutting. Deviation by undercutting would mean that the firm deviating can capture the entire market and thus, the entire collusive profit π^c . While such a deviation has a short term benefit, it will induce a phase of credible retaliation by triggering a price war and prices reverting back to $p = c$. Note the trigger strategy is constructed in such a way that this price war would have an infinite duration. Each firm has an incentive to stick to the collusive price if $\pi^c / 2 + \delta\pi^c / 2 + \delta^2\pi^c / 2 + \dots = \pi^c / 2(1 - \delta) \geq \pi^c$, which is equivalent to

$$\delta \geq \delta^* = 1/2 \quad (1)$$

Equation 1 shows that the industry can sustain collusion non-cooperatively based on a trigger strategy if the discount factor is sufficiently large. In other words, firms are able to sustain collusion when the weight they put on future profits, measured by the discount factor, exceeds a certain threshold. In the above case, this threshold would be equal to 1/2. The critical threshold δ^* is a measure of how easy it is to sustain collusion. In general, collusion is difficult to sustain if firms are highly impatient. In order to measure the influence of the industry characteristics on the likelihood of collusion, the necessary condition is to assess how these industry characteristics affect the critical threshold. A facilitating factor reduces this critical threshold. The impact of factors such as information exchange, firm communication and general market transparency on the critical threshold is therefore of interest to competition authorities.

Following from the above, the increased frequency of price adjustments allows firms to more quickly retaliate when one firm cheats. However such a deviation must be identified by other firms in the market. Assume that firms can change prices only every T periods. More frequent price adjustments correspond to less price rigidity and thus to a smaller T. A cheating firm can benefit from undercutting its rivals for T periods before they react to its deviation. Collusion is sustainable if $(\pi^c / 2)(1 + \delta^T + \delta^{2T} + \dots) \geq \pi^c$ which is equivalent to

$$\delta \geq \delta^*(T) = 1/2^{1/T} \quad (2)$$

What is important therefore is how frequently firms adjust their prices. Longer detection lags for adjusting prices make it harder to sustain collusion. It is difficult to sustain collusion when individual prices are not readily observable and individual prices cannot be easily inferred from available market data. This in turn supposes that some uncertainty affects the market. For example, does a low price realisation depend on a low demand realisation or does it depend on cheating by some cartel member? This observability problem is formally analysed in Green and Porter (1984).

To illustrate the model by Green and Porter (1984), suppose each firm only observes its own price and sales. In each period, with some probability, demand vanishes. As a result, perfect collusion no longer possible. Each firm would have incentive to deviate blaming low demand. The best collusive scheme requires the firms to agree on setting the monopoly price. Thereafter,

colluding firms attempt to maintain this price as long as each firm maintains its market share. However, whenever one firm is unable to sell in a given period, it will launch a price war for a limited time period, before reverting to the monopoly price. The price war is needed and must be sufficiently lengthy (and thus costly) to deter potential cheaters. Price wars are an indispensable element of a collusive strategy, the observation of some periods with low prices does not exclude collusion in the industry. Simply put, periods of price wars could therefore indicate that there is collusion in a particular market. However, this equivalence is not precise. Price wars can also be triggered by an adverse shock on demand and not a tit-for-tat strategy because one member of the cartel cheated. Firms thus have an incentive to limit the duration of the price wars to what is just sufficient to discipline the tacit conduct.

When the market is stable, inferring deviations from collusive conduct is easier and requires less market data than when the market is unstable. Green and Porter (1984) illustrate that in the absence of any demand shock, firms could perfectly detect any deviation by their rivals by simply looking at their own sales. However if the market is unstable, inferring deviations may require disaggregated information. What information firms can infer from available market data is important with regards to market transparency, as is the delay necessary to obtain reliable data on prices and quantities, as well as its nature. It is important whether this information is about aggregate or individual data, since in the latter case it is easier to identify a deviant firm. The time lag elapsed between the pricing period and the publication period is also important. Even detailed information may not help to sustain collusion if it is available only after a long delay.

Limited transparency on prices and sales does not completely eliminate tacit (or explicit) collusion. Limited transparency however makes it more difficult to sustain collusion and restricts the scope of collusion. This suggests that exchange of information serves as a device which makes it easier to sustain tacit (or explicit) collusion. In light of our analysis so far, we make the following conjecture: Information exchange between firms can be expected to facilitate collusion because of diminished information lags, improved accuracy in observing rival behaviour and improved information about future intentions.

3. Information exchange in practice

Having introduced the framework, we shift the focus to the analysis of information exchange in practice. There is increasing recognition that information exchange could result in large efficiency benefits. Nitshe and von Hinten-Reed (2004) explain that information exchange could improve investment decisions and organisational learning of firms, which could potentially result in better quality, more variety and better future ability to respond to demand changes. It could also result in more efficient production planning, improved distribution and marketing strategies and better product positioning (in the case of differentiated products), all of which could improve consumers welfare. Information exchange may also lead to the exit of less efficient firms and facilitate the entry of firms who are not challenged by information asymmetry as a barrier to entry. Further, a range of reasons exists from a consumer protection perspective on how information exchange results in lower search cost for customers.

As recognised by EU and US competition authorities, sharing information between competitors could be pro competitive, *inter alia*, by:

- spreading technological knowhow and intellectual property⁶
- providing better information to customers

- allowing benchmarking among industry participants, which if done in relation to costs, could lead to efforts in reducing costs
- resulting in more effective decision making
- resulting in more accurate demand and supply forecasts and therefore better allocation of resources⁷

Caffarra and Kühn (2006) discuss possible efficiency effects of information exchange in vertically related markets where the steady flow of information allows firms to limit storage costs. They explain that in the *Italian Jet Fuel*⁸ case, the exchange of certain highly disaggregated delivery data was necessary for operational efficiency and cost savings, consequently allowing for lower prices of jet fuel to airlines.⁹

Motta (2004) suggests that although there may be efficiency reasons for information exchange, it is unlikely that firms would need to exchange information on an individual and highly disaggregated level to achieve these efficiencies.¹⁰ Thus, it is crucial to understand the context in which information is exchanged, the nature of the claimed efficiencies, as well as whether there are alternative means of achieving these same efficiencies that are less harmful to competition. Under a rule of reason approach, respondents are given the opportunity to present their efficiency defenses. These efficiencies should be assessed and weighed against the possible anticompetitive harm from the information sharing.

We proceed to discuss instances in which information exchange might be anticompetitive. As shown in the theoretical framework, exchange of information, especially highly disaggregated and individual company's information shared on a regular basis increases market transparency and reduces uncertainty about competitors' actions. Therefore, information exchange may be used to monitor adherence to an agreed price or volume. This monitoring could lead to swift and more effective punishment of deviators. Information exchange could arguably also allow for agreement between competitors to be reached if the information discloses market strategies or works as a recommendation of a particular future market conduct. This argument is however controversial as explained.¹¹

In practice, information exchange between competitors can take various forms including exchange of prices, costs, output levels, market demand, capacities or customer details. Exchange could be of individualised or aggregated information, historic, recent or future information, publically available or private information. Certain types of information raise greater competition concerns than others. In particular, private, frequent communication around individualised, recent past or future information on prices,¹² (recommended prices, price levels, price increases, minimum prices etc.) rebates, production plans, sales data exchanged between competitors but not between customers, as well as private communication of future plans are considered potentially problematic and are often looked upon unfavourably by competition authorities. Information on individual firms' past prices and quantities may allow identification of deviators and more effective and targeted punishment.¹³

Information exchange on market demand, costs or publically available data are usually considered less problematic. Demand information may not do much to reduce uncertainty about rivals' past conduct, although market estimates (or aggregate demand) may allow firms to see whether decreases in individual demand are due to negative shocks in the market or cheating (Motta, 2004). According to Vives (2006), exchanging cost information or benchmarking under Cournot competition may have large efficiency benefits¹⁴ and therefore these efficiencies would have to be taken into account appropriately.

Kühn and Caffarra (2006) distinguish between sharing of sales information and delivery information, showing that sharing of delivery information does not necessarily benefit monitoring a collusive agreement in markets where delivery figures do not correspond to sales figures. They further explain that aggregated delivery information shared in certain markets may have substantial efficiency benefits and little collusive potential.

While aggregated information is generally less worrying, firms could agree on a critical market price level (trigger price) below which it will be clear that someone has cheated. This could trigger a general industry price war.¹⁵ In other cases, aggregated volume data may allow for individual data to be derived easily (as we will see in case studies below), for instance when there are only few players in the market. In such cases, it has the same impact as sharing individualised data.

Publically available information that enters the market place through advance public price announcements¹⁶ or through customer interaction may act as indirect exchanges of information, or 'signals', notifying competitors of future intentions of the announcing firm and allowing competitors sufficient time to bring in line their own prices. These therefore could inform recommendations, suggestions and directions, which could culminate in reaching a common result. Further, advance price announcements by a firm (which could convey the intent to increase prices by a specific amount in a specified time-period) may hold an implicit threat to revoke the price increase if competitors do not follow suit within the prescribed period. Rivals who do not agree with the suggested price increase could offer alternative suggestions in the window period prior to any actual changes in price. This way, much of the risk and uncertainty of raising prices by the announcing firm is reduced and customers are not lost to rivals (Hay, 2008). Therefore the cost of experimentation for the announcing firm is greatly reduced (Motta, 2004).

However, advanced price notifications that are public need not necessarily have a negative impact on competition. These notices may have pro-competitive effects as they could benefit consumers in allowing them to plan ahead, and in certain instances, consumers even request it.¹⁷ Because of this, it is usually very difficult in practice to distinguish whether these are for legitimate business reasons or for facilitating collusion. Mere communication and promises on how competitors are going to act may not be a concern, especially if it is not in the firm's best interest and could be dismissed as 'cheap talk'. Others though have suggested that even 'cheap talk' which is not immediately verifiable may be of concern as announced plans can often be verified later or revoked, and wrong announcements can be punished, which in long-term relationships, may be enough to create credibility (Nitshe and von Hinten-Reed, 2004).¹⁸ Overgaard and Møllgaard (2008) suggest that cheap talk can assist in a meeting of minds and allows firms to reach an understanding on acceptable collusive strategies.

Information between competitors could also be exchanged indirectly via customers. Pricing rules and contracts could bear contingency clauses or commitment obligations like most-favoured nation¹⁹, meeting competition or price matching clauses²⁰. This allows the supplying firm to know immediately if its rival has undercut its price and therefore the chances of detecting deviation are increased.

Information exchanged through trade or industry associations could be used to achieve anticompetitive outcomes.²¹ Trade associations often collect individual company statistics and collate it before disseminating aggregated information back to its members. Often this industry-level information is used for beneficial purposes to inform members of the state of the industry

as well as important trends and developments, but it could also be used to facilitate collusion as we show in the case studies.

A sudden increase in the amount of information exchanged, the increased frequency of exchange, or the sudden exchange of highly disaggregated data may coincide with the start of a collusive period.²²

The above types of information exchange and the modes through which it is exchanged should not be assessed in a vacuum. It is crucial to understand the market structure and characteristics in which the information sharing occurs and whether it is conducive to collusion (for instance, the number of players, product characteristics (whether the product in question is homogenous), market transparency, nature of sales, e.g. whether they are lumpy or not, nature of competition in the market, i.e. price-setting or quantity-setting competition etc.). How the information helps to achieve and monitor coordination in a specific market and whether it actually has been used for this reason is also important to assess. For instance, exchange of even highly disaggregated delivery data may do little to increase transparency in a market where competition occurs at the bidding stage of the contract to supply a particular project (e.g. as argued in the *Italian Jet Fuel* case).²³ As a very general statement and bearing in mind the above caveats, information exchange poses a greater concern under oligopolistic (or duopolistic) market structures with high barriers to entry and with homogenous products that have relatively inelastic demand.²⁴

Importantly in many South African markets which are oligopolistic in nature, information exchange could undermine competition when the nature of the exchange in conjunction with particular market characteristics, prevents effective competition through secret discounting.

4. Insights from EU and US cases

We locate some of the above general concepts in key cases from the US and Europe in this section.

Article 81 of the EC Treaty and Chapter 1 prohibits, in certain circumstances, agreements (which include decisions by associations of undertakings and concerted practices) which prevent, restrict or distort competition.

Kühn and Vives (1994) suggest that information exchange under EC law could potentially be covered under Article 81 in the following ways:

- As part of a larger prohibited agreement like price fixing
- As an indirect way of price fixing
- As sufficient evidence of the existence of an illegal agreement
- As a necessary condition for sustaining the illegal agreement and illegal as a facilitating device
- As an illegal agreement in itself that restricts or distorts competition

The authors suggest that the EC views cases (by virtue of case law developed) of information exchange mainly in two ways:

- As part of a price fixing agreement (i.e. supporting collusion or concerted practice)
- As an infringement in itself

The *UK Tractor Registration Exchange* case²⁵ was one of the first cases evaluated by the European Court of Justice that brought information exchange exclusively (and not only as a support to/facilitation of a collusion case) as an infringement of Article 81(1).²⁶ The UK Trade association of manufacturers and importers of agricultural machinery (called the AEA) notified the agreement known as the 'Exchange' through which information was exchanged between eight manufacturers and importers of tractors into the UK. The type of information exchanged included aggregate industry sales information which could be broken down by product, time periods and territory; aggregate sales and market share of each individual which could be broken down by product, time periods and territory; sales information by dealer in the distribution network of each member along with imports and exports. No information was exchanged on price and costs.

The Commission found all three types of information exchange to be of concern, even the aggregated industry information when it could be used to identify individual competitors' sales volumes in markets where there were less than 10 tractors sold.²⁷ The Commission concluded that such information exchange was anticompetitive as it eliminated the uncertainty and secrecy of behaviour of competitors, which in a market with characteristics as explained below, was vital. The increased level of transparency brought about by the exchange in an already highly concentrated market thus prevented the residual hidden competition between the participants.²⁸ The exchange of information also raised barriers to entry for non-members of the exchange system, regardless of whether they joined the system or not.

The effect of the exchange was that market positions (shares) were stabilised.²⁹ The Commission stated that the exchange allowed competitors:

*'to establish with accuracy the market positions and performances of their rivals and to follow constantly any changes of these market positions, to see at once whether there has been any increase in the retail sales of a rival, to see the territory in which such an increase takes place, to detect the models which contribute to such an increase and finally to follow whether and to what extent any price or other marketing strategies of rivals are successful'.*³⁰

The Commission considered the market structure when reaching its conclusion on the anticompetitive impact of the information exchange. It found that the market was concentrated, with four firms holding around 80% of the market, that barriers to entry were high given the extensive existing distribution and servicing networks, that imports offered little competitive constraint³¹ and that brand loyalty existed, which lead to inelastic demand. The information exchanged was kept confidential among members and not available to purchasers and the general public. The market was also characterised by declining demand and excess capacity.

The parties, in their efficiency defense, argued that the exchange was necessary to process warranty claims and to track their sales teams' progress. The Commission felt that this could be achieved by comparing own company data to industry aggregated data, without the need to exchange individual firm data. The Court of First Instance upheld the Commission's decision in 1994 despite the appeal against the Commission for not undertaking a substantial assessment of anticompetitive effects.³²

In a case against cement manufacturers, *Cimbel*³³, the European Commission described the information exchange on capacities and output as strengthening and supplementing the object of the cartel agreement. The Commission explained that the exchange of future changes in capacity information removed the possibility of obtaining an advantage over competitors by

keeping such information secret. Increasing total sales through increasing capacity (and thus cheating on the agreement) was exactly what each cartel member was afraid of.³⁴

A more recent case, *Asnef-Equifax*³⁵, illustrates the importance in applying a rule of reason approach to an information exchange case. Asnef-Equifax is a group of financial organisations that run a register that collates information from members on solvency and credit information about their customers as a means of risk evaluation. Ausbanc, an association representing the interests of banking services users claimed and won in the national courts that this information sharing was anticompetitive. On appeal, the Spanish High Court referred the case to the ECJ which noted that the information exchange was potentially efficient as it reduced the number of borrowers who would default on their repayments and hence improve and sustain the credit supply system as a whole. This reduced the risk of lending by '*reducing the disparity between the information available to credit institutions and that held by potential borrowers*'³⁶. Therefore, the object of the information exchange was not to restrict competition, but the ECJ acknowledged that it could have had the effect of doing so.

In assessing these potential effects, the ECJ looked at the context of the agreement, the economic conditions in the relevant markets, the purpose of the system and associated conditions of access, the type of information exchanged, the intervals of exchange and importance of it in fixing prices, volumes or service conditions. Upon analysing the above characteristics, the ECJ found that the information exchange was unlikely to restrict competition as the market was not highly concentrated, lenders were not individually identifiable, and access to the system and use of it were not discriminatory. Further, the efficiency gains of such a system, if any restrictions on competition were found, would have to be balanced against this. The ECJ suggested that the beneficial effects on all consumers would likely outweigh the harm to a few credit applicants.³⁷

The US agencies categorise facilitating practices as those that facilitate agreement on price and output and those that serve to protect a price that has already been agreed upon³⁸, and assess facilitating practices on their purpose and effect. The DOJ can make a finding that information exchange is anticompetitive even though there is no direct evidence of a hard-core cartel on the basis of conscious parallel behaviour which is accompanied by circumstantial evidence and "plus factors" such as certain facilitating practices.³⁹ It is unlikely though that criminal sanctions are imposed upon respondents of such cases.

In the case against the *Airline Tariff Publishing Company* (ATP)⁴⁰, the DOJ alleged that eight of the largest US airlines and ATP used a complex information exchange system to disseminate fare information through their computer reservation system and travel agents. ATP was the core of the computerised reservation system used by travel agents. The information exchanged via ATP allowed the airlines to coordinate their fares and the effect was higher prices for airline tickets. All eight airlines supplied information on their own fares to ATP and were able to receive information about fares of rival airlines through their own computer reservation system.⁴¹ ATP was also used to exchange proposals and negotiate fare changes, to trade fare changes in certain markets in exchange for changes in other markets, to exchange mutual assurances concerning the level, scope and timing of fare changes, as well as to monitor each other's fare changes.⁴²

This case demonstrated that even 'cheap talk'- communication that does not commit parties to a course of action- could be a useful means to achieve successful coordination. An airline would indicate through the system that it would increase the fare for a given route at a future specified date. This window period, after announcing the intention and before implementation, gave the

announcing firm sufficient time to see if its competitors would match this price increase before it went into effect. If competitors did not match it, the announcing firm could rescind the proposed increase before the effective date or change the effective date. This way, no sales were lost to competing airlines and the risk of increasing prices for the announcing firm was reduced. Therefore such 'cheap talk', with no commitment attached, could allow meeting of minds or act as signals. The lack of commitment to customers also suggested that there was no other reason to announce such price increases except for collusive purposes.

The case was settled via consent decree and therefore the merits were unfortunately never adjudicated. The consent decree included undertakings that ATP not be used in a manner that unnecessarily facilitated fare coordination or price fixing agreements. It also prohibited the 'cheap talk' that would occur through the use of First and Last Ticketing Dates which allowed the window period.⁴³

5. South African case studies

Given the possible efficiency benefits of information exchange, a case of information exchange restricting competition could be brought under Section 4 (1) (a) of our Competition Act. Under this section, an agreement⁴⁴ or concerted practice⁴⁵, between parties in a horizontal relationship is prohibited if it has the effect of substantially preventing or lessening competition in a market, unless a party to the agreement, concerted practice or decision can prove that any resulting technological, efficiency or other pro-competitive gain outweighs that effect. Therefore, respondents are given the opportunity to put forth any efficiency justifications for the information exchange.

Section 4(1) (b) of the Act prohibits agreements or concerted practices that involve '*directly or indirectly fixing a purchase or selling price or any other trading condition*'. It could be argued that information exchange be regarded as an *indirect way* of price fixing. If it prevents secret discounting given the greater probability of detection (for instance, highly disaggregated and individual company information being shared in markets where there are few players and relatively homogenous products), then the effect may be that prices are indirectly 'fixed'. Under one interpretation then, an information exchange agreement could be considered a *per se* contravention of the Act and it could be argued that the very object of the information exchange is to restrict competition by indirectly fixing prices.⁴⁶

In this section, we look at the milk and fertiliser cases, and very briefly at two other ongoing cases at the Commission which deal with elements of information exchange.

5.1. The milk case

Government regulation of the milk sector began as early as the 1930s through minimum price regulation for certain products. This was achieved through various milk and dairy control boards. The system of control boards was abolished in 1997 when the Marketing Act of 1968 was abolished. Deregulation and liberalisation of the sector resulted in several changes, for example, the number of farmers declined while output did not change.

The milk industry can be divided into an upstream product market and several distinct downstream product markets. The upstream market is for the supply of raw milk in which dairy farmers are the suppliers and the dairy processors are the customers. This market is regional. The downstream product markets relate to the supply of various processed dairy products.

Depending on the downstream product, the geographic scope can be either regional or national. For example, the fresh milk market is regional while skimmed milk powder is national for competition purposes.

In March 2006, the Commission initiated a complaint against Lancewood, Clover, Parmalat, Woodlands, Ladismith and Nestle. These respondents are all processors. Processors buy the raw milk from farmers and convert it into various products for their customers, the major retailers and wholesalers. A small number of processors account for the vast majority of raw milk purchases and processed product sales. The Commission alleged that during the period January 2002 to March 2006, these firms had directly and indirectly fixed procurement milk prices from producers through one or more of the following means of information exchange.⁴⁷

- Price information exchange directly via telephone or e-mail communication between employees. The respondents also exchanged pricing data on procurement prices on an ongoing basis by means of circulating certain fictitious and certain actual scenarios requesting each firm to provide a price for the scenario sketched (akin to 'cheap talk').
- Price movement requests were exchanged regularly in e-mail correspondence between the firms.
- Field officers of some of the firms regularly exchanged pricing information of their companies, which would be communicated to senior officials of their respective firms.
- Some of the firms individually appointed an independent agricultural economist to collect pricing data which was collated in price comparison reports. Although these reports were compiled for the individual firms, they contained very specific pricing data relating to the factors used in the price determining formulas by the different firms.

The information exchanges between the processors included numerous discussions on forthcoming price reductions and magnitudes, strategic decisions of individual processors including communications on changes to pricing structures, prices paid by different processors in different regions and individualised information regarding future price movements. The exchange of input price information enabled processors to pay lower prices to their producers. Put differently, the information exchange allowed processors to act as if they were a monopsony buyer of raw milk. As a result, there were transfers of profits from producers to processors. The information exchanged included private, individualised, disaggregated and future price information between competitors. Such types of information exchange receive the worst ratings in international cases and literature when it comes to potential for anticompetitive effects.

The removal of the uncertainty about the rivals' actions which is the essence of competition can itself limit competitive rivalry, especially in highly concentrated markets where the increased transparency enables firms to better predict or anticipate their rivals' conduct. The Commission therefore concluded that the respondents had contravened section 4(1)(i)(b) of the Act in that they had engaged in concerted practices that directly or indirectly fixed procurement prices of raw milk. This case is pending adjudication at the Tribunal. However, in February 2009 Lancewood agreed to pay an administrative penalty in the sum of R100 000,00.

5.2. The fertiliser case

In 2003, Nutri-Flo, a customer of Sasol Chemical Industries', lodged a complaint with the Competition Commission alleging that Sasol and its competitors Kynoch (now Yara) and Omnia were engaged in various anticompetitive practices in the fertiliser industry. Amongst other allegations, Nutri-Flo claimed that Sasol, Kynoch and Omnia colluded by dividing the market for

certain nitrogen-based fertilisers such as Limestone Ammonium Nitrate (LAN) and by fixing prices of LAN and of certain other fertilisers.

The Commission found that the respondents had established and participated in various committees in which detailed information was exchanged on a range of nitrogenous fertiliser products. Various factors collectively pointed to possible collusion, including the existence of facilitating factors such as detailed information exchange through various forums. The Commission referred the case under Section 4(1) (b) or *alternatively* 4(1)(a) of the Act. In 2009, Sasol admitted to collusion in the form of price fixing and market allocation in a number of fertiliser markets and settled the case with the Commission.⁴⁸

The merits of the information exchange were unfortunately never adjudicated before settlement. What follows is our assessment of the information exchanged and how it could have constituted a facilitating practice that allowed the maintenance of collusion which clearly existed, and was admitted to by Sasol, in certain fertiliser markets.

Information exchange in the fertiliser industry occurred through the following platforms- the Nitrogen Balance Committee (“NBC”), the Import Planning Committee (“IPC”), the Export Club as well as an industry association, the Fertiliser Society of South Africa (“FSSA”). The respondents were the main members in each of these forums.

According to the respondents, the purpose of the NBC was to ensure security of supply in circumstances in which there was a shortage of ammonia products for supply to the producers of nitrogen-based fertilisers. In the NBC, individual members submitted information to the committee containing forecasts (requirements by regions and planned imports) for a number of key fertiliser products, including available stock production capacity, usage and surplus/deficit, for the following twelve months. The information was also broken down by each member’s nitrogen usage between its competing end uses (in this case, nitrogen could also be used to manufacture explosives). The individualised information was aggregated and both the individual and aggregated data was circulated to all members of the NBC.

The exchange of such information could well have facilitated the ongoing collusion that Sasol admitted to in its settlement with the Commission. The information shared was highly disaggregated and reflected firm-specific forecasted volumes for a range of products. This information was only available to NBC members and not accessible to the general public. The detailed nature and frequency of the information exchanged created a high level of transparency, allowing each firm to forecast competitors’ market shares for the next year and have insight on future strategic decisions of competitors.

Through the IPC, data around imported fertiliser product volumes, available shipping capacities and other import logistical costs were shared. The claimed purpose of the committee was to coordinate volumes of imports of various products and to share logistics and minimise supply chain costs. This information shared on import volumes via the IPC platform would have also assisted in facilitating collusive agreements as it allowed monitoring of each player’s planned imports into South Africa. The respondents also used information exchanged during these meetings to agree on pricing formulae used to calculate the base price for certain fertiliser products.

Through the Export Club, information on fertiliser sales designated for export markets was shared. The purpose of the export club was to coordinate bids for the supply/exports of products to the Southern African region through traders.

The combination of sharing competitors' future projections of local sales from data exchanged in the NBC, import data from the IPC and export data from the Export Club left very little uncertainty about competitors' future market shares (at least in the periods that these activities overlapped). Any increased imports by a player would be known by all in advance and any export volumes that could potentially be diverted into the local market would also be revealed.

Information on past market shares by region was collated by the FSSA. Each member submitted sales data of the basic fertiliser components and received industry totals and their own share of the market. Competition in these product markets lies in pricing and gaining market share through competitive and vigorous discounting by agents selling fertiliser to farmers. Through the FSSA market share data, deviations in market shares in each region could be monitored given that only three players were present in most markets and each had a good idea of what the other's capacity was.

The characteristics of the relevant fertiliser markets make them vulnerable to collusion. There are only a few players in the market for the production of some of the relevant fertilisers. The products in question are relatively homogenous and there are substantial barriers to entry. The information exchange of the nature described above serves to increase transparency of players' *past* and *future* actions, undermining any incentive to undercut each other. Although there was explicit collusion in these markets, one could argue that like in the *UK Tractors* case, the information exchanged through some of these forums was excessive for the claimed efficiencies and in itself anticompetitive.

5.3 The steel case

The ongoing investigation⁴⁹ into collusion in the steel industry involves aspects of information exchange via an industry association, South African Iron and Steel Institute (SAISI). In this case, leniency applicant Scaw Metals admitted to colluding on fixing prices for long steel products and on allocating customers and projects between competitors.⁵⁰

The industry association could facilitate monitoring of the price fixing agreement in the following way. Members submitted highly disaggregated monthly information on sales volumes by long steel product type to the trade association. This information was collated and returned to the members in an aggregated format. From this, individual members were able to keep track of their own market share and could pick up easily when cheating had occurred, even though the information was in an aggregated form. This is because there are only four producers in the long steel product market and each producer has a good understanding of what their competitors' capacities are, and through market intelligence (for instance through customer feedback), could relatively quickly identify which party had cheated.

The members also submitted other sensitive information on capacities and their programmes on capital expansion. Exchanging future information and other such strategic plans is considered particularly problematic. This enables competitors to have intimate knowledge about each other's intentions on future capacity changes.

The long steel product market at the production level is highly concentrated and faces large barriers to entry. The products in question are relatively homogenous and face inelastic demand. Any price undercutting would be reflected in market share information that is calculated from the SAISI data. Information exchange of the nature and frequency explained above is therefore more likely to be anticompetitive under these conditions.

5.4 The petroleum case

The Commission is currently investigating an information exchange case in the petrochemicals industry⁵¹ where detailed information of monthly sales by product, customer and region was exchanged by the petroleum companies through an industry body, the South African Petroleum Industry Association (SAPIA). It is possible that even at an aggregated level, this information could be used to actively monitor market shares (as in the *UK Tractors* case) especially when it is known that there are only a few players supplying a particular region.

Given the possible efficiencies of the information exchange with regards to security of supply of key petroleum products in South Africa, a possible solution would be to limit the level of disaggregation of information exchanged to what is sufficient to achieve these efficiencies.

Like in international precedent, the above South African case studies in milk, fertiliser and steel reveal certain common trends. Each market is concentrated, with relatively homogenous products, and face high barriers to entry. The exchange of information was almost always highly disaggregated. In two of the cases, individual data was exchanged, and in the third, individual data was easily figured out from aggregate data. The information exchanged in the cases was mostly private and not shared with customers. In the milk, fertiliser and steel cases, information was shared on future strategic decisions. The cartel activity alleged by the Commission in the milk case, and the conduct admitted to in the fertiliser and steel cases, may well have been facilitated by such information exchange.

6. Conclusions and the way forward in information exchange cases

With the Commission's increasing focus on cartel activity, it is likely to scrutinise information exchange in markets which have conditions that are conducive to collusion.

The types of information exchange that have the greatest collusive potential are exchanges on private communication of strategic future plans and prices. These have the potential to help firms decide on how to play the 'dynamic oligopoly game to their advantage'⁵².

Frequent exchanges of private, individual, recent past, current and future quantities at a disaggregated level of detail may also be frowned upon as this could allow for effective monitoring and subsequent targeted punishment. Further, high levels of disaggregation of certain types of data are rarely justified by efficiency defenses.

In addition to watch out for are competition protection clauses, such as price matching and competition meeting clauses (and possibly most-favoured nation clauses) which may reduce the temptation for secret discounting, although the efficiency arguments for such clauses would have to be appropriately assessed. 'Cheap talk', with no commitment to stick to the announced prices is problematic as it suggests that the reason for such announcements might be to signal future prices to competitors.

Other exchanges are generally looked upon less disapprovingly, for instance, exchanges of demand or cost information as well as exchanges of aggregate information (although the latter in certain circumstances as shown in the above cases can still be used to identify individual firms. In such cases, the same scrutiny should be applied as though individual data were exchanged and market characteristics should be closely assessed). Indirect communication through advance price notification should be looked at more closely if there is some mechanism

by which the announcing firm can revoke its intended announcement, i.e. the announcement carries no commitment value.

Several authors have cautioned against using simplistic rules based on levels of disaggregation as a filter to screen out anticompetitive information exchange (see for instance, Caffarra and Kühn, 2006). In each case therefore, it would be important to understand how competition works in a particular market and how the information exchanged could allow collusion given the specific dynamics of that market. This would include assessing the structure and characteristics of the market in question, including but not limited to concentration levels, barriers to entry or contestability of the market and nature of the product. The effects of such information exchange, especially if such cases are brought as 'pure' information exchange cases, would then have to be carefully assessed.

The burden of showing any efficiency justification would rest with respondents and this would include an assessment of whether the claimed efficiencies could be achieved in a way that is less likely to facilitate collusion.

If the information exchange is found to be anticompetitive, the appropriate remedy need not necessarily be an outright ban of the information exchanged, but to eliminate 'unnecessary' information exchange, or increase aggregation of the shared information.⁵³

Understanding how information exchange facilitates collusion has important implications for the success of the Commission's enforcement actions, especially in light of many South African markets with characteristics that are conducive to collusion. It may be necessary to also scrutinise any information exchange in industries where the Commission has already exposed hard-core cartels, and limit the levels of disaggregation, or even prohibit the exchange itself, if the desired competitive outcomes are to be achieved.

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¹ This paper is written in the personal capacities of the authors and does not necessarily reflect the views of the Competition Commission.

² Stigler, G., 'A Theory of Oligopoly', *Journal of Political Economy* 72 (1964)

³ Case No IV/M.1524 – Airtours/First Choice decision and Judgement of the Court of First Instance (Fifth chamber, extended composition), Case T-342/99, 6 June 2002.

⁴ See OECD Policy Roundtables (2007): "Facilitating practices in Oligopolies", Denmark's submission. Note however that Caffarra and Kühn (2006) suggest that the "*basic factors which influence the 'ability to reach a collusive agreement' are extremely poorly understood both theoretically and empirically,*" and these authors do not believe that sufficient evidence exists which supports the claim that information exchange substantially facilitates reaching of agreement. See Caffarra, C. and K. Kühn (2006), p 137, "The cost of simplistic rules for assessing information exchange: The Italian jet fuel decision", in *The Pros and Cons of Information Sharing*, Swedish Competition Authority

⁵ The discount factor is important for the ability of an industry to sustain tacit collusion, because the discount factor determines the relative importance of the short run benefits associated with a deviation compared with the long run benefits associated with cartel discipline.

⁶ Antitrust Guidelines for Collaborations Among Competitors, FTC and DOJ, April 2000

⁷ OECD Policy Roundtables (2007): "Facilitating practices in Oligopolies", Executive summary

⁸ Case 1641, Riformanti Aeroportuali, AGCM decision no. 15604

⁹ See Caffarra and Kühn (2006). They explain that activities such as storage and into plane delivery require a steady flow of information to operate efficiently.

¹⁰ Motta (2004), p152. The UK Tractor's case discussed later also showed this.

¹¹ See endnote 4

¹² See Whish (2006)

¹³ See Motta (2004)

¹⁴ If cost information is exchanged under demand uncertainty, a producer will increase output in low cost states and reduce output in high costs states. Kühn and Vives (1994) show that the marginal benefit of an increase in production in the low cost state exceeds the loss of a decrease in production in a high cost state, thereby reducing the expected deadweight loss (p12,13).

¹⁵ Green and Porter (1984) explain that whenever the market price falls below the trigger price, firms that were previously charging the monopolistic price will revert to Cournot behaviour for a period of time before returning to monopolistic pricing.

¹⁶ Pflanz, M. (2008), "The economics of information exchanges", GCLC Lunch Talk. Brussels.

¹⁷ Empirical evidence shows that the positive effects of market transparency for consumers resulting from such advanced price notifications generally outweighs the possible collusive effects of the announcement (Motta, 2004). In the Woodpulp case: Joined cases c-89, 104,114,116-117, 125-129/85 Ahlström Oy and others v. Commission [1993] ECR I-1307, customers requested this information.

¹⁸ See for instance, *United States v. Airline Tariff Publishing Co.*, 1994-2 Trade Cas, (CCH)61,659 (E.D. Pa 1977)

¹⁹ A most favoured nation (MFN) clause commits the seller to apply the same terms and conditions offered to one customer to another. Motta (2004) argues that it is not clear that the MFN clause would facilitate collusion, as on the one hand, it would make it harder to deviate from an agreement but on the other, it would make carrying out punishment more costly (p. 157)

²⁰ Price matching is a business practice that guarantees to match retail prices of competitors. Meeting competition conversely refers to upstream suppliers guaranteeing to meet an input material price offered by its upstream competitor (Winter, 2008)

²¹ OECD Policy Roundtables (2007): 'Facilitating practices in Oligopolies', Denmark's submission

²² For instance in the Fatty Acids case (OJ [1985] L 3/17, [1989] 4 CMLR 445), referred to in Caffarra and Kühn (2006)

²³ See Caffarra and Kühn (2006)

²⁴ Whish (2006)

²⁵ OJ [1992]L68/19

²⁶ Another pure information exchange case was the *Fatty Acids* case (1986), where Unilever proposed individual data exchange on historic sales with Henkal and Oleofina, two other major producers in an attempt to ensure no customer switching and to keep small firms out of the market (OJ [1985] L3/17, [1989] 4 CMLR 445)

²⁷ See Vives (2006).

²⁸ The Commission explained that active and efficient competition was only possible in this market if competitors were able to keep secret their actions, or even mislead one another. This was not possible with the types of information exchange that took place. 2007 Fordham Comp. L. Inst. 000 (B. Hawk ed. 2008)

²⁹ 2007 Fordham Comp. L. Inst. 000 (B. Hawk ed. 2008)

³⁰ OJ [1992]L68/19

³¹ See Whish (2006).

³² 2007 Fordham Comp. L. Inst. 000 (B. Hawk ed. 2008). Another interesting case where information exchange was 'pure' and not linked to a cartel was in the steel industry. The Commission's approach was in line with its thinking in UK Tractors case. The steel firms in *Wirtschaftsvereinigung Stahl* exchanged data on market shares and quantities monthly. Great emphasis was placed by the Commission on market characteristics. The markets were concentrated, the products were homogenous, large barriers to entry were present as well as overcapacity. Hidden competition in such markets was thought to be crucial. The Commission felt that given the frequency of the information exchanged, there was little scope for each undertaking to engage in competitive activity aimed at increasing market share (*Wirtschaftsvereinigung Stahl*, O.J. L 1/10 (1998).

³³ O.J. L 303/24 (1972) (Commission)

³⁴ 2007 Fordham Comp. L. Inst. 000 (B. Hawk ed. 2008)

³⁵ C-238/05 Asnef-Equifax v Ausbanc, ECJ's judgement of 23/11/2006

³⁶ OECD Policy Roundtables (2007) : 'Facilitating practices in Oligopolies', European Commission's submission, p125

³⁷ Ibid

³⁸ OECD Policy Roundtables (2007) : 'Facilitating practices in Oligopolies', United States' submission, p 111

³⁹ OECD Policy Roundtables (2007) : 'Facilitating practices in Oligopolies', United States' submission, p 111

⁴⁰ United States v. Airline Tariff Publishing Co., 1994-2 Trade Cas (CCH)61,659 (E.D. Pa 1977)

⁴¹ Hay G. A (2008) (ibid fn 21)

⁴² OECD Policy Roundtables (2007) : 'Facilitating practices in Oligopolies', United States' submission

⁴³ In another US case, *Todd v. Exxon* case (Todd v. Exxon Corp., 126 F. Supp 2d321, 323), the allegation was that Exxon Corporation and 13 other oil companies shared detailed salary information on non-union managerial, professional and technical employees. This information allowed each company to detect any deviations from previously announced salary levels. Assurances were also given that companies would use the data to set salaries. The effect was that lower salaries prevailed. The defendants also held frequent meetings to discuss the information, which was highly detailed and not available to the public. It included past, current and expected future salary information. The Second Circuit court claimed that a price fixing agreement, even absent the 'smoking gun', "*may be inferred on the basis of conscious parallelism, when such interdependent conduct is accompanied by circumstantial evidence and plus factors such as the defendants' use of facilitating practices*" and that "*information exchange is an example of a facilitating practice that can help support an inference of a price-fixing agreement*". The appeal court suggested that the complaint sufficiently alleged various facts that would justify a restated claim of a price fixing conspiracy. The characteristics the court looked at included the concentrated nature of the market, the fungibility (homogeneity) of the product in question and the inelasticity of demand. The court also discussed the nature of the information exchanged and categorised the information according to time-frame, specificity and public availability of the information.

⁴⁴ The South African Competition Act in Chapter 1 defines an agreement, when used in relation to a prohibited practice, to include a contract, arrangement or understanding, whether or not legally enforceable.

⁴⁵ A concerted practice is defined as a cooperative or coordinated conduct between firms, achieved through direct or indirect contact, that replaces their independent action, but which does not amount to an agreement.

⁴⁶ Even in the UK Tractors case, while it was suggested that the very *object* of the Exchange was to restrict competition, the Commission undertook a detailed market characteristics assessment (although not a strong effects analysis).

⁴⁷ See Tribunal Consent Order in the matter between the Commission and Lancewood Cheese. Tribunal Case No 103/CR/Dec06.

⁴⁸ Tribunal's order in the matter between Competition Commission vs. Sasol Chemical Industries and others, 31/CR/May05

⁴⁹ 2008Apr3696

⁵⁰ <http://compcom.txtlstvw.aspx?LstID=1945d907-9fff-42b0-88d8-053e78bdcfb4>,
<http://www.busrep.co.za/index.php?fSectionId=552&fArticleId=4517215> accessed on 10/08/09

⁵¹ 2009Jan4223

⁵² See Overgaard and Møllgaard (2008), p44

⁵³ Caffarra and Kühn (2006)