

THE ASSESSMENT OF JOINT PURCHASING: CAN TOO MUCH “BUYING POWER” EVER BE A PROBLEM?

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INTRODUCTION

The creation of “buying power” through joint purchasing agreements is often positive with direct benefits for consumers in the form of lower prices. Even where joint purchasing agreements lead to the creation of a monopsonist (i.e. a single buyer), economic theory suggests that the welfare effects depend to a large degree on the market context, with some economists proposing that the probability of harm in cases involving monopsony power is considerably lower than in cases of a monopoly.¹

Despite this view, section 4(1)(b) of the South African Competition Act (the “Act”) classifies the “*fixing of a purchase or selling price or any other trading condition*” (emphasis added) by competitors as a per se prohibition. This implies that many joint purchasing arrangements – which often by their nature require a setting of a common purchase price – may be afforded the same draconian treatment as hard core selling cartels in the Competition Act. That is, competitors who form buying groups that jointly set a purchase price could fall within section 4(1)(b) of the Act and this practice could not be justified by demonstrating an insignificant impact on competition, or by invoking the defences provided for in section 4(1)(b) of the Act.

Whilst there may be some (arguably limited) scope to suggest that certain joint selling arrangements which require the fixing of a common selling price may ultimately be efficiency enhancing and pro-competitive, this would appear to hold abundantly more so for joint *purchasing* agreements. This would seem to be particularly true within a South African context (as discussed later in this paper). Thus, there is a real danger that South African firms, often small to medium sized firms, steer away from efficiency enhancing and pro-competitive joint buying arrangements out of a potential risk of technically falling foul of the per se prohibition contained in section 4(1)(b) of the Act.

This paper considers whether this potentially punitive treatment of joint buying arrangements under section 4(1)(b) is warranted and indeed whether the equivalent treatment of joint buying and selling agreements under this section of the Act is appropriate. Our analysis takes the following approach:

- Firstly, the potential theories of harm at which section 4(1)(a) would seem to be aimed are considered;
- Secondly, the underlying economic theory and intuition behind a monopsony outcome is explored;

¹ Jacobson and Dorman (1992, p.165) go as far as to claim “true monopsony power is rare and that net adverse effects on price and output from monopsony are even rarer”. Also see OFT (2007).

- Thirdly, the conditions necessary for competitive harm to be inflicted are examined within a South African context;
- Finally we conclude on the matter.

THEORIES OF HARM RELATING TO JOINT BUYING TARGETED UNDER SECTION 4

There would seem to be main two potential theories of harm associated with joint buying conduct which section 4 of the Act would seek to address, namely (i) downstream co-ordination amongst the buyers and (ii) abuse of monopsony power by restricting purchases.² These are considered below:

Downstream coordination: There is the possibility that buying groups are used as an instrument to facilitate collusion at the downstream level. Co-ordination in the purchasing decisions of buyers regarding quantities purchased, for example, could affect the quantity produced at the downstream level. Buying groups could potentially be used as a tool to enforce collusion downstream through the control of upstream input purchases. Alternatively, even if there is no co-ordination on quantities purchased, the standardization of input costs may also facilitate collusion as variation in costs is one of the factors that contribute towards the instability of collusive arrangements.

Abuse of monopsony power by restricting purchases: Harmful monopsony behaviour refers to a situation where a powerful buyer essentially has the ability to restrict their own purchases of product and thereby – by virtue of their powerful market position – depress the price of the product in question below the competitive level. The harm from this conduct is essentially exploitative in nature and is equivalent (from a welfare perspective) to a monopoly exploiting its market power on selling side. The mechanics behind this behaviour and its welfare implications are discussed in detail in the next section.

Theory of harm under section 4(1)(b)

It is generally accepted that the main concern which motivates a per se prohibition of co-ordinated horizontal behaviour is the exploitative effect of prices being raised above the competitive level in the case of selling-side co-ordination, and prices being depressed below the competitive level in the case of buying-side coordination.

Whilst recognizing the potential for buying groups to facilitate tacit collusion downstream it cannot be assumed that buying groups automatically result in downstream collusion. Rather, a careful consideration of the facts of the case is required. For instance, it may be that the downstream market itself is not conducive to collusion, or those participants to the purchasing agreement account for a small combined share of the downstream market where they compete. Furthermore, the sharing of final selling prices and quantities is seen as more problematic as it eliminates uncertainty regarding a

² In addition it is well recognised in economic literature that buyer power can also be abused to exclude competitors from a market. By affecting the terms of supply of rival firms, purchasing agreements may harm downstream competition through exclusionary effects upstream. There are a number of ways in which this could occur which mostly involve methods to raise rivals' cost. A buying group could, for example, negotiate an almost exclusive agreement with suppliers which denies rival buyers access to a critical input needed in the production of the downstream input. Alternatively, by securing favourable terms for the members of the buyer group, this may result in higher input prices for the rival buyers that do not form part of the purchasing agreement – a so-called waterbed effect. These theories of harm would however not generally be the primary concern of section 4 of the Competition Act, but if they were would fall under section 4(1)(a) and therefore not considered further in this paper.

competitor's conduct, whilst knowing the input price of a competitor may be of limited value to a competitor, particularly if the input comprises only a small portion of final costs. Therefore a minimum requirement for joint buying to impose this form of harm would be for the parties concerned to (i) also be competitors downstream and (ii) for the input in question to be significant in the overall build-up of the downstream product (around which the downstream coordination could occur). Therefore given this indirect link to downstream harm which cannot automatically be assumed, it would seem convoluted and incorrect to consider all joint buying as per se prohibited (under section 4(1)(b)) on the basis that it *may* facilitate downstream collusion under certain conditions. Rather if this were the primary concern with joint buying arrangements it would appear more appropriate for them to be considered under the rule-of-reason approach of section 4(1)(a). Indeed in the EU and US this indirect theory of harm would generally not justify a joint purchasing agreement being considered as per se illegal.

As such the primary mechanism of harm stemming from joint buying activities which section 4(1)(b) would seem to be aimed at curtailing, would appear to be the abuse of monopsony power and the associated depression of prices below the competitive level. The remainder of this paper therefore focuses on this theory of harm and assesses whether it is appropriate, from an economic point of view, to treat the joint purchasing as a per se contravention. The analysis of this theory of harm also provides insight into whether the equivalent treatment of joint purchasing and selling agreements has merit.

THE ECONOMICS OF BUYER POWER

A useful definition of buyer power is “the ability of a buyer to reduce the price profitably below a supplier’s normal selling price, or more generally the ability to obtain terms of trade more favourable than a supplier’s normal terms”³. Buyer power can arise when there is a single buyer of an input (a monopsonist) or where there are a few large buyers (an oligopsony). It can also arise from joint purchasing agreements which form the basis for buyer groups and which enable smaller firms to act collectively to mimic the outcomes of a monopsonist. If a buyer group is formed for the purpose of gaining market power over the group’s suppliers, the effects of such buyer power can be analysed in more or less the same as in the case of a single buyer⁴.

A distinction is often made in the literature between two types of buyer power: monopsony power and bargaining power⁵. For the purposes of this paper, we define monopsony power as the ability to restrict the market price of an input to below the competitive level by withholding purchases,⁶ whilst bargaining power refers to the bargaining strength that a buyer has with respect to its suppliers⁷. This section describes the standard economic theory behind the exercise of monopsony power and discusses the welfare implications for sellers, end consumers and total social welfare. The model is also extended to consider the welfare effects of monopsony power where there is imperfect competition upstream.

³ Chen (2007, p.19)

⁴ *Ibid*, p.26

⁵ See Chen (2007, p.20), OECD (2008, p.9) and OFT (2007, p.4-5)

⁶ This follows closely the definition used by Chen (2007, p.20)

⁷ OECD (2008, p.37)

The basic model of monopsony

The standard theory of monopsony discussed in this section draws from the analysis provided in standard microeconomics texts⁸. Since it is difficult to sustain monopsonies by end users of a commodity, this type of behaviour is generally exhibited in input markets where a firm may have monopsony power in the purchase of inputs that it uses to manufacture and sell final products downstream, which is the model used in this case and is the standard model used in the literature.

The basic model is discussed first, in which the presence of a monopsonist is the only market imperfection. More specifically, the basic model makes the following assumptions: (i) It is assumed that in the upstream market, perfectly competitive firms (the sellers) produce a perfectly homogeneous commodity 'x' which is used as the only input in the production process of a firm (the monopsonist) that sells the final product to end consumers downstream; (ii) the buyer is a monopsonist in the upstream market but sells the final product in a perfectly competitive market downstream⁹; and (iii) it is assumed that the marginal costs for the input suppliers are rising over the relevant ranges of output. Since the short run supply curve for each competitive seller is exactly the portion of the marginal cost curve lying above the average cost curve¹⁰, it follows that the supply curve for a seller upstream (and the whole industry, by aggregation) is upward sloping in the short run.

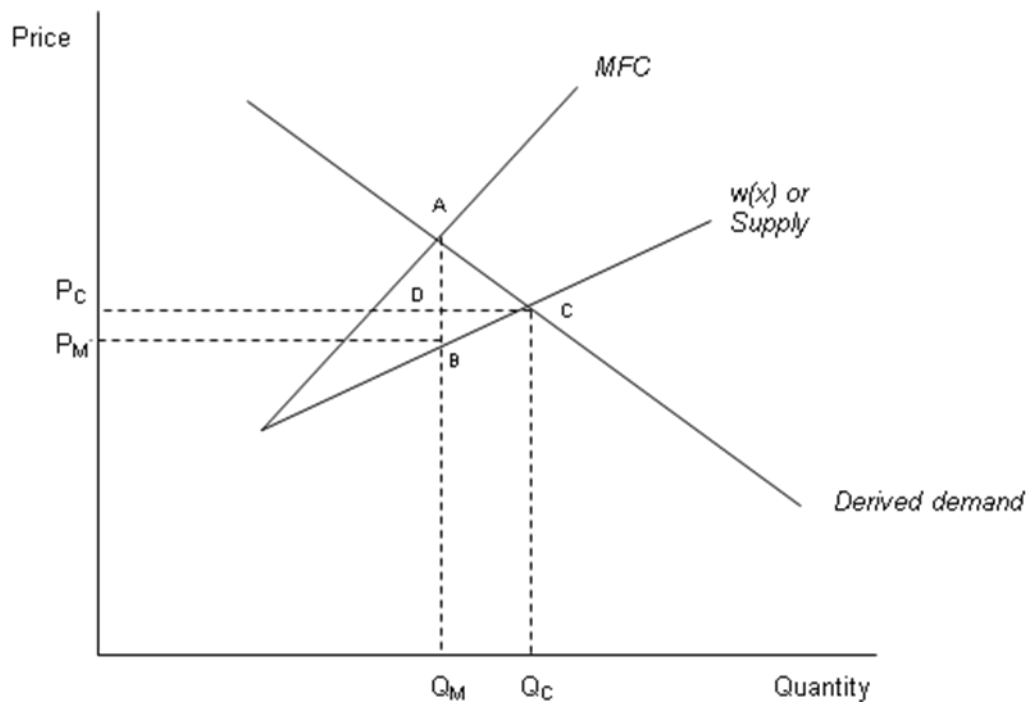
Since a monopsony is a sole buyer, any additional purchases of a product will force up the price for *all* units of that product. In other words, the true marginal cost to the buyer of purchasing an extra unit will be both the cost of the last unit plus the additional cost because all units now cost more. This results in a true marginal cost curve (also called the marginal factor cost (MFC) curve) lying above the producer's supply curve. To maximise profits, the monopsonist purchases up to the point where this "inflated" marginal cost of purchasing an additional unit (or MFC) equals the marginal value to it of that unit (classically represented by the derived demand curve). This is illustrated in the diagram below:¹¹

⁸ In particular, we follow Varian (1996, p.449), Carlton and Perloff (2005, p.107), Griffiths and Wall (2000, p.403) and OFT (1998, p.11)

⁹ There are instances where monopsony power upstream and a high degree of competition downstream have been observed in practice. For instance, in *Mandeville Island Farms v. American Crystal Sugar Co.*, it was noted that sugar beet sold by farmers constituted a local market and was thus likely to have few buyers while processed sugar was sold in a national market with many competitors and thus end consumers were unlikely to be harmed by a price fixing agreement (See Alexander 2007, p.1622).

¹⁰ Varian (1996, p.370)

¹¹ The diagram follows ABA (2008, p. 396). Also see Appendix 1 for a mathematical representation of the profit-maximizing condition.



If the monopsonist lacked buying power (in other words if it were a competitive buyer), it would equate $w(x)$ (which represents the supply curve of the sellers) with the derived demand and purchase Q_C at price P_C . By contrast, the monopsonist equates his actual marginal cost or MFC (which lies above $w(x)$) with the derived demand and purchases Q_M at price P_M . Thus a pure monopsony effect involves restricting output and lowering the price paid to the upstream supplier as compared to the competitive outcome. This also creates a deadweight loss to society given by the shaded triangle abc . The rationale for this loss is that if output were expanded beyond Q_M up to Q_C , it would enhance efficiency for society since the price that the buyer would be willing to pay would still exceed the price at which the suppliers would be willing to supply.

The exercise of monopsony power has the following implications on welfare:

- Sellers – the monopsonist makes use of its buying power in order to restrict output and thus lowers the price paid for commodity x relative to the competitive outcome¹². Consequently, the producer's surplus (in this case the sellers) unambiguously declines by the area $P_C dcbP_M$. Out of this, the area $P_C dbP_M$ represents a wealth transfer from the sellers to the monopsonist buyer¹³. The rest of the area becomes part of the deadweight loss to society.
- Total Welfare – there is an unambiguous decline in total welfare. Monopsonistic behaviour creates a deadweight loss to society (represented by the area acb) which results in an overall inefficiency that would be absent in a competitive outcome.
- Final Consumers – the welfare impact on end consumers in the case where there is competition downstream is the subject of some debate in the literature. According to the

¹² Note that even though the monopsonist pays price P_M to the sellers which is lower than the competitive price (i.e the price that would be paid out if there was no monopsony power), this price is determined from the supply curve of the sellers so that they are *willing* to sell quantity Q_M at price P_M .

¹³ Alexander (2007, p.1615)

OECD, the impact on end consumers is negative even with the presence of perfect competition downstream¹⁴. This is because even with perfect competition downstream, the monopsonist restricts the purchase of output (owing to its higher marginal cost or MFC). As a result, total output reduces downstream and prices to end consumers increase¹⁵. If however, the supply by the competitors in the downstream market is perfectly elastic, it has been argued that there is no impact on end consumers¹⁶ since other firms in the market are expected to make up for the shortfall in output resulting in no change in prices or quantity. Noll (2005) however has suggested that even in this situation, the impact on end consumers is negative¹⁷. His argument hinges on a varying productivity of the inputs (in the preceding analysis, inputs have been assumed to be completely homogeneous). According to Noll, if monopsonistic behaviour results in lower purchase of productive inputs and if the corresponding shortfall in output is made up by other downstream firms employing less productive inputs, then more inputs will now be required to produce the final good as compared to a competitive outcome. As a result the *real price* of the downstream good would increase, making consumers worse off overall. The preceding arguments thus suggest that even though the monopsonist pays lower prices upstream, the price impact on end consumers is either negative or neutral.

The basic model assumes that the monopsonist possesses buying power in the input market and is one of many competitive price takers downstream in the output market. However, harm is exacerbated if the monopsonist is also a monopoly seller of its own product. This is because profit maximization by such a firm would result in a further reduction of the price and quantity in the input market (by affecting the marginal revenue downstream and thus the marginal value from input purchases). This reduction carries through to the output market of the monopsonist and therefore raises prices to the final consumer whilst increasing the margin of the monopsonist.

Bilateral monopoly

The basic model can be extended to consider the case when market power is present on the selling side of the input market. A market structure where a monopolist sells its output to a monopsonist is called a bilateral monopoly¹⁸. For simplicity, it is assumed that the monopsonist operates as a perfectly competitive firm downstream. As noted in the appendix, the VMP curve is the derived demand curve of the monopsonist. However, this is also the *Average Revenue* curve of the monopolist since it tells the monopolist the price it can expect to receive for different quantities of input sold. Further, since the monopolist has selling power, it knows that it faces a downward sloping demand curve and that it must reduce the price of the commodity x if it wants to sell more. Therefore, as is standard in the case of a monopoly, the marginal revenue curve for the seller will lie below its average revenue curve and the monopolist would like to sell that quantity where its marginal revenue equals marginal cost.

¹⁴ OECD (2008, p.29)

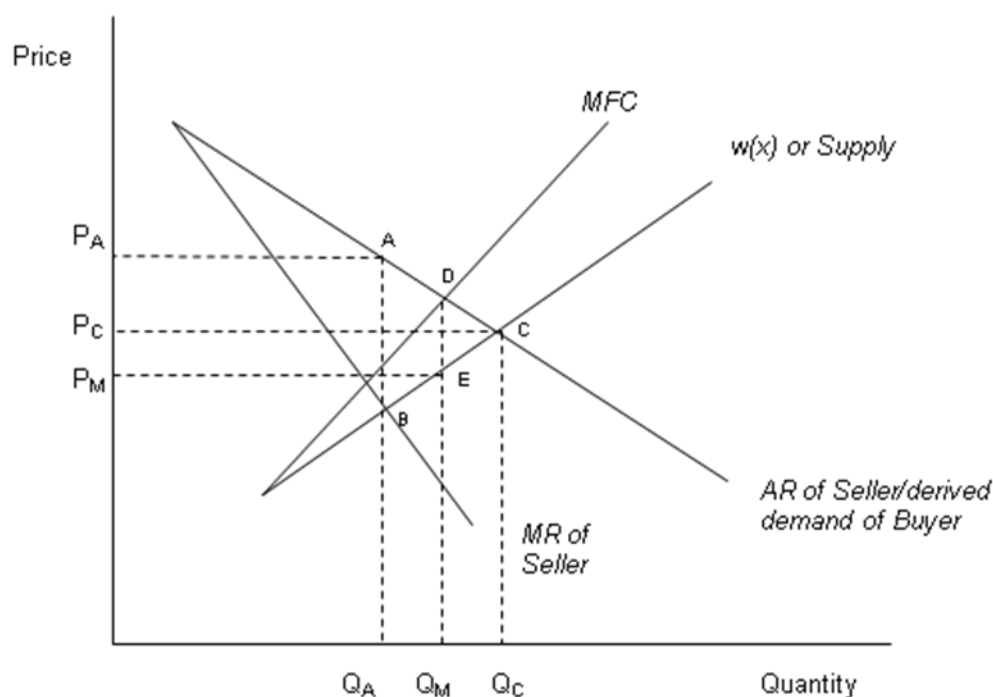
¹⁵ This is because by restricting input purchase, the monopsonist benefits via lower *average costs* that increases its profits, but effectively behaves as if its *marginal costs* were higher, due to which its output downstream is lower and prices to end consumers actually higher. See ABA (2008, p.397)

¹⁶ See Jacobson and Dorman (1992, p.161), OECD (2008, p. 30), Salop (2005, p.673) and Alexander (2007, p.1617). See also Areeda and Hovenkamp (2003, vol XII, p.91) which summarizes this case by saying, "*In sum, in this case there is literally no injury to "consumers" who are the main concern of antitrust laws, but the injury is to producers who are forced to accept lower profits and to make inefficient substitutions to other products.*"

¹⁷ Noll (2005, p.599)

¹⁸ The analysis follows Griffiths and Wall (2000, p.403-404). As noted in the text, the relevant demand curve of the monopsonist considered is the MRP curve since the downstream market is assumed to have seller power. This extension considers the downstream market to be competitive so the relevant curve is the VMP curve instead. See Griffiths and Wall (2000, p. 404)

However, the presence of the monopsonist on the other side of the input market implies that this is not necessarily the case. The exact outcome is ambiguous and depends on the relative bargaining strengths of the two parties. It is only possible to determine the boundaries within which the solution must lie¹⁹.



As shown in the figure above, the competitive outcome results at price P_C and quantity Q_C . This is where the marginal cost of production equals the demand for the input. If the monopsonist possesses all the bargaining power, it effectively makes the monopsonist act as a competitive supplier. As a result, the $w(x)$ curve becomes the supply curve and the basic monopsony outcome results at price P_M and quantity Q_M . If, however, the monopolist has all the bargaining power, it equates its marginal cost with its marginal revenue and the outcome is price P_A and quantity Q_A . Thus depending on the relative bargaining strengths, the actual price of the input could be either above or below the competitive level.

The welfare effects in a bilateral monopoly situation are the following²⁰:

- **Total welfare** – since the exact outcome in the case of a bilateral monopoly is uncertain, so is the welfare impact. It is possible that the exercise of monopsony power in such a situation could have a *beneficial* impact on total welfare²¹. As an example, consider the situation where the buyer in the upstream market could exert no monopsony power. In this case, the seller would possess monopoly power. It would decide to sell the quantity of input where its marginal revenue equalled marginal cost and would sell quantity Q_A and price P_A . In this situation, there would be a deadweight loss to society given by the area *abc*. If however, the buyer were able to start exerting monopsony power, it would *do no worse than* the monopoly outcome (since it could simply accept the monopolist's offer) but depending on the relative

¹⁹ Griffiths and Wall (2000, p. 310)

²⁰ Another possibility to be considered is the case when a bilateral monopoly exists in the upstream market combined with selling power in the downstream market. The results in this setting continue to remain ambiguous for the same reasons discussed.

²¹ OECD (2008, p.36)

bargaining strength, it could force the monopolist to increase the quantity sold towards Q_M and bring the price down *towards* the competitive level, thereby reducing the distortions in the market. This argument suggests that monopsony power *might* have a beneficial impact on society, especially when it develops as a response to monopoly power in the input market²². However, it should be emphasised that even in the extreme case where the monopsonist has all the bargaining power, there is still a welfare loss to society given by the area *dec*.

- Final consumers – the analysis above suggests that since the price and quantity of purchase of inputs in the upstream market is uncertain, the impact on end consumers is also uncertain. Depending on whether the bargaining power of the involved parties results in an increase or decrease in inputs purchased (from the competitive level) final output and thus prices paid by end consumers is accordingly uncertain²³. If the exercise of monopsony power acts as a countervailing force to market power on the selling side, it would result in an increased purchase of inputs, greater output and lower prices to end consumers²⁴.

Efficiencies

In addition to the benefits that arise from reducing upstream market power, efficiencies that flow from buyer power may off-set, at least to some extent, the deadweight loss associated with monopsony power. Off-setting efficiencies are not explicitly modelled in the textbook monopsony representation, yet the notion that joint purchasing arrangements have the potential to yield pro-competitive and efficient outcomes is uncontroversial²⁵. Buyer power can result in lower prices by reducing transaction costs. This could occur in situations where it is cheaper to deal with a single buyer instead of a number of individual buyers. For example, there may be economies of scale to a supplier's distribution system such that the average cost of processing a large purchase order is lower than that of a small order²⁶. When such a situation arises, a supplier may offer volume discounts to encourage large purchase orders and smaller buyers may be able to receive the volume discounts by pooling their purchases. The extent to which lower prices are passed through to final consumers depends on the degree of competition downstream. The more downstream competition there is, the higher the degree of pass-through expected and the greater the benefit to consumers²⁷.

Conclusion on welfare effects

Intuitively it may appear that any practice that leads to a lower price is beneficial and should therefore be encouraged, the standard monopsony theory reveals that monopsony power results in a deadweight loss to society which is analogous to the deadweight loss associated with a monopoly. Furthermore, lower prices are not necessarily passed onto final consumers, even when competition is present downstream. However, the economics literature also reveals that the monopsony outcome depends on a number of factors, which are explored further in the subsequent section.

²² *Ibid*

²³ *Ibid*

²⁴ *Ibid*

²⁵ See OFT (2007, p.8-12), Chen (2007, p.27) and Areeda and Hovenkamp (2003, vol XII, p.96)

²⁶ (Chen 2007, p.28)

²⁷ OECD (2008, p. 10) and OFT (2007, p.59-60)

THE IMPLICATIONS OF BUYER POWER

The welfare effects of buyer power are dependent on the market context with some arguing that “competition authorities are more likely to be confronted with situations where the monopsony assumptions fail”²⁸. This is in contrast to selling power, where collaboration amongst sellers on price is almost always anticompetitive (unless it involves substantial efficiency benefits which require the fixing of a selling price). A perusal of the economic literature reveals that the monopsony result hinges on a few key factors, namely: (i) the degree of seller power upstream, (ii) the shape of the supply curve and (iii) the presence of off-setting efficiencies²⁹. These factors are discussed in turn in this section.

Seller power

As illustrated by the bilateral monopoly scenario, a pre-condition for harm is that the seller market is competitive. It is recognised in the EU case law that where there is market power in the upstream selling market, countervailing buyer power can be used to moderate price increases³⁰. The criticism of a monopsony may thus be less valid when market imperfections exist on both the purchasing and supply side. This point is particularly relevant to the South African context, as it is generally acknowledged that the South African economy is highly concentrated³¹. Moreover, it has been argued that concentration levels are generally high upstream, in intermediate goods industries owing to large economies of scale, high transport costs and a lack of regional competition in these industries³².

The view that many upstream manufacturing industries in South Africa are concentrated is also reflected in the table below, which shows concentration measures for a few industries that are likely to be considered upstream industries³³. In a number of the industries listed, the ratios suggest that they are concentrated, with the relative share of the four largest firms above 60% and the share of the ten largest firms above 70%. Many of these industries, such as basic iron and steel, chemicals and rubber products are likely to be significant inputs in a range of downstream manufacturing industries³⁴.

²⁸ OFT (2007, p. 54)

²⁹ In addition to these criteria it should be recognised that if a monopsonist could practice perfect price discrimination in purchasing inputs (i.e. pay for each unit its exact cost of production as opposed to a single market price) then the purchaser could capture the entire producer surplus and thus eliminate any deadweight loss to society.

³⁰ This was recognised in *Grovvareforeninger v. Dansk Landbrugs Grovvarereselskab* as noted in OECD (2008, p. 257)

³¹ Studies such as Fedderke and Szalontai (2005) have compiled concentration measures for 24 different manufacturing industries in South Africa from 1972-1996. The general consensus is that these industries have historically been highly concentrated and the trend over the years has been an *increase* in concentration rather than a decrease

³² Roberts and Zalk (2004, p.1)

³³ CR4 and CR10 are commonly used concentration measures. These indicate the market share owned by the largest firms in an industry and are obtained by simply summing up the market shares of the 4 or 10 largest firms in an industry respectively. CR4 and CR10 are expressed as a percentage - A low percentage indicates a high level of competition since this means that the largest firms themselves have low market share, while a high percentage indicates an oligopoly or monopoly.

³⁴ See also Malikane and Roberts (2001) and Roberts (2004) which discusses concentration in the South African plastics and steel industries respectively.

Type of Manufacturing	Relative contribution of four largest firms (CR4) (%)	Relative contribution of ten largest firms (CR10) (%)
Coke oven products	63.47	96.93
Basic chemicals	65.89	75.57
Rubber products	66.65	76.35
Basic iron and steel	72.13	84.64
Basic non ferrous and precious metals	59.35	74.33
Insulated wire and cable	69.57	88.22

Table 1: Some upstream concentration ratios in the manufacturing industry according to output: 2005

Source: Statistics South Africa, Report No. 30-02-02 (2005), Table 19, p. 145-150.

The table below reports concentration ratios for certain industries that are considered to be downstream. The concentration ratios suggest that that the downstream industries are generally less concentrated than the industries that are considered to be upstream, although there are also instances of downstream industries that are highly concentrated, such as motor vehicles and paper products.

Type of Manufacturing	Relative contribution of four largest firms (CR4) (%)	Relative contribution of ten largest firms (CR10) (%)
Wearing apparel, except fur apparel	31.91	41.53
Footwear	29.94	48.5
Plastic products	15.96	24.76
Paper and paper products	66.86	77.77
Furniture	26.54	33.17
General purpose machinery	7.78	15.53
Special purpose machinery	34.52	41.88
Other fabricated metal products and metalwork service activities	16.9	21.89
Motor vehicles	75.09	95.21

Table 2: Some downstream concentration ratios in the manufacturing industry according to output: 2005

Source: Statistics South Africa, Report No. 30-02-02 (2005), Table 19, p. 145-150.

Albeit crude, this analysis does suggest that market power is more likely to arise on the selling side and where buying power exists (possibly created through joint purchasing agreements), this is likely to be exercised against suppliers that have market power. This suggests that it is more likely to result in a situation of bilateral monopoly rather than the exercise of direct monopsony power. Where bargaining power exercised by buyers is countervailing, it may increase output in the upstream market. It may also increase the welfare of consumers in the downstream market, depending on the state of downstream competition. However, there may be instances where buying power concerns may be warranted. For instance, Cutts and Kirsten (2006) analyse price transmission along the value chain in four agro-food industries, namely the maize, bread, cooking oil and milk industries. The authors find that though there are many farmers at the first step of the value chain in all of these

industries, the degree of concentration further downstream at the storage, milling or processing levels is significantly higher³⁵.

Shape of the supply curve

The supply curve of the sellers has been assumed to be upward sloping, which is necessary for the exercise of monopsony behaviour since it enables the buyer to achieve a lower price by restricting the quantity demanded³⁶. If, for example, the input supply curve is horizontal, a reduction in the purchase of input has no effect on price. Consequently there is no monopsony effect. Similarly, if the supply curve is downward sloping, a reduction in input purchased would result in *higher* prices and this would not be an optimal strategy for the monopsonist. These possibilities are not merely of theoretical interest and although an upward sloping supply curve is standard in economic literature, the slope of the supply curve is a subject of debate³⁷, with the EU noting that for many goods “particularly in manufacturing industries, supply curves may not be upward sloping, limiting the ability for a buyer to restrict output”³⁸. It is noted that in the case of a monopoly the corresponding requirement is for a downward sloping demand curve, which is not a key consideration for competition authorities when assessing the ability of monopolies to raise price.

Efficiencies

It is widely recognised that efficiencies often arise from joint buying arrangements that have the potential to yield direct benefits to consumers. Through pooling purchasing volumes, a buyer group may be able to reduce its buying price, which often forms the rationale for forming a buyer group in the first place. If a buyer group is able to secure lower prices, the buyer will generally be able to buy more inputs and not less as found in the standard monopsony outcome. Moreover, it would seem that the realisation of efficiencies may often require setting the purchasing price jointly, as would be the case in securing volume discounts. In contrast, it is more difficult to imagine many circumstances which would require the parties of a joint selling arrangement to jointly set selling prices in order to harness the potential efficiencies associated with co-operative selling arrangements.

CONCLUSION

Joint purchasing arrangements often require the setting of a common purchase price which may technically be captured under the per se prohibition of section 4(1)(b). However these agreements also often carry with them real efficiency benefits, and as such, can often be pro-competitive in their nature. This would be particularly true within the South African context where upstream concentration is common across industries which would suggest that many joint buying arrangements would be operating in an environment of a bilateral monopoly.

Given the mechanisms of possible competitive harm, these agreements would not seem to necessarily convey the same extent of likely harm that would normally be associated with a joint

³⁵ In the maize supply chain, for example, 3 silo owners control 70.3% of the total grain storage capacity. Further, in the milk market, though there are many dairy farmers, there are only 13 milk buyers and 2 main dairy processors and since dairy products are mostly sold through supermarkets and large retailers, there appears to be a situation of market power on both the processing and retail levels of the market

³⁶ Such a requirement regarding the slope of a supply curve is not a prerequisite for a monopolist to be able to abuse its selling power.

³⁷ If an industry enjoys constant or increasing returns to scale, the supply curve is correspondingly flat or downward sloping as increased production can take place at constant or declining costs. If however, an expansion of the industry's output causes the prices of some key factor inputs to rise (which would happen if inputs were scarce, which may be the case with natural resources and labour) the supply curve would in general be upward sloping.

³⁸ OECD (2008, p. 259)

selling agreement which involves the fixing of a selling price. This point has been recognised within the US antitrust environment where Hovenkamp has insightfully pointed out that:

“Indeed, the gains to be had from joint buying are both more frequently enjoyed and more visible than the comparable gains that can be obtained from joint selling”³⁹

As such there may well be scope for a somewhat differential treatment between joint purchasing and joint selling behaviour – if not in law then practically in terms of prosecution priority.

From an economic point of view there would appear to be scope to take a less draconian approach to the joint purchasing agreements and to assess many of them on a rule of reason basis. This is not to say that joint purchasing agreements will never be anti-competitive or that joint buying cannot impose a harmful monopsony effect on the market. However assuming competitive harm on a per se basis is not a reliable heuristic as in many cases this anticompetitive intention or effect will simply not be present. It may also be that the considerations noted in this paper may be relevant in terms of a more accurate “characterisation” of specific joint purchase agreements – to the extent that such characterisation of behaviour is indeed relevant as to whether behaviour should, or should not, fall under section 4(1)(b).

This would seem to be broadly consistent with the approach in foreign jurisdictions. For example, Competition Authorities in the US and EU would appear to have sufficient flexibility in their characterisation of joint purchasing agreements so as to only consider the more hard-core buying cartels (whose intention and effect is to depress output and the purchase price below the competitive level) as per se illegal. Joint purchasing agreements are however more generally considered in these jurisdictions under a rule of reason approach. In this regard the European Commission has noted that most purchasing agreements will have to be analysed through a rule of reason approach and are not per se illegal.⁴⁰

The current ambiguity regarding the treatment of joint buying agreements under section 4(1)(b) could have negative implications for South African business. The risk is that South African firms – often small to medium-sized businesses – decline from engaging in efficiency enhancing and pro-competitive joint buying arrangements due to the potential risk of technically falling foul of the per se prohibition contained in section 4(1)(b) of the Act.

³⁹ Hovenkamp, “Antitrust Law”, vol XII, 1999, par2010

⁴⁰ European Commission, Commission Notice – Guidelines on the applicability of Article 81 of the EC Treaty to horizontal cooperation agreements, 6 January 2001, section 4.3

APPENDIX 1: MATHEMATICAL REPRESENTATION OF THE BASIC MONOPSONY MODEL

The monopsonist, being a profit maximising firm, chooses the quantity of input x that maximises:

$$pf(x) - w(x)x$$

Where

x : The commodity produced by the sellers

p : The price charged by the monopsonist in its downstream market (which is beyond his control and hence taken to be constant by the monopsonist)

$f(x)$: The production function of the monopsonist. In other words, $f(x)$ is the quantity of final good produced when using x units of input. The first derivative of $f(x)$ is assumed to be positive and the second derivative is assumed to be negative.⁴¹

$w(x)$: The supply curve of the sellers- $w(x)$ is the price that must be paid to the sellers when buying x units of input. An upward sloping supply curve implies that the first derivative of $w(x)$ is positive.

The condition for profit maximisation is that the marginal revenue from hiring an extra unit of the input should equal the marginal cost of that unit. Mathematically, the condition is obtained by differentiating the expression for the monopsonist's profit and setting it equal to zero. This yields:

$$p \frac{df(x)}{dx} = w(x) + x \frac{dw(x)}{dx}$$

Since a competitive downstream market has been assumed (and thus p is a constant), the Left Hand Side is simply the marginal revenue from hiring an extra unit of input⁴². This curve is also the *derived demand* for the *upstream input* since it gives the profit maximising choice of input by the monopsonist corresponding to each level of input price⁴³.

The Right Hand Side is the marginal cost to the buyer (alternatively called the Marginal Factor Cost (MFC)) of increasing his input purchase by a small amount. Since the buyer has monopsony power, if he were to increase its purchase slightly, he would not only have to pay the cost of those extra units (given by $w(x)$) but also incur an increased cost on *all* the units purchased as a result of increasing the

price of the inputs (given by $x \frac{dw(x)}{dx}$). This consideration undertaken by the monopsonist would not occur if it lacked buying power. In that case the buyer would be unable to influence the price at which the sellers sold their inputs and thus the term $x \frac{dw(x)}{dx}$ would be zero. Its marginal cost would then

⁴¹ This assumption is a statement of the law of diminishing returns to a factor of production and says that as the inputs used increase so does output but does so at a diminishing rate. Diminishing returns is a standard assumption in the economics literature.

⁴² The L.H.S is alternatively called the Value of Marginal Product (or VMP curve). See Griffiths and Wall (2000, p. 394, 402) as well as OECD (2008, p.29)

⁴³ See Griffiths and Wall (2000, p.404)

simply be $W(x)$. Thus the marginal cost to the monopsonist (or MFC) must always be greater than a situation in which it lacked buying power.

REFERENCES

- ABA Section of Antitrust Law. 2008. "Issues in Competition Law and Policy". Vol 1.
- Alexander, L. 2007. "Monopsony and the Consumer Harm Standard" *Georgetown Law Journal*: 95, 5.
- Areeda and Hovenkamp. 2003 edition. *Antitrust Law: An Analysis of Antitrust Principles and Their Application*. Aspen Law & Business.
- Carlton and Perloff. 2005. "Modern Industrial Organization". 4th edition. Pearson/Addison Wesley
- Chen, Z. 2007. "Buyer Power: Economic Theory and Antitrust Policy". *Research in Law and Economics*. Vol 22.
- Competition Commission of South Africa. 2009. 'Competition Challenges in Food and Agro-Processing'. Presentation to the Portfolio Committee on Agriculture, Fisheries and Forestry, 8th July, 2009.
- Cutts and Kirsten. 2006. 'Asymmetric Price transmission and market concentration: An investigation into four South African agro-food industries'. *South African Journal of Economics*. Vol 74, Issue 2.
- Fedderke and Szalontai. 2005. 'Industry Concentration in South African Manufacturing: Trends and Consequences, 1972-1996', World Bank Africa Region Working Paper Series No. 96
- Griffiths and Wall. 2000. "Intermediate Microeconomics: Theory and Applications". 2nd edition. Pearson Education.
- Hovenkamp, H. 2005. *Federal Antitrust Policy: The Law of Competition and its Practice*. 3rd edition: Hornbook Series, Thomson West
- Jacobson and Dorman. 1991. "Joint Purchasing, Monopsony and Antitrust" *The Antitrust Bulletin*. Vol XXXVI, No. 1
- Malikane and Roberts. 2001. 'Production and technology changes, restructuring and employment in the plastics sector.' TIPS Working paper 2-2001.
- Noll, R. 2005. "Buyer Power and Economic Policy", SIEPR Discussion Paper No. 04-08
- OECD Policy Roundtables on Monopsony and Buyer Power: 2008. <http://www.oecd.org/dataoecd/38/63/44445750.pdf>. Last accessed: 18th Aug, 2010
- Office of Fair Trading (OFT). 1998. "The Welfare Consequences of the Exercise of Buyer Power" OFT Research Paper 16. Report prepared by Dobson, Waterson and Chu for OFT.
- Office of Fair Trading (OFT). 2004. "Assessment of Market Power". Competition Act Guideline OFT415a, London.
- Office of Fair Trading (OFT). 2007. "The competitive effects of buyer groups". Economic Discussion Paper. Report prepared by RBB Economics for OFT.

Roberts, S. 2004. 'The Role of Competition Policy in Economic Development: The South African Experience'. TIPS Working Paper 8-2004.

Roberts and Zalk. 2004. 'Addressing market power in a small, isolated, resource-based economy: the case of steel in South Africa'. Paper presented at CRC 3rd International Conference at Cape Town, 7-9 September, 2004.

Salop, S. 2005. "Anticompetitive Overbuying by Power Buyers". The Antitrust Law Journal. Vol 72, No.2.

Statistics South Africa. 2005. 'Manufacturing Industry: 2005'. Report No. 03-02-02 (2005)

Varian, H. 1996. Intermediate Microeconomics: A Modern Approach. 4th edition. W. W Norton and Company