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THE EMERGENCE OF MORE VIGOROUS COMPETITION AND THE IMPORTANCE OF ENTRY – COMPARATIVE INSIGHTS FROM FLOUR AND POULTRY

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Abstract

The uncovering of several cartels and exclusionary practises by the Commission in the food and agro-processing sector has shown that the liberalisation of the sector in 1996 did not necessarily increase competition and bring the benefits to consumers envisaged at the time. This paper draws on competition cases in the food and agro-processing sector to explore firm behaviour and outcomes in two important food value chains. It reveals how anti-competitive arrangements worked and provides insights as to how the successful entry of new competitors in highly concentrated markets has facilitated increased competition to the benefit of consumers. In particular, the paper draws a comparison between the poultry value chain, where new entry has been observed, in contrast with the wheat-to-bread value chain which has not experienced any substantive new entry.

JEL classification

D4, L40, L41

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1. Introduction

The uncovering of anti-competitive conduct by the Commission in the food and agro-processing sector has suggested that the liberalisation of the sector in 1996 did not necessarily mean increased competition providing the benefit to consumers as envisaged at the time. There are various ways firms can undermine the challenges of competition. Most obviously, where there are a number of suppliers, explicit cartel arrangements aim to substitute outcomes close to monopoly for competitive ones. However, less well appreciated is the extent to which firms that understand each other's operations well can continue to dampen competitive rivalry between them to their mutual benefit. Such understandings can utilise information exchange to ensure that the competitive incentive each firm has to attract customers from their rivals is outweighed by the speed with which this will be identified and responded to, meaning the returns from such competition are reduced.

Coordination of a group of incumbents will only be effective if potential entrants, attracted by the margins on offer, can be deterred. Undermining the ability of smaller rivals to be effective competitors, to challenge incumbents is a very important part of anti-competitive conduct. Where there is a single dominant firm then the rivalry of smaller firms including entrants is the main challenge to the dominant firm continuing to earn supra-competitive rents.

We examine outcomes following two cases of anti-competitive conduct. In the case of the flour cartel, the Competition Commission referred a case of collusion on the part of the main milling companies. Three of the companies (Premier Foods, Tiger Brands and Pioneer Foods) have admitted the conduct and either obtained conditional leniency or settled with the Commission. The case is still proceeding against two firms, Foodcorp and Godrich Milling. According to the Commission's case and the admissions, the firms held meetings and had other contacts to fix prices and divided markets by allocating customers.[2] There was also information exchange which enabled each firm to monitor its market share monthly, by region, product category and pack size. While there have been adjustments to more competitive pricing, this has been weaker in some regions especially the more concentrated Western and Eastern Capes while there has yet to be significant rivalry from smaller firms or entrants.

To maintain collusive outcomes, cartel members must combat internal threats (cheating) and external threats (new entrants) that could destabilise the arrangement. Fundamental to understanding the maintenance of coordination is to appreciate that competing firms offer lower pricing than their rivals in order to increase their sales and take custom from their competitors. Hence, Stigler (1964) suggests that the unobservability of prices or 'secret price cutting' is perhaps the greatest obstacle to sustaining a cartel. The 'cartel problem' is to prevent competition breaking out between firms as each individually has an incentive to increase their share of the market and the cartel profits, but in doing so they undermine the arrangement. Thus if firms can stick to market sharing agreements then it follows that firms are not engaging in secret discounting to win customers and it removes the need to monitor each other's pricing.

Firms still face the challenge as to how to adjust overall prices to demand or supply changes but competitive rivalry is nevertheless removed between them. Price adjustments can be facilitated by recognising a leader, and through general discussions about changing industry conditions, usually facilitated by industry associations. Achieving and sustaining a collusive agreement requires three conditions. Firstly, that the colluding parties reach an agreement/understanding. Second, the coordination must be sustainable – that is, the colluding parties must have an incentive to comply with the agreement. Thirdly, detection

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[2] See the referral affidavit in the matter between the Competition Commission and Pioneer Foods Ltd, Foodcorp (Pty) Ltd, Godrich Milling (Pty) Ltd, Premier Foods (Pty) Ltd and Tiger Brands Ltd. (Commission Case Number 2007Mar2844).

and punishment: this requires that enough transparency is achieved to detect deviation from the agreement and that such deviation is accordingly punished.

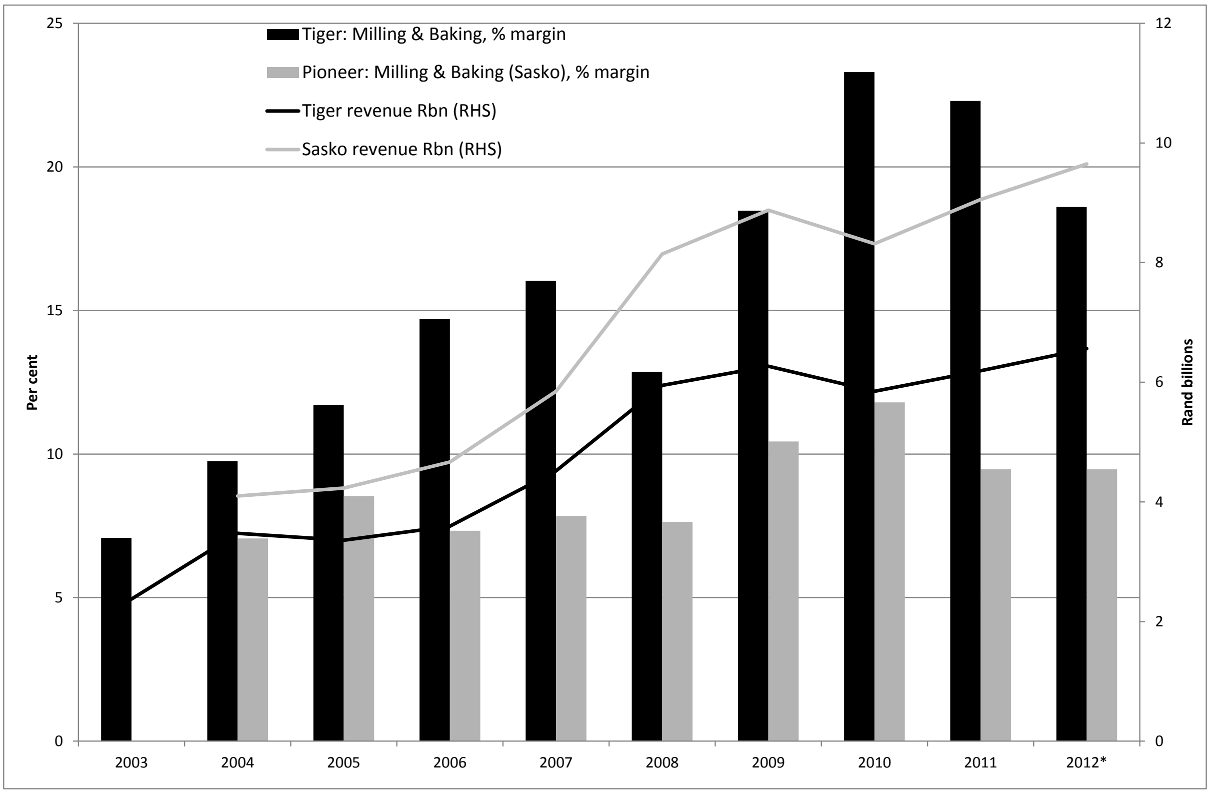
The ability to reach and maintain coordinated arrangements are also affected by external market conditions. Collusion will typically occur in highly concentrated markets where there are high barriers to entry and scale requirements. Concentration helps firms coordinate on a collusive outcome both in enforcement but also in coordinating their behaviour (Motta, 2004:143), while barriers to entry and scale economies insulate cartels from potential entrants.

To maintain collusive outcomes, cartel members must anticipate external threats to the cartel, new entrants and smaller players (who are not members of the cartel). A cartel is only effective if members work together to deter new entry, attracted by the high margins which are achieved by colluding firms, as new entry will undermine their ability to fix prices and monitor compliance. In addition, in order to succeed at maintaining the status quo, members must undermine the ability of non-member smaller rivals to grow and become effective competitors. Competitive smaller entrants will challenge the position of the incumbent cartel members, making the cartel less effective by reducing their margins and forcing them to compete for customers and market share. Coordinated conduct in wheat milling may have contributed to the increase of barriers to entry for new entrants through the cartel members coordinating production output to ensure that there is sufficient excess capacity to deter new entry. The vertically integrated nature of the industry and customer allocation between wheat milling firms may also have marginalised smaller players in downstream activities, such as independent local bakeries.

While cartel agreements are commonly referred to as the 'most egregious' competition contravention because they appear to be equivalent to theft from consumers by a conspiracy, the fact is that substantially similar outcomes can persist after explicit cartel arrangements have ended. In the case of the concrete products cartel (Khumalo, Mashiane and Roberts, 2012) more competitive outcomes only developed substantially after the ending of the cartel, when entry and growth of smaller suppliers had occurred, and it was mixed across regions. We examine whether there have there been more competitive outcomes in flour milling, and what factors have affected the outcomes we can observe.

At the outset, when looking at financial performance of the two listed milling and baking companies it appears as if margins are on average even higher since the cartel ended in 2007 (Figure 1). We note that these are for multi-product operations, including flour, bread, maize meal and other products such as pasta and rice. There may also be different strategies with some firms focusing on their leading and differentiated brands over which they have some pricing power, and not on revenue growth. Nevertheless it poses an interesting picture.

Figure 1: Margins for milling and baking, % of turnover



Source: Margins were calculated using the annual financial statements of Pioneer Foods (Sasko) and Tiger Brands.

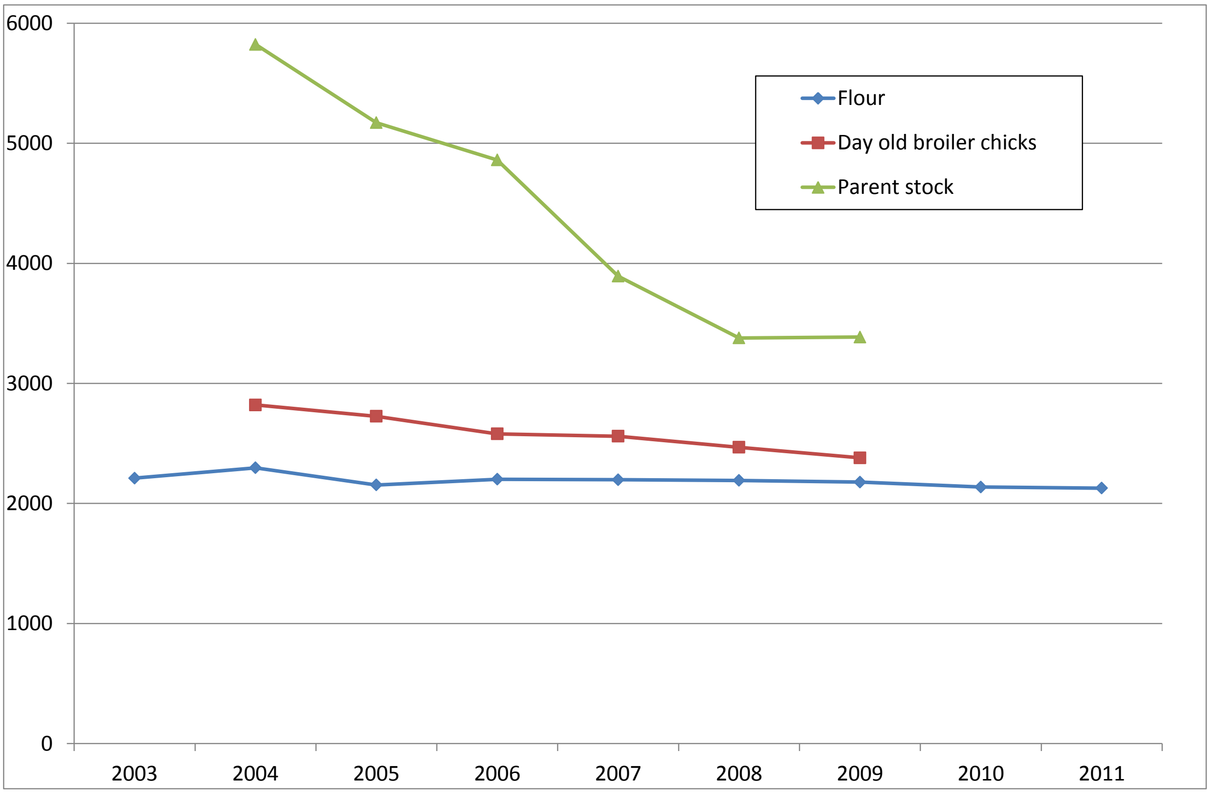
* *Interim results for 2012*

In the case of poultry, the Commission identified exclusionary conduct by one of the two main vertically integrated producers. There were also information exchanges similar to in flour, but in poultry in the context of an even more concentrated market. An incumbent will act strategically to deter entry such as foreclose access of rivals to customers or inputs necessary to achieve scale. A dominant firm will be threatened by new entrants and smaller rivals, as they can undermine the ability of the dominant firm to earn supra-competitive rents which the cartel members in coordinated conduct earn collectively.

The Chicago school argued that it would not be rational for an incumbent to foreclose a rival if there is no efficiency justification to engage in such behaviour. Furthermore, the Chicago school argue that it is irrational for a customer to forgo competitive prices from a new entrant and be tied to an exclusive arrangement with an incumbent. For this to happen, an incumbent would have to compensate the customer for the forgone benefit from the new entrant, making the deal unprofitable and therefore defeating the purpose of exclusive dealing with the incumbent (O'Donoghue and Padilla, 2006:353). To this, post-Chicago models point to the fact that an incumbent will only offer contracts to some but not all customers in order to deny the new entrant minimum viable scale and prevent it from entering where an entrant incurs fixed costs (O'Donoghue and Padilla, 2006:354-355)

In poultry, scale is needed in order for an entrant in the upstream breeding stock market to effectively compete with the incumbents. The exit of Country Bird in 2007 from the Elite partnership which restricted them to buy 90% of their parent stock from Elite's breeding farms has enabled them to successfully introduce a new bird (Arbor Acres) in the South African breeding market. The new entry has substantially increased rivalry at all levels of the value chain with significant changes in the market shares of the erstwhile effective duopolists and apparently more competitive outcomes for consumers. The changes are apparent in the summary measure of concentration, at the national level, especially in the supply of parent breeding stock. As we describe below, this has coincided with strong growth in overall production and narrower margins.

Figure 2: Herfindahl-Hirschman Index for poultry and wheat flour



Sources: South African Grain Information Service (SAGIS) data on total wheat milled for human consumption (2003 to 2011); Southern African Poultry Association (SAPA) data on parent stock produced and day-old broiler chick placements (2004 to 2009).

Focusing on the nature of competitive rivalry (or its lack) beyond just whether there is explicit coordination raises questions about the factors impacting on whether smaller firms are effective competitors, and how they develop the capabilities to attract customers. Entrants may be better equipped to effectively challenge the incumbents if they already have established capabilities, developed in adjacent product or geographic markets. Such firms also obviously need to obtain finance for the investments in new capacity.

In section 2 we focus on flour, where there are high barriers to entry given significant economies of scale, while in bread baking entry barriers are much lower and there are producers that were not part of the cartel arrangements, including in-house bakeries. Bread-baking obviously relies on obtaining competitively priced flour. In section 3 we contrast this with the developments in the poultry industry. We explore market dynamics in each and point to the importance of looking at how firms' strategies evolve in concentrated markets and not only at explicit cartel agreements. In section 4, we reflect on the determinants of competitive outcomes in concentrated industries, understanding entry and effective rivalry.

2. Wheat Flour

The wheat flour milling market in South Africa is highly concentrated with the largest four firms (Pioneer Foods, Premier Foods, Tiger Brands and Foodcorp) all vertically integrated along the wheat-to-bread value chain and accounting for more than 90% of the national supply of wheat flour. The high levels of concentration observed in this market are the result of high barriers to entry and the vertically integrated nature of the major players in the wheat-to-bread value chain. Wheat flour is produced in a market which is characterised by significant fixed costs and where capacity matters given the importance of economies of scale. Production methods across the top four firms are largely similar. These firms typically face similar input cost shocks as well as other demand-side and supply-side shocks. The main wheat flour products in South Africa include brown and white bread flour for bread production, industrial flour, wheat offal for use in cereals and animal feed and cake flour that is mainly used for confectionary.

The high barriers to entry in the wheat milling market in South Africa are mainly associated with economies of scale and the requirements of having a proper distribution network. According to players in the market, significant margin recovery is required to operate the capital intensive business in the long-term. It also requires a long period of time and large capital investments by firms in order to set up a wheat mill with the required capacity in order to be an effective competitor in this market. In this regard it should also be noted that wheat flour customers generally have long-term relationships with suppliers which is mainly due to brand loyalty. This increases the barriers to entry as it is difficult for new entrants to attract sufficient customers that would enable them to acquire the necessary economies of scale and margin in order to become effective competitors.

As stated above, the four largest firms are all vertically integrated into the downstream baking industries where they make use of their wheat flour production to manufacture downstream products such as bread and confectionary. The vertically integrated and highly concentrated nature of the wheat flour industry also exacerbates the high barriers to entry for potential entrants in the market due to the fact that a potential entrant might have to enter at more than one level of the value chain simultaneously for entry to be viable and effective.

It should also be noted that during the hard-core cartel period, the cartel members were not milling at full capacity which presented a credible threat to new entrants in the market. Recent entrants post-cartel in the wheat milling include Pro-Grain which entered the market in 2007 as well as Target Investments, both of which entered the KZN region, and Kromdraai Milling based in the Free State region. These new entrants have, however, a very small production capacity compared to the top four companies and they have not succeeded in becoming competitors at a national scale to compete effectively with the four major firms.

As will be discussed in greater detail below, wheat milling is also characterised by different regional dynamics. In regions like the Western Cape and the western part of the Eastern Cape there has been a lack of competitive outcomes due to the dominance of one firm in these regions with a market share in excess of 50%. This has implications for price setting in these regions as the dominant firm appears to be the price leader with the other firms following the prices set by the dominant firm. In contrast, more competitive outcomes and pricing patterns have been observed in Gauteng and surrounding regions due to the presence and location of more wheat mills in this area which is characterised by lower levels of concentration.

Another factor that should be taken into account when examining the characteristics of this market in the context of the history of collusion together with the high levels of concentration and high barriers to entry is that competitive outcomes may differ across the different flour customer segments. National supermarket and wholesale groups with significant buyer power may be better placed to play flour suppliers off against each other and ensure price competition between the major players than regional independent wholesalers and retailers who may be more subject to possible coordination and less competitive outcomes.

2.1. History of collusion and exclusionary strategies

The uncovering of cartels in the wheat flour-to-bread value chain by the Commission since December 2006 has been well documented. This conduct involved all of the major vertically integrated companies in the sub-sector. Given these investigations and the uncovering of widespread contraventions of the Act in this sub-sector, a subsequent decision was taken by the Commission in May 2008 to prioritise investigations in this sub-sector.

Complaints from bread distributors in the Western Cape in December 2006 led to an investigation by the Competition Commission into allegations that the major bread manufacturers (Premier Foods, Tiger Brands, Pioneer Foods and Foodcorp), all of whom are vertically integrated up to the wheat flour milling level of the value chain, were fixing bread prices.

The Commission's investigations found that these firms had been colluding to set prices through regular meetings and contacts from at least 1994 up to early 2007.[3] In addition, the investigation found that the bakeries were engaged in market allocation conduct by agreeing to close down certain bakeries in specific areas in favour of competitors. Premier was granted leniency for its involvement in the bread cartel, whilst the other three respondents paid fines for its conduct in this matter.

During the early stages of the bread cartel investigation, the Commission also received a corporate leniency application from Premier Foods with regards to its involvement in both wheat and white maize milling cartels. The leniency application was corroborated by a further leniency application from Tiger Brands which provided additional evidence of cartel conduct by various other millers. In March 2010 the Commission referred white maize and wheat milling cartels to the Tribunal for adjudication.

The Commission's investigation into the wheat milling cartel found that national price changes over time reflected coordinated conduct. Even though some agreements were struck in the different regions over a period of time, these were not discrete regional agreements with different adherents, but they were part and parcel of the execution of a national, overall agreement with the same participants, the same procedures and the same common object, namely to establish and implement a mechanism for fixing prices and other trading conditions and market division through customer allocation, in contravention of Section 4(1)(b)(i) and (ii) of the Act.

During its investigation into the cartel conduct the Commission found that the general approach by the cartel members in implementing price increases was to secure market information regarding their competitors. This is because the competitors in this market perceive taking the lead in implementing price increases as fraught with uncertainty and risk. According to the testimony of some of the employees of the leniency applicants, to be a first price mover in this market allows rivals to maintain price differentials and thereby gain market share quickly at the expense of the first mover.

The Commission's investigation also revealed that since the industry has a long history of cooperation, a salient answer to the problem of market attrition was an agreement between competitors as to price increases and their timing. There was a well understood relationship that existed between the respondents as characterised by periods of cooperation, which would break down from time to time and usher in limited time periods of price competition, which would then in turn give rise again to renewed agreements to avoid the commercial attrition of unbridled rivalry.

[3] See the Competition Commission's press statement on the referral of the wheat milling cartel dated 15 March 2010 (http://www.compcom.co.za/assets/Uploads/AttachedFiles/MyDocuments/Wheat-milling-cartel-referred-for-prosecution.pdf). Also see the consent order between the Competition Commission and Pioneer Foods (Competition Tribunal Case Nr. 15/CR/Mar10).

Investigations into the wheat-to-bread value chain by the Commission have also highlighted exclusionary strategies by the four vertically integrated firms of non-vertically integrated independent bakeries. Although the bread baking industry in South Africa is characterized by low exogenous barriers to entry, the existence of the cartel in flour mitigated the ability of independent bakers to enter and expand within the industry. Independent bakeries have the potential to exert a significant competitive constraint on the major bakeries through aggressive pricing and offering an alternative choice to consumers within narrow geographic regions. These bakeries are however dependent on the major firms for their supply of wheat flour as the major input in their operations which makes them vulnerable to exclusionary anti-competitive strategies by their competitors who are also their major suppliers. These anti-competitive practises exacerbated the existing collusive outcomes in the flour market through the fixing of prices amongst competitors by also denying independent bakeries the opportunity to obtain more competitive pricing and to play suppliers off against one another

The Commission's investigations also suggested that Pioneer Foods engaged in predatory conduct. The Commission's investigation was pursuant to an initial complaint brought forward by Mossel Bay Bakery, an independent bakery. According to Mossel Bay Bakery, Pioneer Foods engaged in a predatory price conduct, charging prices for bread below cost with the intention of eliminating Mossel Bay Bakery from the market.[4] The Commission's investigation revealed that Pioneer Foods was dominant in several local markets and that from 2002 to 2004 and in 2007, Pioneer Foods had indeed priced below cost.

Pioneer Foods admitted to threatening competitors with predatory conduct in several towns within the Western Cape and introducing fighting brands in order to protect its market share in areas where it was facing competition. These fighting brands were to be pulled out once a competitive threat had been removed. This conduct excluded small independent bakeries from competing effectively and allowed Pioneer Foods to build a reputation for fighting entry across markets and time. Pioneer Foods admitted that its conduct may have impeded small independent bakeries from expanding within the market and competing effectively, in contravention of section 8(c) of the Act.

2.2. Market dynamics and competitive outcomes post-cartel

After the uncovering of collusive conduct in a market it is expected that in the period immediately following the end of the cartel there will be a transition period in which prices continue to follow the cartel period price trend. This is due to the entrenched behaviour of cartel members and residual collusion between the former cartel members. Although firms may no longer be engaging formally to discuss prices, they may have developed a shared understanding with regards to pricing and other factors in the market that will enable them continue to tacitly collude post-cartel. Information sharing between cartel members that continue post-cartel may also facilitate tacit collusion between former cartel members. In this regard it should be noted that the Commission has recently investigated an information exchange case against the National Chamber of Milling (NCM) and its members with regards to the sharing of disaggregated information on a regional level, per product and per pack size which continued after the end of the wheat milling cartel in March 2007.

In the international vitamins cartel it was found that for products with two cartel members pricing patterns in the post-cartel period continued as if the explicit cartel never ended, while

[4] See the Competition Commission's press statement on the Pioneer Foods settlement dated 02 November 2010 (http://www.compcom.co.za/assets/Uploads/AttachedFiles/MyDocuments/Commission-settles-with-Pioneer-Foods2.pdf). Also see the consent order between the Competition Commission and Pioneer Foods (Competition Tribunal Case Nr. 15/CR/Mar10).

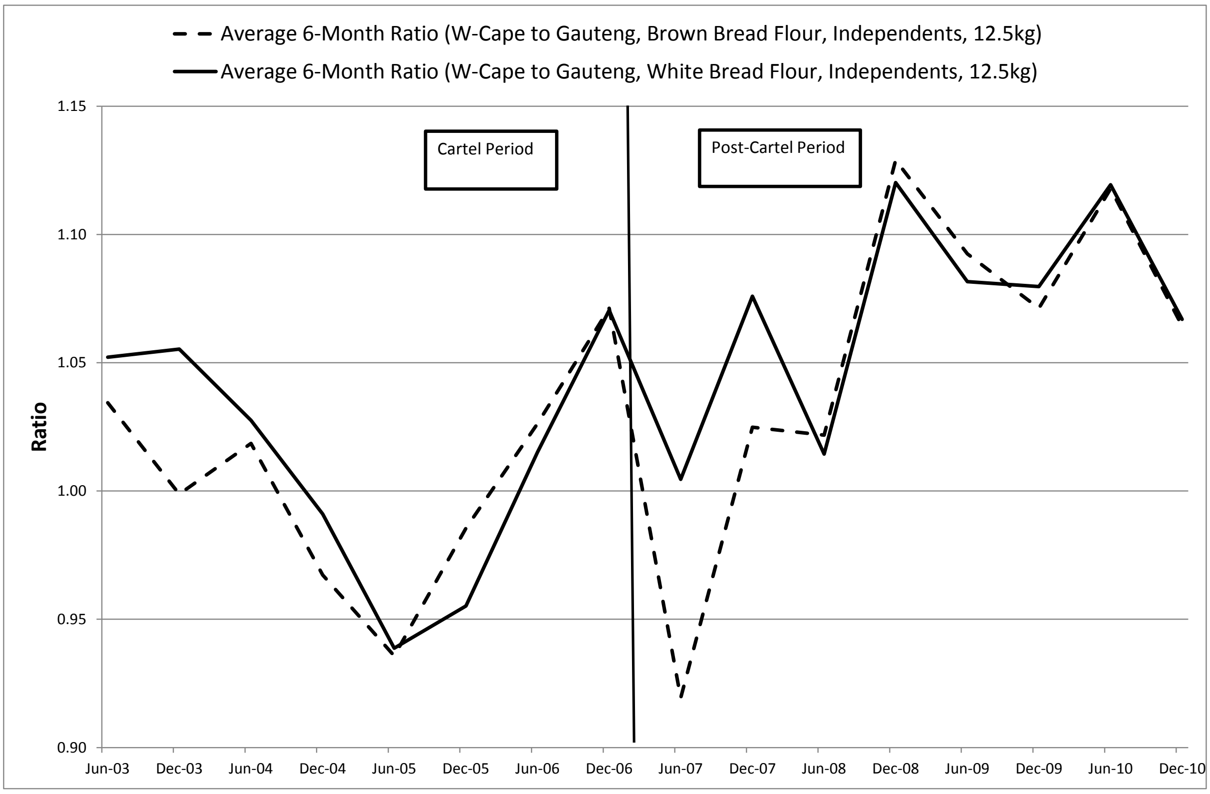
products with three or four cartel members returned to pre-cartel pricing faster (Kovacic *et al*., 2007). Given that the wheat milling market is generally characterised by high levels of concentration, especially in regions like the Western Cape and the western part of the Eastern Cape where there is a dominant firm who is a price-leader with few competitors, tacit agreements would therefore be expected in any event in the post-cartel period.

In this section we examine the competitive outcomes observed in the wheat milling market post-cartel in comparison with the cartel period pre-2007. In general there has been a lack of more competitive outcomes observed in the post-cartel period. This is especially true for regions like the Western- and Eastern Cape which has been characterised by high levels of concentration and a lack of new entry at a sufficient scale to constrain the activities of the major firms in comparison with Gauteng and surrounding provinces. We argue that the lack of entry in these two provinces has allowed the incumbent firms to continue to achieve high margins and have consistent market shares over time.

Price comparison between the Western Cape and Gauteng

During the course of the Commission's investigation in the wheat milling industry it came to light that recently flour prices in the Western Cape tend to be higher than flour prices observed in the Gauteng Province. This is not an expected observation as the Western Cape is a region with surplus production of wheat and therefore has lower raw material costs in milling wheat to produce flour products (see Figure 3).

Figure 3: Average six-month ratio of Western Cape prices to Gauteng prices (2003 to 2010)



Source: Own calculations based on average flour prices across major firms in the Western Cape and Gauteng charged to the independent bakeries customer segment

Except for the transition period immediately following the end of the cartel period, flour prices in the Western Cape has been higher than those in Gauteng. Gauteng therefore appears to be more competitive than the Western Cape despite the fact that the Western Cape is a region of surplus wheat production with the expectation of flour prices reflecting competition. The Western Cape appears to have remained under conditions of unilateral market power throughout the period covering the both the cartel and post cartel period. Using the Western Cape as the benchmark of no change, against which to assess the relative changes in Gauteng, the Commission estimated in a recent study that there was an average overcharge of approximately 25 per cent on both white and brown flour prices to independent bakeries and an average overcharge on cake flour sold in the wholesale channel of approximately 7 per cent during the cartel period.

An increase in competition post-cartel in Gauteng has led to a reduction in the substantial mark-ups as observed in this province during the cartel period in contrast with the substantial and increasing mark-ups that have been observed in the Western Cape post-cartel. It is therefore clear that an increase in entry by smaller firms and less persistence in market shares in Gauteng and surrounding regions has led to more competitive outcomes for consumers.

As mentioned earlier, the Western Cape is characterised by high levels of concentration where there is a dominant firm with an average market share in excess of 50% of total flour sales. There are only two other significant competitors with mills located in the region who are price-takers following the lead of the dominant firm. In contrast with the market dynamics in the Western Cape, Gauteng is characterised by lower levels of concentration and a greater number of mills located within the province or in surrounding areas which exert a competitive threat to the major firms. The absence of competitive pricing in the Western Cape in comparison with Gauteng may therefore, at least in part, be attributed to the lack of significant players and new entry in the Western Cape in comparison with Gauteng.

During the Commission’s investigation of the wheat milling market it has also become apparent that the competitors of the dominant firm in the Western Cape are not in a position to pose a competitive constraint on the dominant firm due to capacity constraints experienced at their mills located in this province. This implies that any attempt to constrain the dominant firm by discounting cannot be matched by an increase in sales volume. This will result not just in lower per unit profit margins for these competitors, but also in lower overall profit margins, thereby dampening the incentive to discount.

The lack of more competitive outcomes in the wheat milling industry in regions such as the Western Cape provided the rationale behind the Commission’s settlement with Pioneer Foods in November 2010. Bonakele and Mncube (2012:431-433) highlight the rationale for the Commission’s remedies in the Pioneer Foods settlement which was concluded in November 2010. In light of the exclusionary practises that the Commission had uncovered in the wheat-to-bread value chain the Commission introduced remedies with the aim of undermining the anti-competitive environment created by the cartels along the value chain by lowering barriers to entry for smaller firms.

The price-reduction remedy in the Pioneer Foods settlement aimed to stimulate competition to the benefit of consumers. It was intended not only to compensate consumers but also to undermine the effects of Pioneer Foods’ admitted anticompetitive conduct on prices in the relevant markets. Through the price reduction commitment, the Commission sought to achieve a direct benefit to consumers as well as to stimulate more intense rivalry in the market. The price reduction commitment was designed to stimulate rivalry while at the same time enabling smaller non-vertically integrated participants in bread.

Finally it should also be mentioned that there has been a lack of substantial new entry in the wheat flour market since the end of the cartel period in early 2007. Although there has been regional entry of smaller firms in recent years such as Kromdraai Best Milling in the Free State who has managed to grow its market share in the Free State and surrounding regions due to investment in capacity, it is clear when observing the persistency of national concentration levels in the wheat milling market (see Figure 2) that the entry of smaller firms in particular regions, such as Kromdraai Milling and Pro-Grain in KwaZulu-Natal, have not been sufficient to achieve better competitive outcomes for consumers on a national scale. The developments in wheat flour markets in the Western Cape and Eastern Cape particularly suggest that market outcomes will only change if there is investment in millers of sufficient scale to challenge Pioneer Foods and other large players as well as independent bakeries that are likely to support new entrants at the milling level of the value chain.

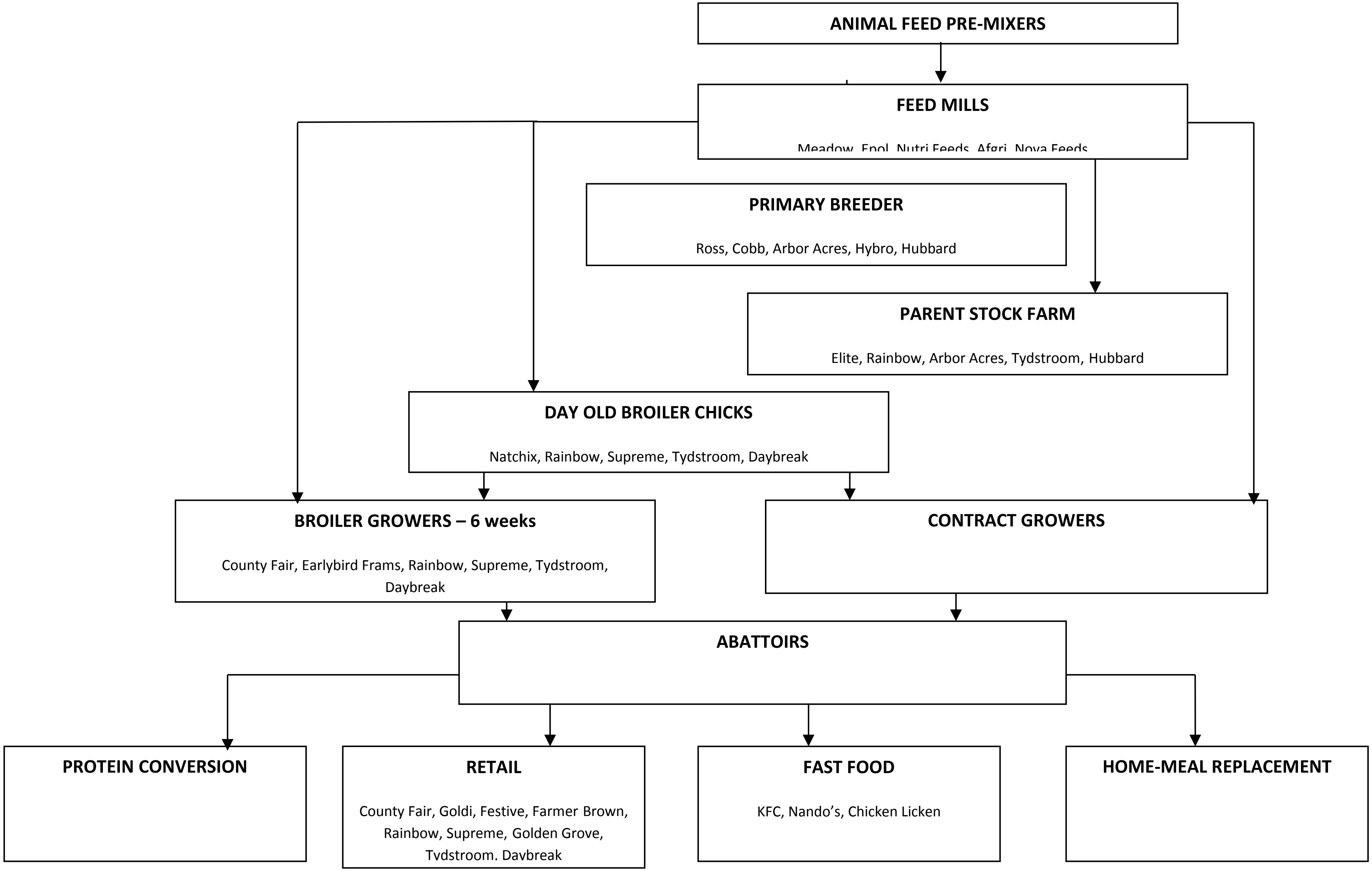
3. Poultry

3.1. Industry characteristics

The structure of the South African poultry industry has evolved quite substantially over the years, especially during the early part of the 2000s. This can be ascribed both to the growth in consumer demand for poultry and poultry products and the subsequent increase in investment and expansion of existing role players in the industry. Some firms through mergers and acquisitions have expanded horizontally and vertically in the poultry supply chain over time. For example, adding County Fair as part of Astral together with Astral's acquisition of National Chicken (Natchix) in 2002 and Earlybird Farms in 2004 increased the total Astral's group broiler production to just below that of Rainbow. Rainbow has also expanded their operations through strategic acquisitions of Vector Logistics in 2004 which resulted in the company becoming even more vertically integrated in the poultry supply chain.[5]

[5] See cases 113/LM/Nov05, 74/LM/Sep04 , 57/LM/Aug04 ,69/AM/Dec01

Figure 4: The Poultry Value Chain



Several barriers to entry or expansion exist in the market for the production and supply of parent stock. To successfully compete in the breeding stock market, potential new entrants need an anchor customer. For instance, Ross Poultry Breeders (RPB) has Astral (County Fair, Natchix and Earlybird) as its main customer, whilst Arbor Acres has Supreme Poultry as its main customer. Local producers and suppliers of parent stock have exclusive supply agreements with overseas suppliers which result in high barriers to entry, making it more difficult to open up monopolistic markets. Breeding stock (grandparent stock or great grandparent stock) is imported into South Africa by the owners of franchise rights, as setting up a great grandparent stock requires huge capital outlays and is very costly. Importing grandparent stock can cost up to R8 million a flock, whilst the investment in putting up the infrastructure that is required to breed parent stock is very costly.[6]

Presence in adjacent markets or geographic regions is an important characteristic of successful entry in these markets as in Country Bird's case. That is, an entrant must have capabilities (capital or otherwise) to overcome high barriers to entry. Potential new entrants also need to have a breed which is consistent in its performance. Not all breeds available internationally perform well in South Africa in terms of feed conversion rates, high hatchability, disease free and growth rates. This inhibits new entry into the breeding market and further limits the choices which are available to customers of day old parent and broiler stock.

The high barriers to entry and limited countervailing power, due to lack of alternatives, entrenched a duopoly of Rainbow Farms (Rainbow) and Astral. Rainbow's vertical integration meant that Astral was dominant in the supply of breeding stock. Astral dominated the market in South Africa for many years due to the fact that they were the only commercial suppliers of parent breeding stock when it acquired a controlling share of the Elite partnership that was between Natchix, Astral and Country Bird.

The restrictive clauses of the Elite partnership agreement allegedly prevented Country Bird from dealing with competitors to Elite, and it also prevented both Country Bird and Elite from dealing with competitors to Astral's upstream and downstream subsidiaries in the form of RPB and Meadow Feeds (Meadow).

3.2. The Elite partnership and the removal of Country Bird as an ineffective competitor.

It is notable that the Elite partnership, which was initially formed in 1982 as an incorporated company by various corporate entities and David John Bone, was an initiative to establish a rival breeding program to that of Rainbow. The joint venture involved the purchasing of grandparent-stock, from Ross Poultry Breeding in order to secure regular supply of high quality parent-stock to its partners. With the sufficient volumes justified by the agreement, an alternative to the Cobb Bird used by Rainbow was brought to the domestic broiler market. In 1992, a new partner's agreement was prepared which superseded the previous agreement, whereby:[7]

- Elite purchased all its grand-parent stock from RPB;
- Elite was also required to purchase its feed requirements from Meadow;
- Country Bird was obliged to buy 90% of its parent stock requirements from Elite; and

[6] See the referral affidavit in the matter between the Competition Commission and Astral Cooperation Limited and Elite Breeding (Commission Case Number 2007Feb2788).

[7] See the referral affidavit in the matter between the Competition Commission and Astral Cooperation Limited and Elite Breeding (Commission Case Number 2007Feb2788).

- No resolution of the joint venture is valid unless holders of not less than 80% of the vote are in favour of it.

The arrangement was therefore one between actual and potential competitors in the supply of parent stock and at the broiler level, and also between suppliers and customers, with regard to grandparent stock (Astral controlling RPB), parent stock (restricting Country Bird to buy 90% of parent stock requirements from Elite) and feed (both Elite and Country Bird being obliged to buy their feed from Meadow). No one company in the joint venture held sole control in Natchix however this changed with the approval of the Natchix acquisition by Astral, a merger which the Commission prohibited on the basis of the clauses listed above. Astral would have sole control over the joint venture by virtue of its 82% voting share, which effectively meant that the joint venture would continue in Astral's favour. The Tribunal approved the merger with structural and behavioural conditions.

Following the acquisition of Natchix, poultry prices increased, Astral's margins grew, and the local industry was less competitive against imports. Such factors strongly indicate that competition *was* dampened. The Commission received a complaint which was referred for exclusionary conduct by the Elite partnership in terms of sections 8(c) and or 8 (d)(i) and collusive conduct under section 4(1)(b)(i) and 4(1)b)(ii) of the Act. The Commission argued that independents were effectively denied an alternative competitive supplier of breeding stock because Country Bird as a competitor was undermined; both in competitively supplying the Ross Bird and in seeking alternatives. Also, given that Rainbow committed primarily to self- supply, downstream independents were effectively forced to purchase the Ross.

3.3. Competitive dynamics in the poultry industry and the entry of Arbor Acres

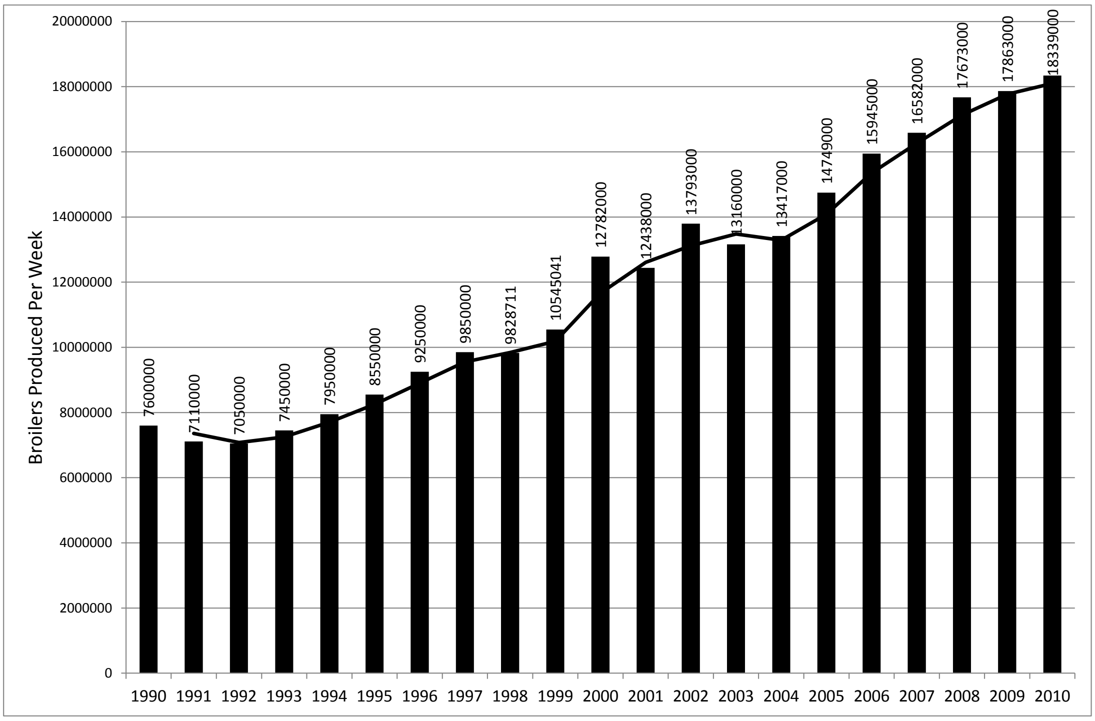
Competitive dynamics in poultry are experienced from the entry of Arbor Acres (Country Bird) at the breeding level of the value chain. The entry of Arbor Acres at the parent breeding stock level of the value chain was facilitated by the unilateral exit of Country Bird from the Elite joint venture. The entry had come at the back of allegedly breaching the joint venture agreement. Before the entry of the Arbor Acres and Hubbard breeds in 2007, there were only three suppliers of breeder parent stock in South Africa, Astral, Rainbow and Tydstroom. Although, the vertical integration of Rainbow and Tystroom meant that Astral had substantial market power, as it was the only supplier to independents.

The importance of Arbor Acres's entry as an effective competitor at the breeder level is illustrated by the display of competitive dynamics. Strong growth in production volumes at breeder and broiler did not translate in higher margins (Figures 5 and 6). The demand for broiler meat in South Africa has increased significantly over the years; with the industry providing 63.6% of the total locally produced animal protein consumed in South Africa in 2009.[8] The total volume of broilers produced has effectively doubled since the early 1990s (Figure 5) when the joint venture was last negotiated (from roughly 7 million broilers per week in 1990 to roughly 14 million per week in 2006 when Country Bird exited the Elite partnership). Given that the demand for parent stock is derived from the demand for broilers, it follows that the volume of parent stock has experienced similar substantial changes (Figure 6). Over the period 1997 to April 2010, the growth in parent stock volumes increased by approximately 57%, with the majority of the growth taking place in the period between 2005 and 2008 where prices of red meat was increasing. During this period, average weekly boiler production grew by 24% while red meat production grew by half that rate, 12%.[9]

[8] "The South African Poultry Industry Profile for 2009" (Published by SAPA), p. 6

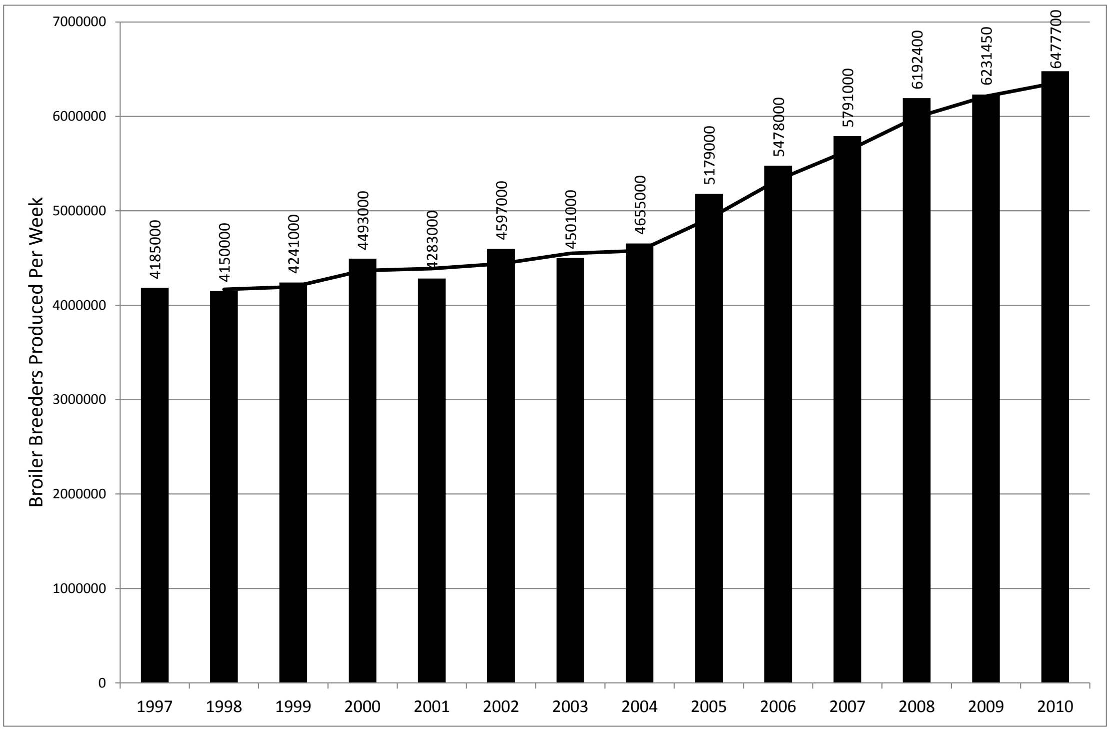
[9] Own calculations from data from the Red Meat Abattoir Association and The South African Poultry Industry

Figure 5: Average Weekly Broiler Production (1990 to 2010)



Source: SAPA

Figure 6: Average parent stock (broiler breeders) production (1997 to 2010)

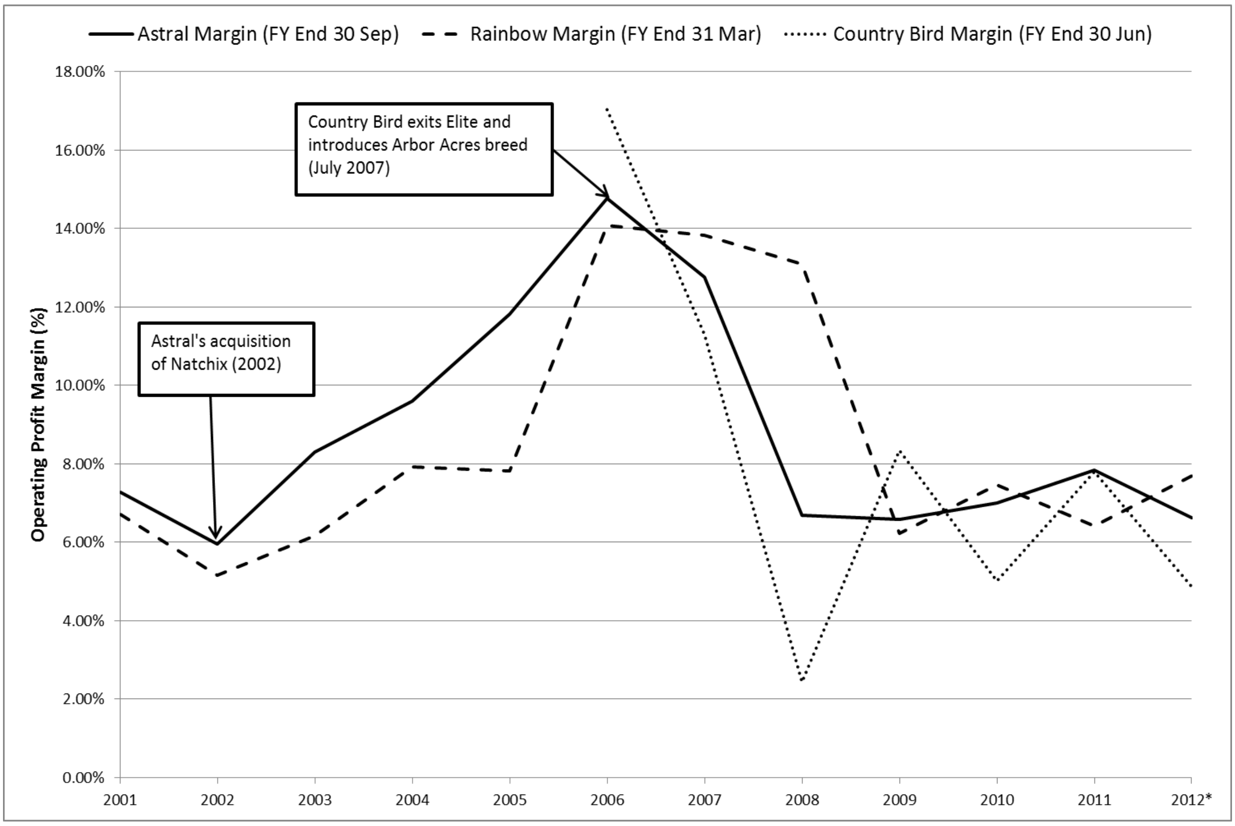


Source: SAPA

When the growth in demand and local production is considered together with the declining margins achieved by the three major poultry producing companies in South Africa since the successful entry of Arbor Acres in 2007, it is clear that there has been an increase in competition and reduced concentration in the industry (Figure 7). More competitive outcomes have been achieved for consumers of poultry products as the margins achieved by all of the companies have roughly halved from 2007 to 2010, even though there has been an increase in demand and revenues.

Of greater significance is the evidence that pricing in the market is more competitive overall as reflected in lower margins since the introduction of an effective rival (Figure 7). Astral's operating profit margins since the entry of Arbor Acres through Country Bird have decreased to approximately the same levels as it was prior to its acquisition of Natchix in April 2002. This illustrates that Astral's unilateral decision making power in the Elite partnership effectively undermined competition in the South African poultry industry.

Figure 7: Margins on Turnover



Source: Annual Reports of JSE listed companies.

Notes: [1] Margins calculated as operating profit as a percentage of total revenue

[2] For 2011 data: Astral's unaudited results for the six month period ending 31 March 2011; Rainbow abridged interim results for the period ending 31 March 2011.

Ngwenya and Robb (2011:19) investigated whether input costs and falling demand of white meat were possible alternative explanations for the decline in margins after the exit of Country Bird from the joint venture. They find that feed prices increased throughout the period and accelerated after 2006; the consumption of white meat remained relatively stable throughout the 2000s but accelerated steeply after 2004. The fact that Country Bird earned an operating profit of 17% in 2006 illustrates successful entry, after which, profits of all companies fell sharply. The fall in margins could be indicative of competition or extenuating market conditions; increasing input prices and the flattening of demand. The plausible explanation is that the margins fell due to the entry of Country Bird; in spite of increasing feed prices over the period, demand for the produce for the vertically integrated firm continued to increase. (Ngwenya and Robb, 2011: 21).

Increasing imports have also been cited as a reason for decreasing however there is evidence that growth in imports has remained constant imports at approximately 20% in 2006-2010.[10] Even then, there are disputes over product classification; there are also assertions that what is imported into South Africa is actually transhipped into neighbouring countries .Furthermore, the poultry industry in South Africa remains protected by import duties.

There has been increased competition throughout the poultry value chain, as the rivalry at the breeding level (including parent stock) impacts on competition at the broiler level. Prior to the entry of Arbor Acres in mid-2007, and after the Natchix acquisition, independent broiler producers were essentially subject to the substantial market power on the part of Astral, as Rainbow largely produced for its own requirements.

3.4. Settlement of allegation by Astral.

Astral has since settled the allegations with the Commission, admitting to the contravention of section 8(c) and 4(1) (b) (i) for which it was fined R16.7.3 million.[11] Astral admitted that the Elite agreement it entered into with Country Bird was in contravention of 8(c) of the Act; which effectively undermined Country Bird as an effective competitor. As part of the settlement agreement, Astral also confirmed that Country Bird, which unilaterally left the Elite joint venture, is no longer bound by the terms of the Elite agreement. Astral's admission confirms that for as long as Country Bird was party to the joint venture, there could not be any expansion along the value chain; including the entry of a new breed (Arbor Acres) that resulted in Country Bird's expansion in the broiler market.

The entry of Arbor Acres in the parent breeding level of the value chain introduced competition and this has led to more competitive outcomes, with lower margins while at the same time output has grown strongly. Unlike flour milling, structural change in the market resulted in the entry of competitor. The exit of Country Bird from the Elite partnership created the critical scale that Arbor Acres bird required. Certain market dynamics determine successful entry of competition in highly concentrated markets.

4. Understanding determinants of competitive outcomes in concentrated markets: entry and effective rivalry

There has been a very strong emphasis on cartels as the most egregious form of anti-competitive conduct. Our approach is different in that we are interested in what is most important for competitive outcomes. Of course, it is important to detect and deter cartel conduct. However, the cases examined here indicate the importance of looking more carefully at factors relating to entry and effective rivalry if we are interested in economic outcomes.

[10] Own calculations using South African Poultry Association (SAPA) data.
[11] The Competition Commission settles poultry case with Astral. Commission press release dated: 22 November 2012. Available online: http://www.compcom.co.za/assets/Uploads/AttachedFiles/MyDocuments/Competition-Commission-settles-poultry-case-with-Astral-Operations-2.pdf

The milling and poultry cases demonstrate that outcomes similar to coordination can be obtained in the absence of collusion and that when explicit cartel arrangements end there may not necessarily be greater competition. This is not surprising as economic theory tells us that in tight oligopolies where firms understand each other well and can identify what the coordinated outcome would look like, monitor the others' behaviour and retaliate for deviations, then there can be coordinated outcomes.

In the case of milling, the firms had agreed in the past and had a good understanding of the markets in which they operated. The Commission continued to pursue information exchange that allowed the monthly monitoring of market shares at a regional level and by different pack size and product category, and intervened to end this.[12] The contrast of outcomes in the Western Cape and Gauteng in flour milling is the most obvious illustration. Wheat prices are lower in the Western Cape than in Gauteng by the cost of transport (R415 per tonne of wheat in 2011). This is because as a net exporting region, the market clearing price is that which is offered in Gauteng, less the transport to that Province. Prices of flour have, however, been similar in Gauteng and the Western Cape. Firms during the cartel charged the same prices across the country, arguing that they were national suppliers. This is only possible as long as there is not competition in lower cost regions from regional producers.

After the cartel, rather than prices falling in the Western Cape relative to Gauteng, to reflect the lower costs in the Cape, the prices fell in Gauteng. Closer examination suggests that this is not as surprising as it might appear. In the Western Cape there is one clear leader, with over half the milling capacity, and two other mills. It is relatively obvious that the outcomes can be sustained as long as the leader sets the price and the firms maintain the same customer base as before. The incentive to deviate depends on attracting increased sales by offering discounted prices, but if the customers are relatively concentrated then even absent information exchange it will be easy to monitor if any party is doing this. Capacity may also be constrained (although this is an outcome of decisions). In effect a cartel in milling was not required as the monopoly outcome, with a fringe is equivalent. By comparison, there are both many more suppliers in Gauteng as well as a much more diverse market in terms of customers. This makes it much more necessary to reach agreement (and to monitor and enforce the agreement) in order to replace competitive rivalry by coordination.

This does not mean that there will not be competition in the Western Cape (and Eastern Cape), but that this will likely depend on entry. The entry and growth of smaller producers has also been a feature in the much bigger inland market, with the growth of firms such as Kromdraai.

The developments in the poultry industry paint a similar picture. The industry was historically dominated by two vertically integrated producers, who controlled the breeding stock and were the major suppliers of animal feed. Information exchange arrangements enabled them to closely track their market shares, however, the long running duopoly and participation in industry forums addressing other challenges such as regulations and lobbying for restrictions on imports means that there was likely to be a high level of common understanding.

Given this, competitive rivalry appears to be largely driven by the ability of smaller producers to grow and compete. There had been a smaller producer National Chicks, in the early 2000s, which was then acquired by Astral (although having to divest its feed business). The major change in the industry then came with the exit from the Elite joint venture of Country Bird and the support for a new breed in the form of the Arbor Acres bird.

This illustrates the challenges of rivalry in vertically integrated supply chains. Being an effective competitor requires being able to competitively source both breeding stock and

[12] The debates on information exchange in dampening competition are addressed in another paper in this conference by Das Nair et al.

animal feed. It also requires a network of broiler producers and the capacity to slaughter and deliver to retailers. The case brought by the Commission against the Astral and the Elite joint venture they controlled argued that the restrictive arrangements prevented rivalry at the breeding level and that this undermined competition at the lower level of broiler production. There were also restrictions alleged relating to competitive sourcing of animal feed. Our analysis indicates that the effect of this has been to grow production while bringing margins back down to where they had been before the National Chicks acquisition.

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