Why Do Merging Parties and Authorities Define Relevant Markets Differently?

by

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DECLARATION

DECLARATION

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

Signed .....

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STATEMENT

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Abstract

The increased activities within the mergers and acquisitions market in recent times has highlighted the importance of Commissions, whose responsibility it is to protect competition in the common market place. An area of disagreement which often arises between merging parties and authorities – at the expense of time and money - is the definition of a relevant market within which to measure competition. This proposal seeks, with the aid of a recent case (Unilever vs. Competition Commission of South Africa), to identify why relevant markets are so incoherently drawn and whether guidelines mutually agreed upon between the merging parties and the Commission could aid in reaching a timely and cost effective resolution.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

The globalisation of business in the last 50 years has seen a sharp increase in the levels of international mergers and acquisitions. Merging with or acquiring another company, often a competitor has the potential to dramatically strengthen a company's market position and open new opportunities for competitive advantage. The merged company may acquire stronger technical skills, a wider lineup of products and wider geographic coverage.

With this increased activity has come the need to protect consumer's welfare by maintaining a high degree of competition in the common market. Competition should lead to lower prices, a wider choice of goods, and technological innovation, all in the interest of the consumer. Thus whenever required to consider a merger, the authorities must as a first step determine whether or not the merger is likely to substantially prevent or lessen competition by assessing competition in the relevant market.

A case that has recently brought to light the issue of relevant markets is the Unilever/Robertsons merger.

On 16th August 2000 the European Commission received a notification of a proposed merger by which Unilever PLC and Unilever N.V. ("Unilever") acquire control of the whole of Bestfoods.

Unilever is incorporated both in the Netherlands and in the UK. Its principal businesses are in the foods, home care and professional cleaning and personal care categories. Unilever's food businesses are mainly oil and dairy based foods, ice cream and beverages, soups, sauces, food oils and frozen foods. Turnover totaled 40,979 million Euros in 1999.

Bestfoods is a publicly listed United States corporation. Bestfoods has extensive operations and various manufacturing facilities in Europe in the businesses of savoury products, mayonnaise and other dressings, bread spreads and desserts. Many of these are marketed under the Knorr brand. Bestfoods worldwide turnover in 1999 was 8,102 million Euros.

1.1.1 Unilever/Robertsons

The transaction was relevant to South Africa insofar as a South African company, Robertsons Holdings (Pty) Limited (Robertsons), which is part of the Remgro group of companies, is, together with a Bestfoods' subsidiary, Bestfoods Europe Group Limited (Bestfoods Europe), involved in a joint venture company called Bestfoods Robertsons Holdings Limited LLC. The United States registered joint venture company has two subsidiaries in South Africa, namely Robertsons Foods (Pty) Limited and Robertsons Food Service (Pty) Limited. In terms of the joint venture agreement, Bestfoods licenses its products to Robertsons Foods to manufacture, distribute, market and sell in South Africa. Bestfoods licenses know-how and technology to Robertsons Foods and does not import products into South Africa.

The parties to this transaction agreed to form a new joint venture company in South Africa combining the food business of Unilever SA and those of the Bestfoods and Robertsons joint venture company. The new joint venture company, to be called Unilever Bestfoods Robertsons, would include Unifoods and Hudson & Knight from Unilever SA, and Robertsons Foods (Pty) Ltd and Robertsons Food Service (Pty) Limited from Robertsons' Holdings. Unilever plc would have management control of Unilever Bestfoods Robertsons.

The parties activities both locally and abroad overlap in two different sectors: in the production and sale of food products dedicated to the retail sector and in the production and sale of food products dedicated to the catering sector (food service sector). The food service sector is identified as the supply of foods to hotels, restaurants, fast food outlets and institutional catering (factory and office canteens, hospitals, schools, etc.) Both the EU Commission and the South African Commission have identified these two different sectors as giving rise to separate product markets for food retailing and food service. For the purpose of this study attention will be focused on the food-retailing sector.

As mentioned previously basic merger analysis is concerned with mergers that enable firms to increase their market power and raise prices above the competitive level. A

merger is considered illegal if it "substantially decreases competition or tends to create a monopoly".

The first two steps of merger analysis are:
Determining the relevant market.
Measure market concentration by using the Herfindahl-Hirschman Index.

In the case of the Unilever/Robertsons merger the Competition Commission disagreed on the merging parties definition of the relevant product markets for the purposes of the transaction. The merging parties recognised 4 broad relevant markets for the purposes of the transaction.

Cooking Ingredients
Sauces
Ready Meals
Flavoured Spreads

The Commission for Competition adopted the parties international counterparts market definition which was to use the product classifications adopted by A.C. Nielsen, a firm that collects product data in the European food sector. In the worldwide merger consensus was reached between merging parties and the European Commission. The product market classifications were considered realistic and well defined in the context of markets within the EU- and were generally recognised as separate product groups or markets by most companies and trade customers in the business and by market research organisations covering the sector. In total 18 relevant product markets were identified:

1.Ambient wet soups.
2. Regular dry soups.
3 Instant dry soups.
4. Pot Snacks
5. Dry side dishes
6. Mayonnaise
7. Salad Dressings
8. Ketchup

9. Mustard
10. Other Cold Sauces
11. Hot dry sauces
12. Wet pasta sauces
13. Other hot wet sauces
14. Seed oils
15. Olive oils
16. Bouillon
17. Herbs, spices and seasoning
18. Jams

The Competition Commission in South Africa found overlaps between the merging parties products in 10 (ten) markets. The Commission argued "the high market shares and concentration levels resulting from the merger are likely to lead to a lessening in competition in the identified markets" (www.comptrib.co.za).

RELEVANT MARKET	**UNIFOODS**		**ROBERTSONS**		
	Products	**Market share**	**Products**	**Market share**	**Post Merger**
Packet soup	Royco Soup	29,4%	Knorr Soup	48,1%	77,5%
Soya mince	Royco Vitamince	1,7%	Knorr soya mince and Knorr nyamanyama	31,3%	33,0%
Sishebo mixes	Royco Shebo-o-mix	11,6%	Robertsons Jikelele stew mix	83,8 %	95,4%
Salad Dressing	Royco Salad Dressing	14,4%	Knorr Salad Dressing	55,4%	69,8%
Recipe mixes	Royco Royco potato bake and Royco potato wedges	48,2%	Knorr	18,0%	66,2%
Dry marinades	Royco Instant Marinade	35,3%	Knorr Marinades and Meat Mate Marinade	64,5%	99,8%
Pour-over-sauces	Royco Royco sauce sensations	47,8%	Knorr stir & Serve Knorr sauce combinations	34,4%	82,2%

RELEVANT MARKET	UNIFOODS		ROBERTSONS		
	Products	**Market share**	**Products**	**Market share**	**Post Merger**
Dry pasta sauces	Royco instant pasta sauce	49,3%	Knorr instant sauce and Knorr pastamia	32,7%	82,0%
Instant soups	Royco cup-a-soup and Royco cup-a-snack	67,4%	Knorr quick soup and Knorr Oodles of Noodles	21,4%	88,8%
Black Spreads	Oxo spread	10,0%	Marmite and Bovril	89,5%	99,5%

Table 1.1: Unifoods/Robertsons Product Market Share

Source – Competition Tribunal South Africa
Case Number 55/LM/Sep01

Whilst these large inconsistencies in the relevant markets were not responsible for the outright prohibition of the merger, they were key in establishing that the product portfolio currently marketed under the Royco and Oxo brands would require divestiture to a viable third party approved by the Commission.

1.2 Motivation

Unilever/Robertsons primary objective is to maximise shareholders wealth through profits, growth and market share. When merging, their aim is to avoid where possible the divestiture of profitable businesses to a third party.

The Commission for Competition's objective is to protect the consumer. It does so by analysing the respective market and ensuring that healthy competition is maintained within these parameters, often legislating divestiture of portions of a business in order to maintain competition.

Two parties protecting their own interests and responsibilities makes for an intriguing analysis relevant in today's business environment.

1.3 Value

Agreement on how to define the relevant market is a real business problem faced by companies and authorities worldwide. (Examples include FTC v Coca-Cola Co and FTC v Office Depot, Inc).

A great deal of time and money is spent by both parties in protecting their interests and lobbying their points of views in hearings and appeals. If it can be determined that initial guidelines between parties and authority to define relevant markets would have benefited the Unilever/Robertson case, there may be an argument for such an implementation on a wider scale.

1.4 Problem Statement

"Why do merging parties and authorities define relevant markets differently?"

In the case of the Unilever/Robertsons merger, the merging parties claim that the A.C.Nielsen product classification (the one used by the parties in their submission to the European Commission) should be rejected for the purposes of the South African case. They argue "factors specific to South Africa justify a departure from the Nielsen categories"(www.comptrib.co.za).

They also criticise the A.C.Nielsen product classification as being of limited use in defining the relevant market for competition purposes. They argue that the priority in the A.C.Nielsen Product Definitions is the practical collection of data on products and not the measurement of substitutability between different products; and no consumer demand-led research is conducted in the compilation of data. As a result, the A.C.Nielsen Product Definitions are too narrow for competition law purposes and products that compete with each other end up being classified under different classes.

The Commission for Competition's Market Definition –"The Commission disagrees with the parties (Unilever/Robertsons) market definition. In the Commission's opinion, the merging parties have defined the market too widely. In its report the Commission criticises the various reports and studies relied upon by the merging parties for their market definition. The Commission seeks to demonstrate that the said reports and studies do not support the market definitions proposed by the parties. It points out perceived inconsistencies and omissions amongst the documents filed by the parties in support of their market definition. The efficiencies that the merging parties claim will result from the merger are also disputed by the Commission. In addition, the Commission casts doubts upon the objectivity of the studies and the reports" (www.comptrib.co.za).

A wider market definition as suggested be used by the merging parties, would have resulted in lower market shares for the parties in some areas where overlap occurs because of the larger group of products within that market. Potential threats to competition were more likely to be removed under those conditions thus benefiting the merging parties.

In its briefing paper no.3 the Competition Tribunal of SA states "defining the relevant market means drawing the market edges so that it contains all the closely substitutable goods and excludes all goods not substitutable in a specific geographic area. Market definition is divided into two dimensions namely product type and geographic area".

Two important points have to be made regarding market definition:

Market definition is not an end in itself; it is an analytical tool that assists in determining the competitive constraints upon undertakings.

Market definition enables the competitive constraints only from actual competitors be identified, it tells us nothing of potential competitors.

The European Commission Notice on the definition of the relevant market published 9th December 1997 is useful in determining some of the techniques that may be deployed when defining a market. The Notice identifies demand substitutability as the essence of market definition.

Paragraph 14 of the Notice states that the assessment of demand substitution entails a determination of the range of products that are viewed as substitutes by the consumer. This can be quantified using cross elasticity of demand.

$$\text{CE of demand} = \frac{\%\text{ change in quantity of X demanded}}{\%\text{ change in the price of Y}}$$

Table 1.2: Cross Elasticity of Demand

A positive CE of demand means that the 2 goods are substitutes and a negative CE that they are compliments. Whilst the concept of CE is logical it is difficult to measure accurately.

The "SSNIP" test has been deployed by the Department of Justice (DOJ) and the Federal Trade Commission (FTC) when analyzing horizontal mergers. Richard Whish (1999) identifies the test as follows "suppose that a producer of a product, for example a widget – were to include a Small but Significant Non-transitory Increase in Price. In those circumstances would consumers be inclined to switch their purchases to other makes of widgets or even blodgets? If the answer is yes, this would suggest that the market is at least as wide as widgets generally and includes blodgets as well".

When determining whether firms have market power, it is necessary for the relevant geographic market to be defined. While some products can be supplied without difficulty throughout the world, there could be other reasons why a product can only be supplied within a certain area. The identification of the geographic market helps identify which other firms impose a competitive constraint on those under investigation.

Market concentration refers to the extent to which one, or a small number of firms dominate economic activity in a particular market. Concentration is regarded as one of the most important indicators of competitiveness in an industry. The Herfindahl-Hirschman index better known as the HHI index is a statistical measure of concentration.

The HHI accounts for the numbers of firms in a market, as well as concentration, by incorporating the relative size (that is market share) of all firms in a market. It is calculated by squaring the market shares of all firms in a market and then summing the squares as follows:

$$HHI = \sum_{i=1}^{n} (Msi)^2$$

where MS represents the market share of firm I and there are n firms in the market. The HHI gives much heavier weight to firms with large market shares than to firms with small shares as a result of squaring the market shares. This feature of the HHI corresponds to the theoretical notion in economics that the greater the concentration of output in a small number of firms, the greater the likelihood that, other things being equal, competition in a market will be weak.

In contrast, if concentration is low reflecting a large number of firms with small market share s (or low HHI) competition will tend to be vigorous.

Supply side effects such as new entrants to market, barriers to entry, technical barriers and cost of branding have all been identified as additional factors that determine the outcomes of mergers and acquisition.

- Barriers to entry – ease of market entry.
- Technical barriers – what equip is needed to enter the market.
- Branding – in the fast moving consumer goods market (FMCG) market, market participants estimate that between R30 million – R100 million is required to create a meaningful brand.

However this study will be limited to defining market share and market concentration.

Whilst every case the Competition Commission oversees is unique, the European Commission's notice suggests the following evidence may be used in defining the relevant product market:

1. Evidence of substitution in the recent past – what has been customers' response to a forced substitution in the past.
2. Quantitative Tests including Own Price Elasticities and Cross Price Elasticities.
3. View of customers and competitors- the Commission will contact customers and competitors in a case that involves market definition, and will where appropriate ask them to answer the SSNIP test.
4. Marketing studies and consumer surveys – the Commission will look at marketing studies as a useful provider of information about the market. It will scrutinise the methodology followed in a consumer survey in order to ensure that selection of questions were not deliberately made to achieve a favourable outcome.

1.5 Objectives of the study

1. To determine whether guidelines could have been set by the Competition Commission of South Africa and the merging parties (Unilever and Robertsons), prior to the attempt of defining relevant markets.
2. Would the guidelines have assisted in better defining the relevant market?
3. Had both parties used these guidelines could time and money have been saved in reaching an agreement?

1.6 Research Methodology

The dissertation will follow a qualitative approach focusing on the case study analysis of "Unilever" vs. The Competition Commission of South Africa. The Competition Tribunal's decision in allowing the merger to go ahead provided certain interests be divested (Royco and Oxo) will also be examined.

1.7 Limitations

A wealth of information regarding this case - including reports and studies presented by the merging parties - has been documented in the archives of the Competition Tribunal of South Africa (Pretoria) and is open to the general public. However, there is information (not specifically defined) that is confidential to the merging parties and the Competition Commission; and may not be disclosed to any third party.

1.8 Structure of the study

The study will be structured as follows:

Chapter 2 – will provide a theoretical background on competition, defining a relevant market, and calculation of market concentration using the HHI index.

Chapter 3 – is a study of the Unilever/Robertson case, whereby the merging parties and the Competition Commission define relevant markets differently. It includes the Competition Tribunal's views and the case's final outcome.

Chapter 4 – is an analysis of the data relating both to defining relevant markets and market concentration. Interesting patterns relating to the outcome of the case are highlighted.

Chapter 5 – summarises why merging parties and authorities define relevant markets differently. It establishes what can be done to further empower the authorities; and at the same time provide the private sector with the certainty it desires.

1.9 Summary

This practical real life example epitomizes the different views merging parties and authorities have on defining a relevant market. The case assists us in understanding why this is so and engages us in thought of how, if at all, the system can be improved.

CHAPTER 2: MERGERS AND ACQUISITIONS

2.1 Introduction

Mergers and Acquisitions are a means of corporate expansion and growth. They are not the only means of corporate growth, but are an alternative to growth by internal and organic capital investment. The terms "merger", "acquisition" and "takeover" are all part of the mergers and acquisitions parlance. In a merger, the corporations come together to combine and share their resources to achieve common objectives. The shareholders of the combining firms often remain as joint owners of the combined entity. An acquisition resembles more of an arms-length deal with one firm purchasing the assets or shares of another, and with the acquired firm's shareholders ceasing to be owners of that firm. In a merger a new entity may be formed subsuming the merging firms, whereas in an acquisition the acquired firm becomes the subsidiary of the acquirer.

A "takeover" is similar to an acquisition and also implies that the acquirer is much larger than the acquired. Where the acquired firm is much larger than the acquirer, the acquisition is referred to as a "reverse takeover".

The immediate objective of an acquisition is self-evidently growth and expansion of the acquirer's assets, sales and market share. However this merely represents an intermediate objective. A more fundamental objective may be the enhancement of shareholders wealth through acquisitions aimed at accessing or creating sustainable competitive advantage for the acquirer.

Mergers and acquisitions focus on the well being of shareholders (through wealth maximisation) and the immediate effect on employees due to the merger. However, there are wider constituencies than simply these two groups. One of these parties is the consumer. What effect will a merger have on competition?

2.2 Why do Companies Merge?

Whilst these are generic reasons for mergers and takeovers they clearly summarise the reasons behind corporates merging.

2.2.1 Sources of Gains in M&A's

A. Strategy

1. Develop a new strategic vision
2. Achieve long-run strategic goals
3. Acquire new capabilities in industry
4. Obtain talent for fast-moving industry
5. Add capabilities to expand role in a technologically advancing industry.
6. Quickly move into new products, markets
7. Apply a broad range of capabilities and managerial skills in new areas.

B. Economies of scale

1. Cut production costs due to large volume
2. Combine R&D operations
3. Increased R&D at controlled risk
4. Increased sales force
5. Cut overhead costs
6. Strengthen distributions systems

C. Economies of scope

1. Broaden product line
2. Provide one-stop shopping for all services
3. Obtain complementary products

D. Extend advantages in differentiated products

E. Advantages of size

1. Large size can afford high-tech equipment
2. Spread the investment in the use of expensive equipment over more units.
3. Ability to get equal discounts
4. Better terms in deals

F. Best Practices

1. Operating Efficiencies (improve management of receivables, inventories, fixed assets, etc).
2. Faster tactical implementation
3. Incentives for workers – rewards
4. Better utilization of resources

G. Market Expansion

1. Increased market shares
2. Obtain access to new markets

H. New Capabilities, managerial skills

1. Apply a broad range of capabilities and managerial skills in new areas.
2. Acquire capabilities in new industry.
3. Obtain talent for fast-moving industries.

I. Competition

1. Achieve critical mass early before rivals
2. Preempt acquisitions by competitors
3. Compete on EBIT growth for high valuations

J. Customers

1. Develop new key customer relationships
2. Combined company can meet customers demand for a wide range of services.

K. Technology

1. Exploit one another's technological advantage
2. Add new R&D capabilities
3. Add new key patent technology
4. Acquire technology for lagging areas.

L. Adjust to industry consolidation activities

1. Eliminate industry excess capacity
2. Need to cut costs

N. Shift in product strategy

1. Shift from overcapacity area to area with more favourable sales capacity.
2. Exit a product area that has become commoditised to area of speciality.

P. Globalisation

1. International competition – to establish presence in foreign markets and to strengthen position in domestic market.
2. Size and economies of scale required for effective global competition
3. Growth opportunities outside domestic market
4. Diversification
    a. Product Line
    b. Geographically – enlarge market
    c. Reduce systematic risk
d. Reduce dependence on exports
5. Improve distribution in other countries
6. Political/economic stability

a. Circumvent protective tariffs
b. Political/economic stability
c. Government policy
d. Invest in a safe, predictable environment
e. Take advantage of common markets

7. Relative exchange rate condition

Table 2.1: Sources of Gains in M&A's

Source: Weston JF & Weaver SC (2001)

2.3 The Significance Of Competition

1. Competition serves the consumer – it operates regularly to protect him against extortion. If the quality of the product offered by one producer is low, the quality of that offered by another may be high. If the price charged by one producer is high, that asked by another may be low. The consumer is not at the mercy of the one as long as he has the alternative of buying from another.
2. "Competition operates affirmatively to enhance quality and reduce price" (Wilcox 1970). The producer who wishes to enhance his profits must increase his sales. To do so he must offer the consumer more goods for less money. As he adds quality

and subtracts from price, his rivals are compelled to do the same. The changes that he initiates soon spread throughout the trade. Every consumer of its products gets more and pays less.

3. Competition is conducive to the continuous improvement of industrial efficiency. "It leads some produces to eliminate waste and cut costs so that they may undersell others. It compels others to adopt similar measures in order that they may survive. It weeds out those whose costs are high and thus operates to concentrate production in the hands of those whose costs are low" (Wilcox 1970).
4. Competition makes for material progress. It facilitates the introduction of new products. It speeds up innovation and communicates to all producers the improvements made by one of them. Competition is cumulative in its effects. When competitors cut their prices, consumers buy more goods, output decreases and unit costs decline. The lower prices compel producers to seek still further means of cutting costs. The resulting gain is efficiency and the increasing pushing to the boundary of technology to open the way for still lower prices.
5. Merger is the most obvious route to dominance, and merger policy is the most systematic branch of policy against its acquisition. The merger however, should be subject to investigation if it appears that it may jeapordise competition. If it is found not to threaten competition, it should be allowed. In short, competition should be the prime consideration when determining whether a merger should progress or not.

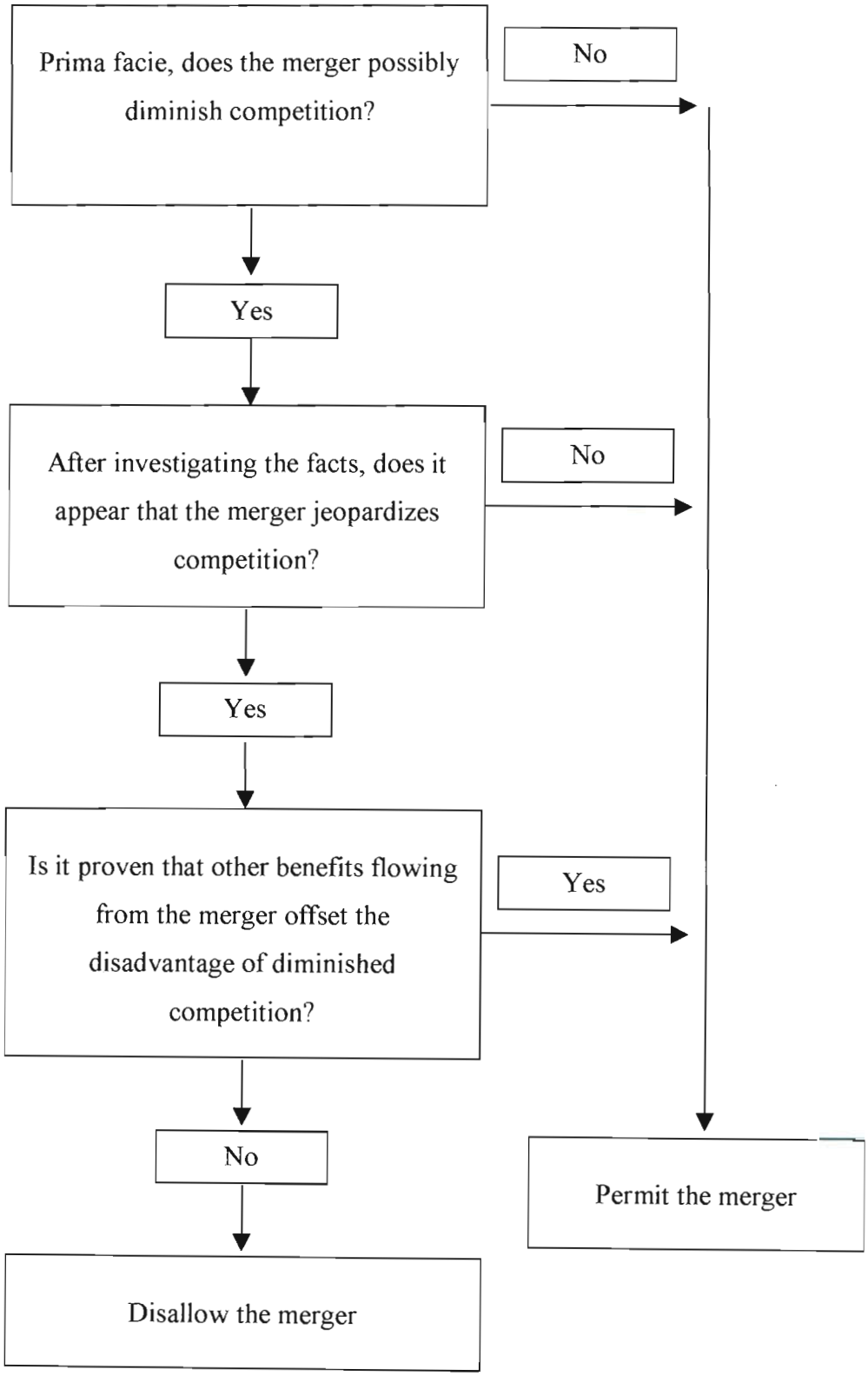

Figure 2.1: Flowchart for Disallowing/Permitting a Merger

Source: Modern Competitive Analysis (Oster, 1990)

2.4 Perfect Competition

2.4.1 Introduction

"A market in which no buyer or seller has market power" (Schiller; 2000).

"... all goods and services have a price and are traded on markets" and that "... no firm or consumer is large enough to affect the market price" (Samuelson and Nordhaus; 1998).

2.4.2 Number and Size of Firms

Within the market structure of Perfect Competition, firms sell a standardised product with no ability to influence the industry price and the consequence of this is that there are normally a large number of small firms that make up this market. Each firm has only a very small percentage of the market and can thus only sell their product at the current market rate. The firms that make up this market are small by nature in relation to the size of the overall market.

2.4.2.1 Cost and Demand Conditions

Due to the nature of the Perfect Competition market, no firm has the ability to influence the price of the product being sold and thus needs to match carefully the demand for the product with the ability to sell the product and the cost of producing that product. In perfect competition, no matter what the volume of the product being produced, it can only be sold at the current market rate. According to Schiller (2000: 459), "the equilibrium price is established by the intersection of market demand and market supply". "The demand curve as faced by the perfectly competitive firm is horizontal or perfectly elastic" (Brook; 2001).

The cost of the product is the total cost divided by the output and as long as the average revenue earned exceeds the average costs of the product then the firm is earning a profit and can remain in business.

2.4.2.2 Nature of Products

The perfectly competitive industry produces a homogenous or standardized product that means that the consumer cannot differentiate between products produced by different firms. The products have identical features and consumers are willing to pay the market price for the product produced by any firm.

2.4.2.3 Conditions of Entry

The perfectly competitive market is characterised by no barriers to entry and to exit. As long as profits are being made, firms will enter the market to maximise profits but by doing so, they will drive down the price of the product and this will result in either a breakeven scenario or a loss scenario at which time, they will exit the market. The mentioned scenarios are according to Schiller (2000), reached "if the losses from continuing production exceed fixed costs". The only manner in which to survive this type of competition, is to lower the average cost curve thus producing the product at a lower cost than the competition is able to and this can be achieved by the use of technology.

2.4.2.4 Degree of Regulation

There is almost no direct regulation in the perfectly competitive market and only the forces of supply and demand regulate the market.

2.4.3 Decisions about Pricing and Output

Regardless of how much output is produced by a firm, the market price of the product being sold remains at the current market price. The consequence of this is that the decision on pricing is left to the market to decide. The firm does however have to make the decision on how much output to produce and this decision is driven by the rule of profit maximisation which according to Schiller (2000), states "Never produce a unit of output that costs more than it brings in". To arrive at the correct decision, the firm will have to determine its production levels and how an increase in production will affect the costs as well as the revenues. To do this the firm will have to look at the marginal revenue which is the "change in total revenue that occurs when output is increased by 1 unit to calculate marginal revenue, the total revenues received

before and after a 1-unit increase in the rate of production are compared. The difference between the two totals equals the marginal revenue" (Schiller, 2000).

As firms within the perfectly competitive market are price takers, they will maximise their profits in the short-run but as more firms enter the market, the price will be driven down and they will over the long-run reach a breakeven or loss scenario. Unless they have the technology to drive down their average cost curve, they will have to exit the market and this is primarily due to the fact that they have no ability to influence the market price at any given time as they can only sell their product for the current market price.

2.4.3.1 Investment

As this is a long-term decision made well in advance, the decision made could in the end result in misfortune or bad luck but the decision also involves the short-term decision of investing in, or exiting a market and is thus one that would be carefully considered. If the costs of operating a plant or remaining in a market exceed the average revenues, then the firm will have to make this decision based on the economic realities that prevail in the market at the time. The decision could, however, involve making a plant idle or closing it down completely. Similarly, if the price and demand for a product is on the increase, the decision could be about investing in the market, i.e. building, buying or leasing a new plant to satisfy market demand.

Within the perfect competition market, the decision made will centre on the ability of the firm to increase production at the lowest average cost per unit of production and in so doing remain profitable. The long-term investment decision is thus dependent on the short-term production ability of the firm to make the best possible use of the fixed inputs that occur.

2.4.3.2 Marketing and Product Design

In the perfect competition market, the consumer cannot differentiate one firm's product from another firm's as the products produced are homogenous or standardised and the role therefore of marketing is minimal. Due to the maximisation of profits that characterise a perfectly competitive market, no large amount can be used to fund

an advertising campaign that would add to the Total Average Costs of the units produced.

2.4.4 Profitability

The rules that govern profitability within a perfect competition market are according to Stacey Brook, (2001), as follows:

If Price > Average Total Costs then the firm is making a profit. If the Average Total Cost curve is below the demand curve at any point then the firm is making a profit.

If Price < Average Total Costs then firm is making a loss. If the Average Total Cost curve is above the demand curve at every point then the firm is making a loss

If Price = Average Total Costs then firm is making zero profit. If the Average Total cost curve is resting on the demand curve then the firm is making zero profit

To increase profit, the firm has to either lower the total average cost per unit or increase the price of the product. As increasing the price of the product is not possible within the perfectly competitive market, the only option is to reduce the average total cost per unit and this can be accomplished by the use of technology.

2.4.4.1 Rate of Innovation

As the products being produced are homogenous, the rate of innovation is low. If one firm produces a product where demand is acute, then others will follow by copying the product and entering the market. The rate of innovation therefore only applies to the first firm to produce the item and thereafter ceases to exist as more and more firms enter the market to make a profit by copying the product in demand.

2.5 Monopolistic Competition

2.5.1 Introduction

"Monopolistic competition refers to a market structure that is a cross between the two extremes of perfect competition and monopoly. The model allows for the presence of increasing returns to scale in production and for differentiated (rather than homogeneous or identical) products" (www.internationalecon.com).

"A market in which many firms produce similar goods or services but each maintains some independent control of its own price" (Schiller; 2000).

2.5.2 Number and Size of Firms

In this market, there are many smaller firms with the possibility of free entry and exit in response to profit. These firms supply slightly different products from those supplied by a competitor.

2.5.2.1 Cost and Demand Conditions

In this market, if the price of one firm's product were to rise, some consumers would switch their purchase to another product from another firm within the same industry and would thus face a downward sloping demand curve for its product. The position of the demand curve would however depend upon the characteristics and the price of the product in relation to alternative and substitutable products produced by the competitor firms. (www.internationalecon.com).

In the Monopolistic Competition market, there are also economies of scale to be found in the production of products. This means that there is a downward sloping average cost curve. The average costs fall when a firm increases its output, which means that the costs per unit falls with an increase in the scale of production that is similar to the situation found in a monopoly market

2.5.2.2 Nature of Products

According to Schiller (2000), product differentiation is: "features that make one product appear different from competing products in the same market".

The outputs produced by firms within the monopolistic competition market are differentiated from one another and the consumer is aware of this differentiation. The demand curve is downward sloping due to this differentiation

2.5.2.3 Conditions of Entry

In this market, there is free entry and exit of firms, driven by profits. As in the perfect competition market, if there are profits to be made, many firms will enter the market that will cause the price to fall and once the firms start making losses, they will drop out of the market. The long-run profits for firms in this market tend towards zero.

2.5.2.4 Degree of Regulation

As in the perfect competition market, there is not much regulation in the monopolistic market and the low barriers to entry that characterise this market help keep the industry regulated by the economics prevailing in the market at the time, i.e. the markets regulate themselves as any firm that increases its price too much will be punished as consumers move to alternative products.

2.5.3 Decisions about Pricing and Output

"...production decision is similar to that of a monopolist. Both types of firms confront downward-sloping demand and marginal revenue curves. To maximise profits, both seek the rate of output at which marginal revenue equals marginal cost" (Schiller; 2000).

As the firm's output is differentiated, there is some scope for increasing the price but as this market contains substitutable products, consumers will switch to alternative products within the same industry that are cheaper. There are also economies of scale to be found within production and by increasing production, the total average cost per unit can be reduced which means that each product is produced more efficiently and this reduction in cost is passed onto the consumer as profit is forced to zero for each firm (www.internationale.com).

2.5.3.1 Investment

As with the perfect competition market, the decision investment made will centre on the ability of the firm to increase production at the lowest average cost per unit of production and in so doing remain profitable. The long-term investment decision is thus dependent on the short-term production ability of the firm to make the best possible use of the fixed inputs that occur.

2.5.3.2 Marketing and Product Design

Due to the competitive nature of the market with product differentiation being part of the characteristic of the market, marketing and product design forms one of the most important aspects of competing in this market. As the firms do not compete on price, they "engage in non-price competition of which advertising is the most prominent" (Schiller; 2000).

To entice consumers to the firms product, firms spend heavily on advertising and this tends to lead to resource misallocation which causes the price of advertised goods to be more expensive to the consumer than those produced by smaller competing firms. The advertising does however install within the consumer a sense of awareness about the product and the hope is that the consumer will continue to use the product even if it is more expensive than the less advertised product.

Methods used by firms to entice consumers to their products include:

- Advertising – this is used extensively by the firms to differentiate the product and is used to convince consumers that the product is worth the extra price
- Brand Names – the consumer becomes familiar with a particular product from a particular firms and continues to support that product
- Packaging – can be used to attract the consumer to the product
- Design changes – slight changes and improvements to a product could cause the consumer to switch to the newer version
- Services – besides the product, firms offer additional value-add to the product and this could include a guarantee or warranty on the product

2.5.4 Allocative Efficiency

In monopolistic competition, allocative efficiency is not achieved as consumers pay a higher-than-competitive-price and obtain a less-than-optimal-output. Simply put, consumers pay more than they should for a product and this is directly related to the misallocation of resources within this market caused by excessive advertising and brand building.

2.5.4.1 Profitability

Under monopolistic competition, firms have control over price of their product. In the short-run they can earn an economic profit however, over the long run, profits for this market are zero as new entry shifts the firm's demand downward and eliminates economic profit. The firms can however entice consumers to their product by adverting or by changing or modifying the product that will yield excess profits especially if the improvement to the product is significant.

2.5.4.2 Rate of Innovation

Under monopolistic competition firms have an incentive to develop new products, improve existing products and differentiate their products by adverting, packaging and design. The rate of innovation within this market is therefore quite high as each firm seeks to outdo the competition and make excessive profits by delivering to the market, a new or improved product.

2.6 Monopoly

2.6.1 What Is A Monopoly?

An industry where there is a single supplier of a good or service that has no close substitutes and in which there is a barrier preventing new firms from entering is a monopoly. In practice the boundaries of an industry are arbitrary, and the determination of monopolies is a long and costly business for institutions such as the Competition Commission.

An important feature of monopoly is that there will be barriers to entry. These may include:

- Legal barriers e.g. law, licence or patent restrictions
- Natural monopoly e.g. a unique source of supply of a raw material or economies of scale
- Economies of scale
- Production differentiation and brand loyalty
- Ownership of wholesale and retail outlets
- Mergers and takeovers

- Aggressive tactics and intimidation

2.6.2 Demand and Revenue in Monopoly

Since in a monopoly there is only one firm, the demand curve facing the firm is the demand curve facing the industry. The demand curve is the average revenue curve and a downward sloping average revenue curve will also mean the firm facing a downward sloping marginal revenue curve. This is shown in the diagram below.

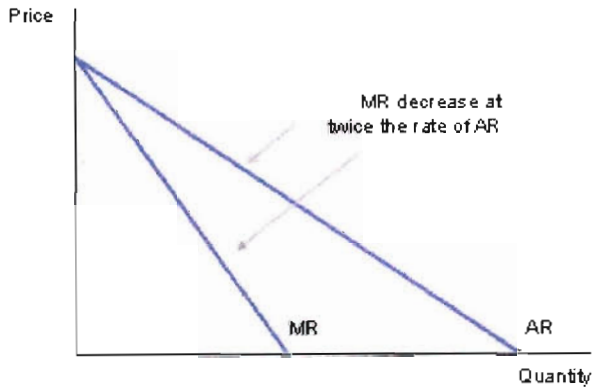

Figure 2.2: Average Revenue/Marginal Revenue Relationship

Source: www.bized.ac.uk

It is important to notice that the marginal revenue curve is below the demand curve (average revenue). Why is marginal revenue less than price? Because when the price is lowered to sell one more unit, there are two opposite effects on revenue. The lower price results in a revenue loss but the increased quantity results in a revenue gain.

When marginal revenue is positive total revenue is increasing. When marginal revenue is negative total revenue is declining. When marginal revenue is zero total revenue is at a maximum.

2.6.2.1 Revenue and Elasticity

We have already established a connection between elasticity of demand and the effect of a change in price on total revenue. If demand is elastic total revenue increases when the price falls. If demand is inelastic, total revenue decreases when price falls. The output range over which total revenue increases when price decreases is the same as that over marginal revenue is positive. Thus the output range over which MR is positive is also the output range over which demand is elastic.

2.6.3 Equilibrium Price and Output

Although the monopolist is a price maker and can choose which price to charge, it is still constrained by the demand curve. A monopolist (like a perfectly competitive firm) will maximize profits where MR = MC. The supernormal / economic profit is shown in the diagram below.

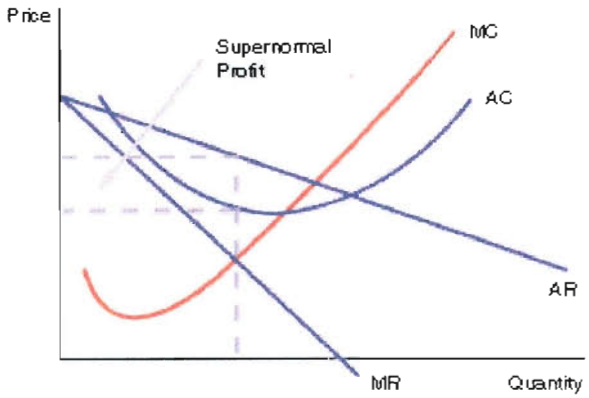

Figure 2.3: Equilibrium Price and Output

Source: www.bized.ac.uk

The supernormal profit per unit is the difference between the average revenue and average cost. To get the total supernormal profit you then multiply by the output produced. This amount is equivalent to the area in the above diagram.

2.6.4 Monopolists and Price Discrimination

Price discrimination is the practice of charging some customers a higher price than others for an identical good. Price discrimination increases a monopolist's profits by increasing its revenue. Three conditions are necessary.

1. The firm must be a price setter.
2. Markets must be separate, with no leakages. That is consumers in the low price market must be able to resell the good or service in the higher priced market.
3. Demand elasticity must differ in each market. The firm will charge a higher price in the market where demand is less elastic, and thus less price sensitive.

2.6.5 Comparing Monopoly and Competition

- Monopoly charges a higher price and produces a lower quantity than under competition
- Monopoly prevents some of the gains from trade so is less efficient than competition
- Monopoly reallocates surplus from the consumer to the producer
- Monopoly may be more efficient than competition where economies of scale or scope are available

Competition policy creates a healthy business environment that is conducive to competitiveness and economic growth.

2.7 The Guidelines of Foreign Competitive Authorities

In the interest of transparency and predictability especially where statutes are silent and ambiguous on the subject, foreign competitive authorities issue guidelines on the mechanisms they employ to identify the market in which alleged anticompetitive actions and transactions are taking place. They all accept that such relevant markets consist of at least a product and a geographic component.

Although there are discernible differences between them, all the guidelines accept that the relevant product market is delineated by determining the likely buyer response to a "small but significant and non transitory" price increase (usually in the range of 5-10%) imposed by a hypothetical monopolist. If in response to a price increase, buyers would switch to products outside the initially identified market in sufficient numbers to discourage the hypothetical monopolist from raising prices, the initially identified market would have been drawn too narrowly and must be extended to include other products that can be regarded as acceptable substitutes for the initially identified product.

A similar process is used to identify the relevant geographic market, except that in this case the object of the exercise is to "demarcate the area within which the buyers would be prepared to seek alternative sources of supply of the product whose price has been increased by a small but significant amount by the hypothetical monopolist" (Greenhut;1987).

The concept of elasticity of demand is of crucial significance in this process. It can be defined as "the ratio of the percentage change in price that induced the quality change. A high elasticity of demand for a product or group of products indicates that good substitutes exist. It is accordingly unlikely that the initially identified product market would be the correct market for the purposes of competition law analysis" (Greenhut; 1987).

On the other hand, a low elasticity of demand would indicate that the substitutes under consideration are inappropriate, with the result that the initially identified product market could be accepted as the relevant market.

2.7.1 United States Competition Law

In defining the relevant product market, courts in the United States have traditionally taken two factors into account:

The first of these is the extent to which the defendant's product is "interchangeable" in use with possible alternative products as argued in Bacchis Industries Inc vs. Arvin Industries Inc (Werden, 1998).

The second is the cross-elasticity of demand test between the defendant's product and supposed substitutes for it. The "interchangeability" test is relatively mechanical in its application. Determining cross-elasticity of demand between products is a much more abstract process which is based more on economics than law. As stated in Allen Myland Inc v International Business Machines Corp (Werden, 1998) "the key test for determining whether one product is a substitute for another is whether there is cross-elasticity of demand between them, in other words, whether the demand for the second good would respond to changes in the price of the first"

2.7.2 The European Commission Competition Law

The EU competition policy is one of the means to pursue the overall objective of a unified common market between member states. Competition policy is thus complementary to policies that abolish institutional obstacles to trade between members such as tariffs and quotas. Its purpose is to ensure that private parties do not frustrate market integration by way of anti-competitive practices. Competition is seen

as being essential to securing the aims of the treaty of Rome (3f) calling for the "institution of a system ensuring that competition is not distorted"(http://europa.eu.int).

The main provisions of the EU competition law are articles 85 + 86 of the Treaty of Rome.

Article 85 prohibits and declares void agreements and concerted practices which have the object or effect of preventing , restricting or distorting competition within the EEC and which effect trade between member states.

Article 86 of the Treaty is concerned with market dominance. It considers "any abuse by one or more undertakings of a dominant position within the common market or a substantial part of it... in so far as it may affect trade between member states, such abuse may in particular consist in:

(a) Directly or indirectly imposing unfair purchasing or selling prices or other unfair trading conditions.

(b) Limiting production, markets or technical development to the prejudice of the consumers.

(c) Applying dissimilar conditions to equivalent transactions with other trading parties, thereby placing them at a competitive disadvantage.

(d) Making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts" (http://europa.eu.int).

2.8 Market Definition and Market Shares

Competition authorities attach great importance to market share figures in anti-trust proceedings involving market dominance. Perhaps the most famous statement of all about market shares is Judge Leaned Hands opinion in the Alcoa case in 1945 when he declared that a share of more than 90 percent is "enough to constitute a monopoly, it is doubtful whether 60 to 64 percent would be enough and 33 percent is not" (Werden, 1998).

Judgments relating market shares to market power make market definition of the essence. Thus Merkin and Williams (1988) in their recent text on competition law write "Generally, the more narrowly the market is defined, the easier it becomes to conclude that a firm has a dominant position... However the possibility of dominance becomes increasingly remote as the market is widened. Obviously, structuralist economists are more willing to use narrow definition than those who are more confident in the robustness of the competition process" (Werden, 1998).

On theoretical grounds the scope given to a market area will be different depending on whether the antitrust authorities adopt the "demand side" or the "demand and supply side approach".

The European authorities are usually more concerned with the demand side approach. According to a notice adopted by the Commission in 1997: "A relevant product market compromises all those products and or services which are regarded as interchangeable or substitutable by the consumers, by reasons of the products characteristics, their prices or intended uses" (http://europa.eu.int).

The supply side substitution will only be taken into account in the market definition "if its effects are equivalent to those of demand substitution in terms of effectiveness and immediacy" (http://europa.eu.int).

According to the demand side approach used by the European Commission, three questions have to be asked when defining the group of products comprised in a relevant market.

The first concerns what Fischwick (1986) calls the "functional interchangeability" of the candidate product in the relevant market. The antitrust authority has to decide if a product A has the physical or technical properties enabling it to fulfill the same function as the product B supplied by the parties to the merger. In the case of a positive answer, the second question involves analysing their "reactive interchangeability". In the case of a modest price increase of B, would the consumer react by buying product A?

The third question concerns the presence of barriers to substitution. A will not be considered as belonging to the same market as B if it is too difficult to transfer the purchases from B to (particularly if the buyer have to spend the same money on a new investment to use A or if this close substitute is not so well distributed as B, forcing the consumers to endure higher transport costs).

The conventional measure of the degree of demand substitutability between 2 products in their cross-elasticity of demand "The cross-elasticity of demand for product x with respect to the price of product Y is defined as the proportional change in the demand for X divided by the associated proportional change in the price of Y. It is well worth noting that t the price of Y may differ substantially from the cross-elasticity of Y with respect to the price of X" (Hay & Vickers, 1990). This makes it awkward to define markets in terms of cross-elasticity for it could happen that X is in the same market as Y but not vice versa.

"Laboratory simulation being impossible in the economic field, the concrete application of this procedure proves to be all the more difficult since the regulatory authorities must very often make their decisions without always benefiting from sufficient information. Most often it is impossible to collect valuable data for a sufficient period of time"(Hay & Vickers, 1990). One must however recognise that the high market shares of the parties calculated on such narrow markets have not, in all cases, led the Commission to consider the submitted merger as being incompatible with the Common Market. Very often the potential competition from firms located either within or outside the community has been taken into account in accepting the merger.

2.9 The Marshallian Own Elasticity of Demand

The concept of demand in modern economic theory owes much to Alfred Marshall and generally follows conventions he adopted in his 1890 Principles of Economics. A Marshallian demand curve indicates for a product or group of products, the quantity that will be purchased at each price, holding constant the prices of all other goods, nominal income and consumer tastes.

As the price of a product changes, there is said to be a movement along its demand curve or an increase (decrease) in its quantity demanded. The effect on demand of changes in prices of other goods, nominal income or tastes is termed a shift in the demand curve or an increase (or decrease) in demand.

Marshall also introduced the Law of Demand that states that consumers will purchase less of a product the higher the price. In geographical terms this means both demand curves and inverse demand curves slope downward as one moves from left to right.

Another of Marshall's important contributions to the theory of demand was the concept of elasticity of demand, or more precisely, own price elasticity of demand.

The elasticity of demand for a product indicates the responsiveness of its quantity demanded to a change in its price. Specifically, the own-price elasticity of demand for a product is the proportionate change in its quantity demanded divided by the proportionate change in price that induced the quantity change.

$$\frac{\text{Change in Quantity}}{\text{Quantity}} = \frac{\text{Change in Price}}{\text{Price}}$$

Table 2.2: Price Elasticity of Demand

Marshall's Law of Demand implies that a price change induces a quantity change that is opposite in sign, a price increase causes a quantity decrease and a price decrease causes a quantity increase.

Elasticity of demand can be measured either at a single point, yielding a point elasticity or measured between two points yielding an arc elasticity. At a given point, demand is said to be elastic if its elasticity exceeds one, demand is said to be inelastic if elasticity is less than one, and demand is said to be unitary elastic if its elasticity is one exactly. Since elasticity of demand indicates how quantity changes relative to price, it also indicates how total revenue price multiplied by quantity sold changes on price changes.

If demand is elastic, a price increase decreases revenue, if demand is inelastic a price increase increases revenue, and if demand is unitary elastic revenue is unaffected by a change in price.

The model of the monopoly is central to the notion of market power in economics. A monopolist is the supplier of a product with neither perfect nor even close substitutes. In the real world this means that substitutes are sufficiently distant that, as the monopolist changes price or quantity it reasonably ignores any feedback effects, i.e. effects on its demand curve caused by changes in the prices of other products in response to changes in its own price. A monopolist adjusts price or quantity to achieve maximum profit. Quantity will be decreased to the point at which any incremental decrease in output decreases revenue by just as much as it decreases costs. In economics terminology, profit is maximised at the point at which marginal revenue = marginal cost.

"Denoting the elasticity of demand by E and the price by P, marginal revenue can be expressed as (1-1/E). Denoting marginal cost by c using (1-1/E) for marginal revenue, and rearranging terms yields" (Werden; 1998).

$$\frac{P - C}{P} = \frac{1}{E}$$

Table 2.3: Marginal Cost Equation

Werden states that the competitive firm maximises profit just as the monopolist, but it faces a different demand curve. The competitive firm is a price taker, it can sell at the market price all it can produce, but it cannot affect that price by changing its output. Thus, the competitive firm faces an infinitely elastic demand curve throughout the relevant range – i.e. a demand curve that is a horizontal line. The marginal revenue for the competitive firm is just the market price. The condition for profit maximisation is that marginal revenue – price – equals marginal cost.

The economic definition of market power means of course that the possession of market power is the rule rather than the exception; the majority of firms have at least a little market power. In particular, every seller of a product that is differentiated with respect to any relevant dimension almost certainly has some power. This includes, for example, the corner store that is spatially differentiated from rivals. Even if rivals are only a few blocks away, a small increase in price above the competitive level would not be likely to induce ALL customers to go elsewhere.

Although the concept of market power applies to firms other than monopolists, Marshall's analysis of demand did not. Marshall did not consider the demand curve faces by an individual firm with market power. In the early 1930's, Edward Chamberlain and Joan Robinson independently published papers concerning competition amongst sellers of differentiated products and they introduced the notion of the demand curve faced by the firm.

Sellers of differentiated products are most commonly assumed by economists to engage in Bertrand's competition. Firms engaged in Bertrand competition choose prices non-co operatively to maximise their profits.

The equilibrium with Bertrand competition is a set of prices such that each firm cannot, by changing its price increase its own profits, given its rivals prices. Because rivals prices are, in effect, held constant in the equilibrium concept, the condition for profit maximisation is again the same as that for a monopolist, again with demand elasticity being that for the firm.

"Several things must be kept in mind when drawing inferences from estimated elasticity's. First, market power is proportional to the reciprocal of the elasticity of demand, so in market power term, the difference between elasticity's of 4 and 3 are roughly the same as the difference between demand elasticity's of 1.3 + 1.2.

Secondly, theoretical analysis demonstrates that the elasticity cannot be less than 1 so an estimate elasticity of less than 2 must be considered rather low.

Thirdly, estimates cannot prove the total absence of market power, since a firm still has some market power unless its demand elasticity is infinite and econometric methods can yield large, but not infinite estimates"(Werden; 1998)

2.10 Cross Elasticity of Demand and the Ranking of Substitutes

To this point, only own price elasticity of demand has been considered. Since the quantity demanded for one product may be affected by the prices of all other products it is possible to compute elasticity's with respect to the prices of each other's

products. The cross price elasticity of demand for product I with respect to the price of j is defined as:

$$\frac{\Delta qi}{\Delta pi} \Big/ \frac{qi}{pi}$$

Table 2.4: Cross Elasticity of Demand

If products are substitutes, an increase in the price of one increases the demand for the other, so that they have positive cross elasticity's of demand. If products are complements, an increase in the price of one decreases the demand for the other so that they have a negative cross elasticity of demand.

Since cross elasticity's of demand relate to the classes of substitutes it is only natural to think that cross elasticities of demand can play a useful role in market delineation.

The first substantial effort to base market delineation on cross elasticities of demand appear to have been in economics texts of the early 50's. The concept followed by creeping into case law through footnote 31 of Times-Picayine Publishing Co vs. United States: "For every product substitutes exist. However, a relevant market cannot meaningfully encompass that infinite range. The circle must be drawn narrowly to exclude any other product to which, within reasonable variables in price, only a limited number of buyers will turn, in technical terms, products whose cross elasticity's of demand are small" (Werden, 1998).

In the famous Cellophane case of 1956 the court explained that "an element for consideration as to the cross-elasticities of demand between products is the responsiveness of the sales of one product to price changes of the other. If a slight decrease in the price of cellophane causes a considerable number of customers of other flexible packaging materials to switch to cellophane, it would be an indication that a high cross-elasticity of demand exists between them, that the products compete in the same market" (Werden, 1998).

Using cross-elasticities to delineate markets, the question posed is whether one given product is in the same market with another, and this question can obscure the ultimate issue. Asking whether one given product is in the same market with another imposes a question of symmetry – if A is in the market for B, B must be in the market for A, and

imposing this condition may greatly frustrate a market power analysis. Suppose that a small increase in the price of A induces some substitution to B, but so little total substitution to B and other products, that a hypothetical monopolist over A would raise prices significantly. Suppose also that a small increase in the price of B would induce so much substitution to A and to other products that a hypothetical monopolist over B would not raise prices significantly. Under these circumstances, A is a market by itself but B is not.

One method of ranking substitutes is according to the magnitude of "raw" cross elasticity's of demand, for some base product the cross elasticity's of demand for substitutes with respect to the price of the base product could be used to rank their closeness to the base product. It is doubtful however, that proportionate increases in quantities of substitutes demanded, as indicated by cross elasticity's of demand, are an appropriate measure of relative closeness. A substitute consumed in small quantities could experience a huge proportionate increase in its quantity demanded, even though that increase accounts for only a tiny portion of the total switching away from the base product. The least important substitute could have the highest cross elasticity of demand.

Perhaps the most effective way to approach the issue is to define circumstances in which substitutes are equally close. One possible definition holds that "two substitutes are equally close to a base product when they experience the same increase in unit sales in response to a small increase in the price of the base product" (Reynolds, 1997).

Two substitutes could also be considered equally close to a base product if, when the price of the base product is increased, the increase in unit or dollar sales of both substitutes is in proportion to their relative shares of units. This alternative definition relates to a property of consumer preferences termed by Economists – Independence of Irrelevant Alternatives (IIA), which implies that when the price of one product is increased, substitution to other products is proportion to their relative shares.

2.11 Description of the HHI and its use

Calculating on HHI is a straightforward process once percentage market shares are determined. "The market share of each participant in the market is squared and the resulting amounts are then totaled. Thus the HHI for a market consulting of 3 firms with shares of (50%, 30% and 20% respectively) is the sum of 50^2, 30^2 and 20^2 or 2500+900+800=3800" (Laine; 1995).

Several important properties of the HHI are readily apparent. First the HHI is highly responsive to asymmetry to market share. "For any given number of participants in a market, the HHI will be lowest when market shares are equal, the highest when one firm has an extremely large share of the market" (Rhoades, 1996).

The using a numerical illustration, a market consisting of 3 firms with equal shares has an a HHI of 3333 $(33.3^2)*3=3333$, but a 3 firm market in which one firm has a 99% share would have an HHI of more than 9800 (99^2 =9801). This sensitivity to asymmetry is one of the principal claimed advantages of the HHI. However it is the same sensitivity to asymmetry that caries with it a serious drawback: small errors in estimating the leading firms market shares can produce large differences in HHI. The significance of the error will itself vary according to the size of the shares that are inadvertently overestimated and the shares that are correspondingly reduced.

A numerical illustration will once again be used to illustrate the point. Take an example of a four-firm market where the two leading firms have 40% shares and the other two 10% shares. The distribution would result in an HHI of 3400 ($40^2 + 40^2 + 10^2 + 10^2 = 1600+1600+100+100=3400$).

Now suppose that the market share of one of the leading firms is erroneously estimated as 45% rather than 40%. If at the same time the other leaders share is estimated as 35%, then the HHI is increased only by 50 ($45^2 + 35^2 + 10^2 + 10^2 = 2025+1225+100+100=3450$). However if it is the share of one of the smaller firms that is underestimated, as by assigning that only a 5% share, the HHI increases by 3750 ($45^2 + 40^2 + 10^2 + 5^2 = 2025+1600+100+25$ equaling 3750) thus exceeding its correct value by over 10%.

A second important property of the HHI is that it reflects the shares of every firm in the market. This feature of the HHI is regularly cited as one of the HHI's advantages, although it is beneficial only if assuming each firm's squared market accurately indicating the competitiveness of the market. The fact that the HHI includes every firm is also cited as a potential limitation on its use, given the difficulty of learning smaller market shares, although it is unlikely that fringe firms will contribute significantly to HHI's that are reaching levels of antitrust concern.

A third characteristic of the HHI is that any HHI can be interpreted as a numbers equivalent. This means that one can readily compute the number of firms with equal market shares that would be necessary to produce any given HHI by 0.0001 and taking for example an HHI of 1250 corresponding to a market of eight equal-sized firms, since the reciprocal of .125 (1250 * 0001) is 8.

Conversely to obtain the HHI corresponding to a market with a given number of equal-sized firms, one multiplies the reciprocal of that number by 10000. Accordingly the HHI corresponding to a market of five equal sized firms would be 1/5*10000=2000.This useful property aids in conceptualising the meaning of a particular HHI level.

HHI ranges from a number approaching zero (many small firms and hence NO concentration) to 10000 (a monopoly). Current Competition Commission guidelines suggest that mergers in which the post merger HHI is below 1000 are not concentrated markets. In contrast, a post-merger HHI of 1800 is a concentrated market, for cases in which post merger HHI's are above 1800 the commission will usually attempt to block if HHI increases by at least 50 points.

2.11.1 Competition Policy

"Competition policy creates a healthy business environment which is conducive to competitiveness and economic growth. An increasing number of developing countries have adopted competition policy in recent years" (Theron; 2002).

"At least 37 developing countries and economies in transition already have competition legislation, and another 21 are in the process of revising or adopting such laws (Theron; 2002).

The origins of competition policy in South Africa date back to the Regulation of Monopolistic Conditions Act, 1955 (Act no.24 of 1955). A review of the act in the 1970's found that it had been unsuccessful in preventing a dramatic increase in oligopolies. As a result the Maintenance and Promotion of competition act was passed. The 1979 Act was amended in 1986 to give the competition Board further powers, including the ability to act not only against new concentrations of economic power but also existing monopolies and oligopolies.

In 1995 after three years of consulting with experts and stakeholders, South Africa arrived at a new competition policy framework. In November of 1997, the department of trade and industry released proposed guidelines for competition policy entitled "A framework for Competition, Competitiveness and Development". These guidelines formed the basis for negotiations with the National Economic Labour and Development Council (NEDLAC). A NEDLAC agreement on competition policy was concluded on 20 May 1998. What followed was a 14-week public consultation process that brought into effect the Competition Act, 1998 (Act No, 89 of 1998).

"Because of the challenges that follow from our legacy of economic distortions, a uniquely South African approach to competition is required. That policy must be grounded in the underlying mandate given to the department of industry through political process prior to the 1994 election, and through strategies of governance approved since. The new policy will fuse together these different mandates, by assuring the public that on the one hand competitiveness and efficiency are pursued, and on the other hand that the process will ensure access to many more people previously denied an equal opportunity to participate in the economy" (www.compcom.co.za).

2.11.2 Government's Proposition

- A competition policy integrated with the overall objectives of national policy, as well as the particular objectives of the countries industrial and macro-economic policies.
- A more effective monopoly law directed at anti-competitive conduct, under the direction of an efficient administrative authority.

- A need to review existing securities regulation with principal oversight of corporate structure.
- The need to constantly review the Harmful Business Practices Act which bears principal responsibility for protecting consumer interests.
- Reviewing the competitive interface between public corporations and the private sector.

2.12 The New Competition Act

"The stated purpose of the Competition Act,1998 (Act No.89 of 1998) is to promote and maintain competition in South Africa in order to achieve the following objectives:

- To promote the efficiency, adaptability and development of the economy.
- To provide consumers with competitive prices and product choices.
- To promote employment and advance the social and economic welfare of South Africans
- To expand opportunities for South African participation in world markets and recognise the role of foreign competition in the republic.
- To ensure the small and medium–sized enterprises have an equitable opportunity to participate in the economy
- To promote a greater spread of ownership, in particular to increase the ownership stakes of historically disadvantaged person" (www.compcom.co.za).

Three institutions are created in terms of the act to achieve the above objectives:

1. The Competition Commission
2. The Competition Tribunal
3. The Competition Appeal court.

2.12.1 The Competition Commission

The Competition Commission has a range of functions in terms of Section 21 of the Act. These include investigating anti-competitive conduct in contravention with the act, assessing the impact of mergers and acquisitions on competition and taking appropriate action, monitoring competition levels and market transparency in the economy; identifying impediments to competition and playing an advocacy role in addressing any of these impediments.

According to section 21(1) the Competition Commission is responsible to:

1. Implement measures to increase market transparency.
2. Implement measures to develop public awareness of the provisions of this act.
3. Investigate and evaluate alleged contraventions of Chapter 2.
4. Grant or refuse applications for exemption in terms of Chapter2.
5. Authorise, with or without condition, prohibit or refer mergers of which it receives notice in terms of Chapter 3.
6. Negotiate and conclude consent orders in terms of section 63.
7. Refer matters to the Competition Tribunal and appear before the tribunal as required by this Act.
8. Negotiate agreements with any regulatory authority to co-ordinate and harmonise the exercise of jurisdiction over competition matters within the relevant industry or sector, and to ensure the consistent application of the principles of this Act.
9. Participate in the proceedings of any regulatory authority.
10. Advise, and receive advice from any regulatory authority.
11. Over time, review legislation and public regulation, and report to the Minister concerning any provision that permits uncompetitive behaviour.
12. Deal with any other matter referred to it by the Tribunal" (www.compcom.co.za).

2.12.2 The Analytical Approach

In assessing a merger transaction, the Commission, in terms of section 16 of the Competition Act No.89 of 1998, considered the following factors:

- In assessing any merger transaction, the Commission in the first instance, must determine whether or not the merger is likely to prevent or substantially lessen competition.

- Secondly, should a merger have potential anti-competitive effects, the Commission must establish whether there are any technology, efficiency or other pro-competitive gains that will result from the transaction, which would redeem the substantive adverse impact on competition.

- Thirdly, in assessing any merger transaction, the Competition Commission must also determine whether the merger can or cannot be justified on substantial public interest grounds regardless of whether the merger is likely to substantially prevent or lessen competition.

In taking the points above into account, the Commission must balance issues related to competition with the broader social and economic goals outlined in the Act, such as employment, international competitiveness, efficiency and technology gains as well as the ability of small and medium sized businesses and firms owned or controlled by historically disadvantaged persons to compete.

In addition to the functions listed in subsection (1), the Competition Commission may:

1. Report to the Minister on any matter relating to the application of this Act.
2. Enquire into and report to the Minister on any matter concerning the purposes of this Act.
3. Perform any other function assigned to it in terms of this or any other Act.

2.12.3 Structure of the Competition Commission

The Commissioner is the Chief Executive Officer of the Competition Commission. The Commissioner is appointed for a five-year term and is accountable to the Minister of Trade and Industry and Parliament. Currently the Competition Commission has a staff complement of over 90.

The six divisions in the Commission reflect its core activities:

1. Enforcement & Exemptions
2. Mergers & Acquisitions
3. Compliance
4. Legal Services
5. Policy & Research
6. Corporate Services

2.12.4 The Mergers and Acquisitions Division

The Mergers and Acquisitions Division conducts merger reviews in terms of Chapter 3 of the Act. The division has a staff complement of 13 persons and 3 graduate trainees, which includes lawyers, economists, a forensic accountant and administrative personnel.(www.compcom.co.za)

A merger analysis consists of four broad steps. The Division will investigate whether

- The transaction falls within the jurisdiction of the Commission;
- The transaction is likely to substantially prevent or lessen competition;
- Any anti-competitive effects can be justified on the basis of objectively verifiable evidence of technological or efficiency gains
- The competition effects will benefit or harm public interest, including the effects on employment, the ability of firms owned or controlled by historically disadvantaged persons to compete, the development of particular industries or regions, and international competitiveness
- Both the long-term and short-term effects of the merger are taken into consideration.
- All the above must be balanced against each other to determine whether the merger should be approved, approved subject to conditions or opposed.

2.13 Competition Tribunal

The Tribunal's main functions are to grant exemptions, authorise or prohibit large mergers (with or without conditions) or prohibit a merger, adjudicate in relation to any conduct prohibited in terms of Chapter 2 or 3 of the Act and to grant an order for costs in terms of section 57 of the Act on matters presented to it by the Commission.

The Tribunal is established in terms of section 26 of the Act and has jurisdiction throughout the Republic. It is a tribunal of record and independent from the other competition institutions. The Tribunal is headed by a chairperson appointed by the President of the Republic. In addition the Act requires the appointment of a minimum of three and a maximum of ten Tribunal members, who are also appointed by the President and may be either full-time or part-time, depending on the recommendations of the Minister. Each member of the Tribunal, including the Chairperson, serves for a

term of five years but may be re-appointed for the second term. The Chairperson may not serve for more than two consecutive terms (www.comptrib.co.za).

2.14 Competition Appeals Court

The Competition Appeal Court is established in terms of section 36 of the 1998 Act. It has similar status to that of a High Court. It has jurisdiction throughout the Republic and is a court of record.

The Competition Appeal Court may consider any appeal from, or review of, a decision of the Competition Tribunal; confirm, amend or set aside a decision or an order that is subject of appeal or review by the Competition Tribunal; and give any judgment or make any order that the circumstances require. Finally, the Competition Appeal Court must confirm an order by the Competition Tribunal for the divestiture of assets by parties who have merged in contravention of chapter 3 of the Act.

The members of the Appeal Court are appointed by the State President in accordance with section 174 of the Constitution. The Act requires that at least three members must be judge of the High Court, one of whom must be designated by the President to be the Judge President of the Competition Appeal Court. In addition, two other members, who are South African citizen, have suitable qualifications and experience in economics, law, commerce industry or public affairs, and are committed to the purposes and principles mentioned in Section 2 of the Act.

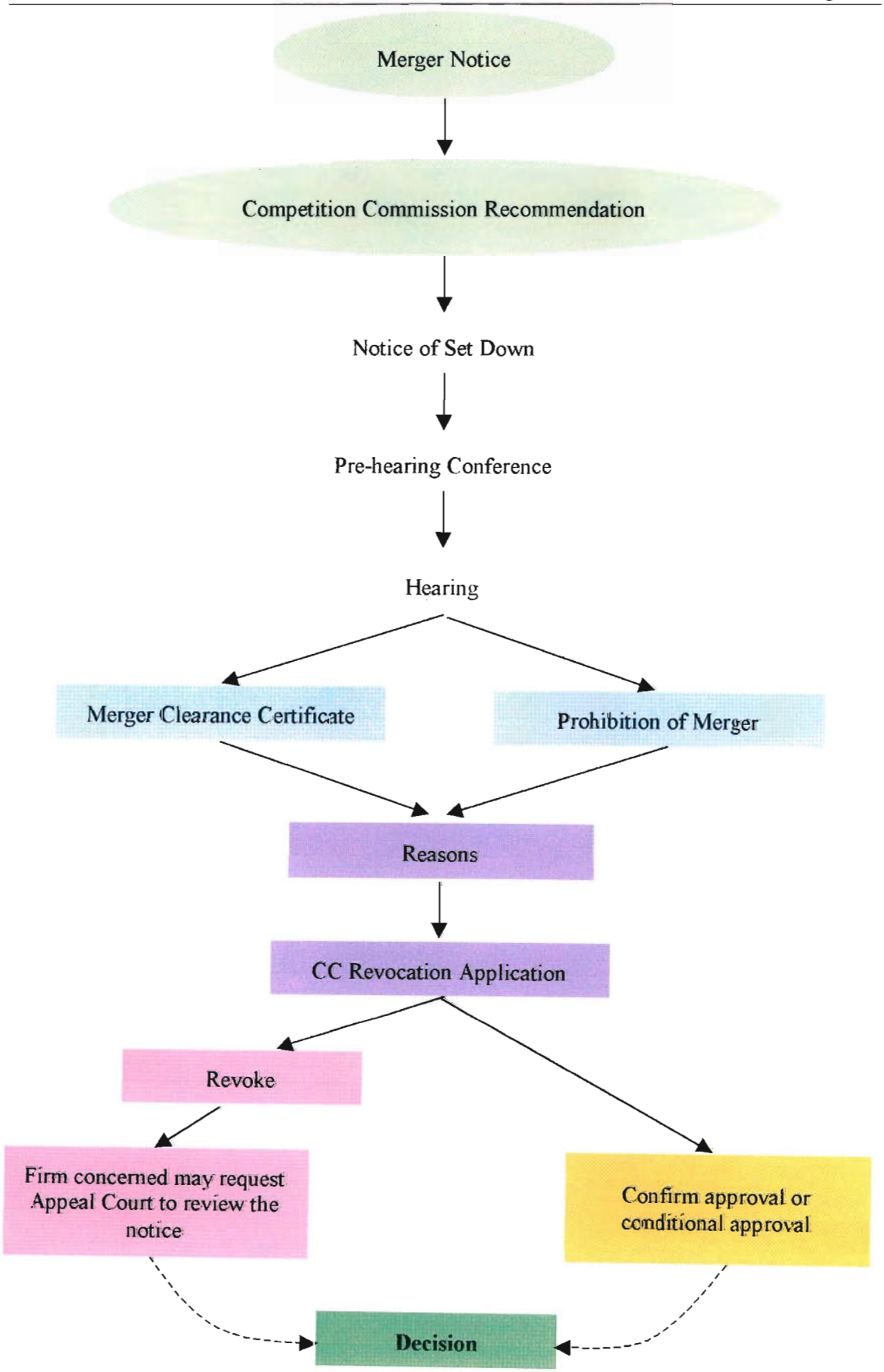

Figure 2.4: Procedures When Applying for a Large Merger

2.15 Conclusion

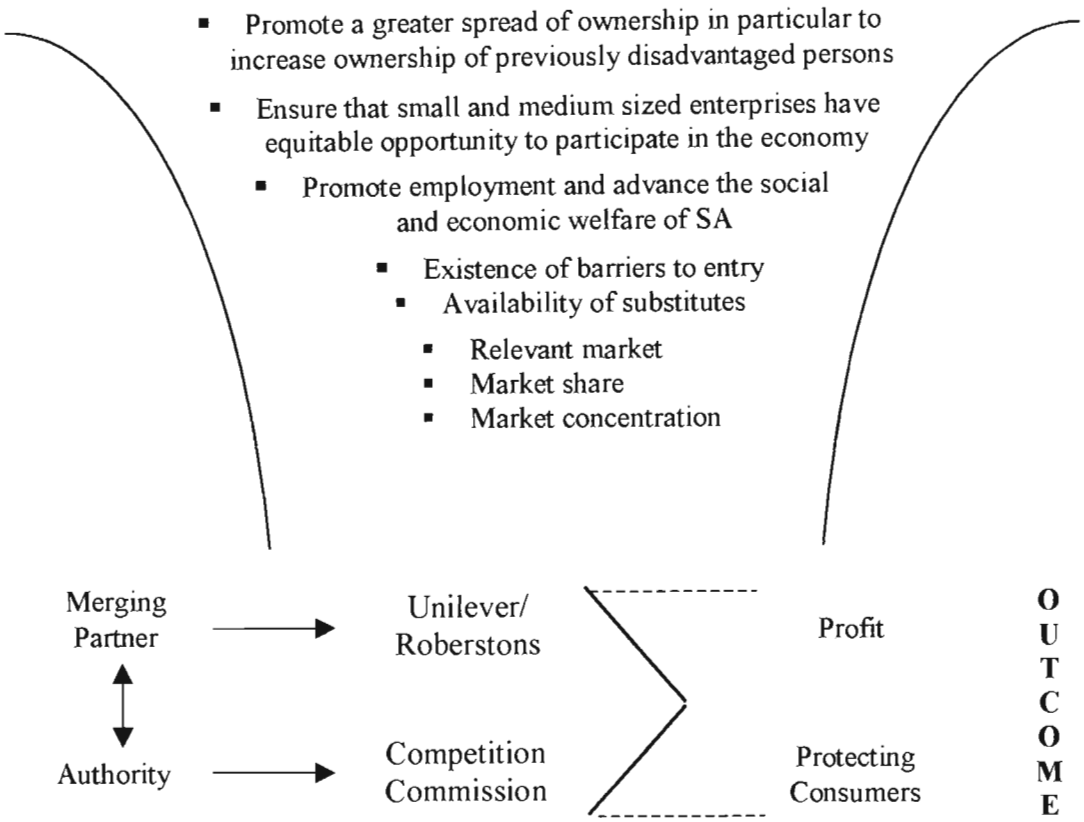

Figure 2.5: Outcome Determination Flowchart

It has been established that whilst there are many peripheral factors to be considered when determining an outcome of a merger, the critical issues according to literature are defining relevant markets, determining market share and calculating market concentrations.

The case below will illustrate the plight of the merging parties (Unilever/Robertsons) to convince the authorities (Competition Commission of South Africa) to define the relevant market in which its products are sold in broader terms. The concept to bear in mind when reading the case is that merging parties and authorities define relevant markets differently because it is in their interest to do so. Merging parties are driven by profit and strive to maximise their shareholders wealth. A major concern to the merging parties is that their merger be rejected by competition authorities. A broader

market allows for more leeway for the merging parties with substantially less chance of the merger being blocked.

The authorities interest lies in protecting the consumer from monopolistic behaviour. A narrower market definition allows the parties for less leeway when determining their products market share in relation to their competitors. A narrower market definition allows for lower risk of monopolistic behaviour that in turn leads to greater protection of the consumer.

The Competition Tribunal is an independent body whose responsibility it is to provide an unbiased judgment on every large merger that takes place in South Africa. The case to follow will illustrate each party's market definitions as well as the Tribunal's final verdict.

CHAPTER 3: FOOD INDUSTRY ON A WORLDWIDE SCALE

3.1 Introduction

The food industry evolution on a worldwide scale may be divided into three periods. From about 1920 to 1945 innovation in manufacturing techniques enabled the establishment of national markets for food distribution. At the beginning of this period, retail concentration was minima and the concept of the chain store was still in its infancy.

The second period, between about 1945 and the 1980's, saw the advent of manufacturing productions on a multinational scale. High transport costs and import substitution policies led to the establishment in many countries of foreign owned manufacturing plants, contributing in turn to the development of supermarket chains in first world as well as third world countries.

In the 80's and 90's companies entered into a period of Globalisation in part due to the globalisation of capital markets and the recognition by consumers of brands on a worldwide scale. Distribution channels have also changed dramatically with the rise and consolidation of one-stop shopping in supermarkets, as well as increased concentration of the retail sector in most countries has been accompanied by the establishment of the multinational retailer.

The trend towards consolidation in the food industry worldwide has been partly due to mergers and acquisitions:

Year	Number of Deals
1993	485
1994	522
1995	529
1996	538
1997	734
1998	813
1999	753
2000	641

Table 3.1: Trend Towards Consolidation

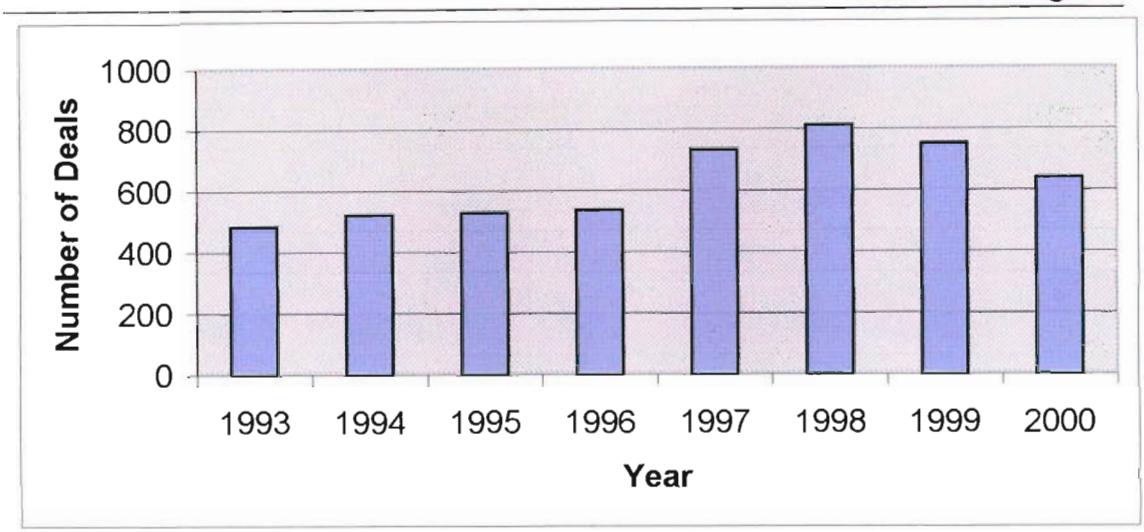

Figure 3.1: Consolidation in Food Industry Worldwide

Mergers in the food industry, including those between processors, retailers, wholesalers and brokers, reached an all-time high in 1998 with 813 significant deals being recorded in the Food Institute survey. The number of mergers and acquisitions have increased every year since 1991 when 365 were reported.

Large mergers to be highlighted include the 1996 merger of Nestle and General Mills. In 2000 Phillip Morris agreed to by Nabisco Holdings for $14.9 billion. In Europe British Food and Beverage Diageo PLC sold its Pillsbury unit to General Mills for $5.4 billion.

3.1.1 Concentration in Food Manufacturing

It is not unusual to find a high proportion of sales of a particular product line being supplied by a small number of manufacturers. This arises from the fact that successful companies tend to get larger and as a result market concentration may increase.

The following table shows the proportion of sales of different product line supplied by the largest three manufacturers in a number of countries. On these definitions the average across all ten countries in 1998 was 68%.

Three Firm Concentration Ratios in Food Product Categories 1998

	Ireland	Norway	Finland	Sweden	Denmark	Italy	France	Spain	UK	Germany	Average
Baby Foods	98	100	100	100	99	96	93[1]	84	78	>96	91
Canned Soups	100	96	95	75	91	>50	84	n/a	79	41[1]	87
Ice Cream	n/a	100	84	85	90	73[1]	82	84	45	72	76
Coffee	91	69	72	71	70	60	100	n/a	74	67	75
Yoghurts	69	100	83[1]	90	99[1]	36	67	73	50	79	70
Chocolate Confectionery	95	75	74	n/a	39	93	61	76	74	n/a	74
Pet Foods	98	n/a	80	84	>40	64[1]	73	83	77	87	79
Breakfast Cereals	92	70	n/a	82	70	68	70	82	65	67	73
Tea	96	61	90	83	84	60	82	62	52	55	72
Savoury Snacks	72	58	70[1]	80	78	71	50	56	73	48	66
Carbonates	85	90	>50	62	n/a	60	68	79	55	60[1]	71
Butter	n/a	100	n/a	n/a	100	n/a	32[1]	n/a	66	<30	66
Pasta	83	64	97	82	61	51	57	65	37	46	65
Frozen Ready Meals	n/a	76	n/a	63	n/a	90	62	39	39	55	62
Wrapped Bread	<65	68	44	47	59	80	70	96	53[1]	9	50
Biscuits	83	67	73	51	44	<55	61	53	42	50	56
Canned Fish	n/a	68	70	72	49	66	43[1]	33	43[1]	n/a	55
Mineral Water	n/a	n/a	100	74	70	37	n/a	31	14	22	50
Fruit Juices	n/a	51	70	60	65[1]	62	26	38	35	46	48
Canned Vegetables	n/a	61	68	47	50	36	29	n/a	n/a	n/a	47
Average	89	79	79	69	69	67	63	61	56	55	68

Source: R. Cotterill (1999) *Continuing Concentration in Food Industries Globally.* Research Report No. 43 Food Marketing Policy Center.

Note: (i) [1] Two-firm,
(ii) [2] Averages are un-weighted

Table 3.2: Background to the New Joint Venture Company in SA

A 3 firm concentration ratio in food product categories in South Africa shows that concentration ratios for a particular narrow product line tends to be high, as is the case in most products and most countries reviewed.

PRODUCT	TOP 3 MANUFACTURERS
Refined Chocolate	97.9
Coffee	95.1
Tea	94.1
Ready to Eat Cereals	91.4
Dry Pasta	91.3
Yoghurt	91.0
Mineral Water	90.9
Canned Vegetables	87.7
Snacks	81.6
Ice Cream	80.1
Canned Soup	80.0
Frozen Prepared Foods	78.2
All Petfoods	64.6
Biscuits excl Rusks	59.0
Pilchards	51.8
Fruit Juices	48.5
Average of the Above (Un-weighted)	80.2

Table 3.3: Concentration Ratios - Food Products

Source: www.europe-economics.com

3.2 Unilever/Robertsons

The case study focuses on the 2002 Merger of Unilever and Robertsons. It will be examined from the viewpoint of the merging parties, and both the Competition Commission and the Competition Tribunal,

Unifoods and Robertsons focus on different socio-economic groups.

Robertson's strength has been built on supplying lower income consumers, whilst Unifood's strength comes from supplying middle to higher income consumers. This is illustrated in the following chart. The grouping used is by LSM (Living Standard Measure) that classifies people by variables such as employment, education and ownership of consumer durables (e.g. television sets and cars). The scale ranges from LSM 1, the lowest socio economic group to LSM 8, the highest.

The chart shows the shares of sales value that each company had in different LSM categories in the 12 months to Feb 2000.

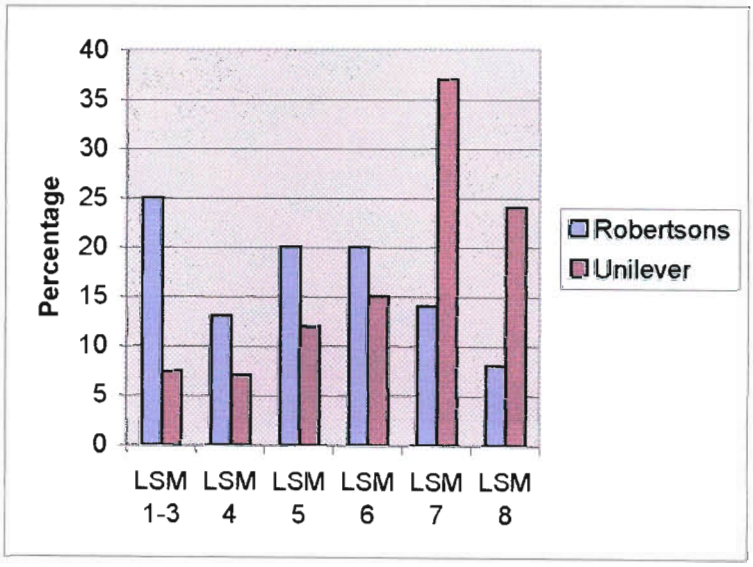

Figure 3.2: Contribution of Total Turnover by Social Group

Source: Titan Economics Report (2001)

3.2.1 Market Definition from the Viewpoint of the Merging Parties

The merging parties have considered a number of alternative ways in which the markets may be defined. There is a body of evidence and reasoning supporting the view that food markets should be broadly defined, since different kinds of foods are substitutable at the stage at which a meal is prepared. The merging parties considered

a narrower market definition based on a categorisation of processed foods according to ways in which consumers are perceived to view the alternatives available to meet particular cooking or meal requirements. Four main categories, two of which are sub-divided are identified giving a total of six functional markets. A third alternative market definition would use the even narrower product lines identified for market research purposes by companies such as A.C.Nielsen.

At one level, almost all food, fresh as well as processed is substitutable. The merging parties identify this not just because an individuals hunger can be satisfied to some extent by any kind of food.

"Potential substitution between food products is generally very large, since before embarking on preparations for a given meal the consumer will often have a range of options. Once the core component of the meal is decided, the remaining ingredients become complements rather than substitutes and the options become narrower. However, this is less relevant for the study of competition than allowing a longer time-scale, in which consumers have an affordable opportunity to adjust their purchase. The question whether supplies have market power must be assessed by references to a longer time scale than is involved in the planning of meals" (Titans Economics Report, 2001).

3.2.2 Functional Market Definitions

Unifoods and Robertsons recognise 4 divisions of the processed food market, on the basis of their observation and interpretation of consumers' use of the various products. The four functional divisions and two subdivisions are:

Cooking Ingredients – comprising "flavour enhances" and more substantial "meal makers"

Flavour Enhancers
Curry Powder
Flavourings
Pepper Salt
Economy Soup
Herbs and Spices
Regular Soup
Stock Cubes

Meal Makers
Curried Vegetables
Chakalaka

Sauces – including different types of sauces, relishes and marinades.

Chutney
Dry Marinades
Dry pour-over sauce
Pickles
Tomato Sauce
Wet marinades
Dry Cook-in Sauce
Dry pasta sauce
Mayonnaise
Salad dressings
Wet Cook-in Sauce
Wet pasta sauce

Ready meals – comprising family and personal meals.

Meal Kits
Instant Noodles
Instant Soups

Flavoured spreads

Cheese Spread
Peanut Butter
Marmite

The merging parties do not claim that there is no likelihood of cross-substitution between these 6 groups, but it is argued that the distinctions between them are sufficiently clear from the consumer perspective that they constitute relevant market definitions.

According to the merging parties the narrow product categories used by the market research firms such as AC Nielsen may also be regarded as relevant markets for these purposes as long as there was little substitutability from one such category to another. In order to resolve the question of the relevant market definition on an objective basis, the quantitative analysis was carried out on both the functional definitions as well as the narrow categories to see what product categories could be established as markets for the purpose of a competition assessment.

3.2.3 Market Concentration

The merging parties argue that it is usual to find a high proportion of the sales of a particular product line are supplied by a small number of manufacturers. This may arise from the fact that successful companies tend to get larger and as a result market concentration may increase. The mere existence of concentrated growth per se is not a cause for concern to competition authorities, it is the misuse of market power that is the real concern for authorities.

Comparison of Product Lines and Brands – Consumer Market

Product line and brand	Sold by Unifood?	Sold by Robertsons?
fats		
cooking oils (bottles, tins & drums)	Yes - Holsum	No
margarine & medium fat spreads (bricks & tubs)	Yes - Flora, Helios & Cotena	No
	Yes - Rama, Rama Lite, Rondo, Stork, Stork Country Spread, Flora Lite, Flora Extra Light & Flora Proactiv	No
soup mixes (sachets & cartons)	Yes - Royco Soup	Yes – Knorr and Knorrox
soya mince	Yes - Royco Vitamince	Yes - Knorrox
stew bases (sisheba mixes)	Yes - Royco Sheb-o-Mix	Yes – Robertson's Jikelele
instant cook-in sauces (casserole sauces, recipe mixes & marinades)	Yes -Royco	Yes – Knorr, Knorr Recipe Mix, Knorr Unbelievable Chicken
instant pour-over sauces (gravy, pasta sauces & creamy sauces)	Yes -Royco	Yes – Knorr, Knorr Sauce Combinations, Knorr Pastamix
chutney	Yes - Mrs Ball's	No
salad dressing	Yes -Royco	Yes - Knorr
meal kits	Yes - Rouco Mince Mate, Royco Tuna Mate & Royco Pasta & Sauce	No
instant soups	Yes - Royco Cup-a-Soup & Royco Cup-a-Snack	Yes – Knorr Quick Soup, Knorr Oodles of Noodles
flavoured spreads	Yes - Oxo	Yes - Marmite & Bovril
cheese spreads	Yes - Melrose	No
cheeses (feta, cream cheese, camembert, brie, blue & mozzarella)	Yes - Simonsberg	No
processed cheese (wedges & portions)	Yes - Melrose	No
black tea (bags & loose)	Yes - Joko, Glen, Pitco & Lipton Yellow Label	No
rooibos tea	Yes - Laager, Lipton Rooibos & Lipton Herbals	No
tea based beverages	Yes - Lipton Iced Tea	Yes – Robertson's, Robertson's Freshly Ground
salt & pepper	No	Yes – Robertson's
herbs & spices (sachets, cartons & bottles	No	Yes – Robertson's Rajah
curry powders	No	Yes - Knorr Aromat
MSG blends	No	Yes - Maizena
cornflour	No	Yes – Robertson's Gold 'n' Crispy
crumb coating	No	Yes – Knorr and Meat Mate
marinades (sachets & wets	No	Yes – Hellman's
mayonnaise	No	Yes – Skippy
peanut butter	No	Yes – Carmel
pickled vegetable, relishes & spreads	No	Yes – Roberston's
domestic chemicals	No	Yes – Roberston's
flavour essences	No	Yes – Roberston's
colourings	No	Yes – Roberston's
sweet sauces	No	Yes – Knorr Paste Maker
tomato based ingredients	No	Yes – Knorr and Knorrox
stock cubes	No	

Comparison of Product Lines and Brands – Professional Market

Product line and brand	Sold by Hudson & Knight	Sold by Robertsons Food Services
cooking oils	Yes - Crispa, Helios & Cotena	No
margarine & speciality fats	Yes - Marvello, Flora, Stork, Pastrex, GoldBake & Planto	No
non-dairy cream	Yes - Meadowland	No
bakery products	Yes	No
chutney	Yes - Mrs Ball's	Yes – Fine Foods
black tea	Yes - Lipton, Glenton, Joko & Pitco	No
salt & pepper (portion sachets & cartons)	No	Yes – Robertson's & Trimpak
herbs & spices	No	Yes – Robertson's
spice blends (canisters, cartons & buckets)	No	Yes – Robertson's
curry powder (cartons)	No	Yes – Robertson's Rajah
stock powders (canisters & buckets)	No	Yes - Knorr
MSG blends (canisters, cartons & buckets)	No	Yes – Knorr Aromat
cornflower	No	Yes - Maizena
soup mixes	No	Yes
pour-over sauces (portion sachets, cartons, bottles & buckets)	No	Yes – Carmel, Fine Food, Knorr, Caterplan
salad dressing mixes (cartons)	No	Yes – Carmel, Hellman's, Knorr Caterplan
mayonnaise (bottles & buckets)	No	Yes
jam (portion tubs)	No	Yes - Trimpak
dessert mixes	No	Yes – Robertson's
sweet syrups	No	Yes – Robertson's

Source: Unifoods.

Table 3.4: Comparison of Product Lines and Brands

Table 3.4 shows that in the consumer market (sales to retailers for re-sale to individual consumers) there are many product lines that are provided by one of the two companies:

"Robertsons produce no fats, cooking oils or margarines, cheese or tea, which are important products for Unifoods. Unifoods do not supply spices, cornflour, marinades

and many other products that comprise a large proportion of Robertsons product line. The product lines in which there is some overlap in the consumer market are in packet soup, instant soup, soya mince, sauces, salad dressing, meal kits, stew bases and flavoured spreads"(www.europe-economics.com).

Manufacturers	Salt	Pepper	Herbs & Spices	Herbs and spices sachets	Rice Seasoning	Bags of flavour	Stock Tablets	Flavourings	Curry Powders	Packet soup	Economy soup
Unifoods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0
Robertsons	0.0	83.4	65.6	41.5	100.0	100.0	81.9	97.9	56.7	48.1	62.1
NEW COMPANY	0.0	83.4	65.6	41.5	100.0	100.0	81.9	97.9	56.7	77.5	62.1
Alilas			1.7	8.0					3.5		
Cape Herbs			1.2								
Dadas									2.1		
Eastern Gems			0.3	3.3							
Family Favourite			0.9	4.0			0.1				0.1
Floyds										0.6	
Fortified Foods										0.2	
Goldmine	4.5										
Hulley & Rice									2.2		2.7
I & J											
Imana							6.3			0.0	33.4
John Moirs		2.2	1.7	7.4							
KSM	4.9									11.7	
Nestle							8.8				
NBL	44.3										
NOLA Brands											
Osmands			3.9	13.9					8.5		
Own Brand	7.2	7.6	4.9				0.4	0.3		10.9	
Packo		2.6	4.4	11.1					4.2		
Phoenix	2.8										
Royal Seep	4.1										
Sonnedal				1.4							
Star Products										0.7	
Sunnyfield	4.0										
Swartkop	17.0							0.9			
Thelma							1.5				
Tiger									3.9		
Others	11.2	4.2	15.4	9.4	0.0	0.0	1.0	0.9	18.9	-1.6	1.7
HHI	2513.5	4606.3	4606.3	2276.1	10000.0	10000.0	6828.1	9589.2	3698.2	3437.1	4982.1
Change in HHI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2828.3	0.0
Accretion Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0

Table 3.5: HHI Rates Nielsen Product Definitions (NPD)

Manufacturers	Tomato Based Cooking Ingredients	Soya mince	Sishebo mixes	Coatings	Curried Vegetables	Chakalaka	Pickles
Unifoods	**0.0**	**1.7**	**11.6**	**0.0**	**0.0**	**0.0**	**0.0**
Robertsons	**0.8**	**31.3**	**83.8**	**0.8**	**0.0**	**0.0**	**4.2**
NEW COMPANY	**0.8**	**33.0**	**95.4**	**0.8**	**0.0**	**0.0**	**4.2**
Cubbs				21.4			
Dursot					0.4		
Eastern Gems							
Family Favourite	2.7	2.4			2.5		0.4
Fresta Holdings	3.0						
Gants Foods	1.0						
Imana		54.9	4.6				
Kellogs				54.8			
M & L Dist	1.1						
Maxim	2.0				0.6		0.2
Messina	5.7						
Miami						1.2	0.4
Nestle						80.6	
Own Brand	13.4	1.6			4.5	3.7	2.1
Packo		1.9		69.0	46.1	1.1	
Phoenix							
Pioneer				9.5			
R.F.F.	1.8				2.1		
S. A. Dried Fruit							2.6
Tiger	64.5				43.2	12.6	8.9
Others	4.0	6.2	0.0	-55.6	0.6	0.8	81.2
HHI	4420.4	4004.9	7178.1	8316.3	4023.2	6672.3	6696.5
Change in HHI	0.0	105.8	1944.0	0.0	0.0	0.0	0
Accretion Rate	0.0	1.7	11.6	0.0	0.0	0.0	0

Table 3.6: HHI Rates Nielsen Product Definitions (NPD)

Source: Titans Economic Report (2001)

Manufacturers	Tomato Sauce	Chutney	Brown sauces	Chilli sauces	Mustard	Relish	Mayonnaise & Salad Creams	Salad Dressings	Wet Cook In Sauces	Recipe mixes	Wet Marinades	Dry Marinades	Pour Over Sauces	Wet Pasta sauces	Dry Pasta Sauces
Unifoods	**0.0**	**73.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**14.4**	**0.0**	**48.2**	**0.0**	**35.3**	**47.8**	**0.0**	**49.3**
Robertsons	**0.0**	**0.0**	**0.0**	**17.0**	**1.0**	**0.0**	**0.0**	**55.4**	**73.3**	**18.0**	**64.1**	**64.5**	**34.4**	**4.9**	**32.7**
NEW COMPANY	**0.0**	**73.3**	**0.0**	**17.0**	**1.0**	**0.0**	**0.0**	**69.8**	**73.3**	**66.2**	**64.1**	**99.8**	**82.2**	**0.0**	**82.0**
All Joy Foods	8.5			7.0	3.0		1.1				2.5				
Denny									9.1					9.8	
Dewkist										0.4	1.2				
Dolmio														33.8	
Family Favourite	2.2						1.7								
Floyds										5.3			4.1		
Fresta Holdings														2.6	
Hasty Tasty			10.0												
Hoskins								0.2	0.5						
I & J						25.3									
Ina Paarman								10.2			12.8				
Kraft							3.5	1.1							
Maxim			10.0												
Messina						62.6									
Miami															
Nando's				18.0				1.2			5.6				
Nestle	8.8	1.6	35.0	15.0			56.0			6.9					
NOLA Brands							19.1								
Own Brand	5.1	10.7	4.0		4.0		13.5	1.9	2.6	1.3	2.8			13.5	
Packo				14.0									9.5		
S. A. Dried Fruit	2.6	11.8	2.0	15.0											
Steers				14.0	3.0	8.5		14.4			9.6				
Tiger	68.7		35.0		80.0		1.0		13.2					31.3	16.6
Others	4.1	2.5	4.0	0.0	9.0	3.6	4.1	1.2	1.3	19.9	1.2	0.2	4.2	8.9	1.4
HHI	4923.8	5636.0	2669.9	1215.0	6434.9	5202.4	3717.1	3595.8	5639.0	2724.8	4439.4	5406.2	3592.9	2448.3	3773.0
Change in HHI	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1595.7	0.0	1735.3	0.0	4553.0	3268.6	0.0	3221.4
Accretion Rate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	18.0	0.0	35.3	34.4	0.0	32.7

Table 3.7: HHI Rates Nielsen Product Definitions (NPD)

Manufacturers	Pasta & Sauce	Instant Noodles	Meal Kits	Instant Soups
Unifoods	77.8	0.0	85.9	67.4
Robertsons	0.0	0.2	0.0	21.4
NEW COMPANY	77.8	0.2	85.9	88.8
Floyd's				3.3
Maxim		9.7		
Nestle		77.2		3.3
Own Brand		9.9		3.9
Tiger	18.0		10.2	
Others	4.2	3.0	3.9	0.7
HHI	6393.0	6161.2	7575.0	5038.2
Change in HHI	0.0	0.0	0.0	2884.7
Accretion Rate	0.0	0.0	0.0	21.4

Manufacturers	Peanut Butter	Jam	Black spreads	Meat & fish spreads	Dairy spreads	Sandwich spreads
Unifoods	0.0	0.0	10.0	0.0	58.2	0.0
Robertsons	18.7	0.0	89.5	0.0	0.0	30.0
NEW COMPANY	18.7	0.0	99.5	0.0	58.2	30.0
Clover					6.1	
Dickon Hall		1.3				
Family Favourite	1.6	2.1				
From Bel					2.0	
Hazeldene		0.6				
Maxim		0.3				
Nestle					33.5	70.0
NOLA Brands	20.5					
Own Brand	15.3	16.8				
Premier Fish				98.0		
R.F.F.		14.1				
Roses		1.5				
St Dalfour		0.5				
Thokoma	1.4					
Weigh Less		0.9				
ZFP		0.6				
Tiger	36.1	51.6				
Others	6.4	9.7	0.5	2.0	0.2	0.0
HHI	1912.8	3153.8	8111.7	9604.0	4550.5	5800.1
Change in HHI	0.0	0.0	1790.2	0.0	0.0	0.0
Accretion Rate	0.0	0.0	10.0	0.0	0.0	0.0

Table 3.8: HHI Rates Nielsen Product Definitions (NPD)

Source: Titans Economics Report (2001)

Manufacturers	Cooking ingredients			Sauces	Ready meals			Spreads
	Flavour Enhancers	Meal-Makers	Combined		Family meals	Personal meals*	Combined	
Unifoods	4.3	1.5	3.5	12.2	11	67.4	22.1	4.5
Robertsons	65.4	21.1	52.7	8.4	0.1	21.1	4.2	10.7
NEW COMPANY	69.7	22.6	56.2	20.6	11.1	88.8	26.3	15.2
All Joy				2.6				
FoodCorp				7.6				4.3
Floyd's						3.3		
Imana Foods	3.6	17.6	7.6					
J & J					13.3		8.2	
National Brands	3.3							
Nestle	2.9	5.9	3.8	25.8	9.4	3.3	6.8	
Osman Brothers	2.9							
Own Brands	3.8	4.7	3.8	8.2		3.9	6.4	8.3
Packo		6.2	3.5					
Pioneer					19		15.3	
Premier								3.2
Rhodes Fruit Farms								4.3
Tigerbrands		21.2	6.4	20.6	8		6.2	23.1
HHI	4361.0	1313.0	2946.0	1455.0	1004.0	5038.0	1096.0	794.0
Change in HHI	557.0	64.0	366.0	204.0	1.0	2885.0	186.0	95.0
Accretion Rate	4.3	1.5	3.5	8.4	0.1	21.1	4.2	4.5

Table 3.9: HHI Rates Functional Market Definitions

Source: Titans Economics Report (2001)

The above tables present market shares of food manufacturers. These figures refer to the value of shares of the manufacturers in the Nielsen categories and in the functional market definitions. Those companies selling products in either the Nielsen categories or in the functional markets that have not been individually identified have been classified as others (at the end of the table), but their market share has been included in the calculation.

The change in the HHI is the difference between the HHI after and before the combination of Unifoods and Robertsons businesses (combination always increases the HHI), while the accretion rate refers to the market share gained by the largest company as a result of the merger. The tables show the change to the party's market share if the merger goes through and also the effect on concentration in the different markets identified. The table suggests that the merger has potential anti-competitive effects, but not in the functional market definition used by Unifoods.

3.3 Commission Viewpoint of Relevant Product Market

"The Commission does not accept the parties submission that the relevant product market encompasses such broad market definition. The narrower relevant market definition, as captured by the NPD categories, are to be preferred in most cases, in line with the European Commission approach. The narrower definitions correspond to products with similar and distinctive attributes for one or more non-substitutable use. The parties' broad categories contain product so diverse that they are only substitutes for certain uses or for certain occasions, whereas consumers would thereafter revert to using a particular product for its unique attributes" (Commissions recommendations and reasons – 55/LM/Sep 01).

According to the Commission demarcation of a relevant product market can be done by establishing the extent to which the merged entity's products are interchangeable or substitutable, by virtue of their characteristics, price and functionality. Demarcation can also be achieved on the basis of the degree of cross elasticity of demand between the merged entity's products and the products that are perceived substitutes for them. The mere fact that there is some small degree of cross elasticity of demand between products does not mean that they are substitutes for the purpose of antitrust analysis and does not require their inclusion in the same product market.

The Commission uses two American cases to further highlight this point:

United States vs. Aluminium Company of America – The Supreme Court held that copper insulated wire was not in the same markets as aluminium insulated wire despite the fact that some customers used both types of wire for the same purpose.

US vs. Dairy Farmer of America – The Department of Justice (DOJ) argued that butter did not fall into the same market as margarine. Furthermore it was found that retail customers of branded whipped cream butter considered it to be a distinct product from private label whipped butter and stick butter.

3.3.1 Unilever-Robertsons vs. Competition Commission

"All in all the Commission regards the econometric analysis performed by the parties to be inconclusive as to whether the NPD categories or the parties' broader categories are more appropriate, due to the inadequacies of the dataset. This differs from the parties interpretation of the same results". (Commissions recommendations and reasons – 55/LM/Sep 01).

The parties feel that their studies reject the NPD categories as relevant markets for competition analysis. The Commission is still of the opinion that the econometric research conducted by the parties was inconclusive. The parties in contrast, state that the most refined and sophisticated versions of their models refute the appropriateness of the NPD market definitions, but cannot confirm their own broad categories.

The Commission concludes, "the studies submitted by the parties cannot be taken to demonstrate the existence of a wider product market in spite of the technical sophistication of these studies. The Commission would submit that the sophistication of the econometric techniques employed is overkill when applied to such an inadequate dataset, and that as such the results prove nothing". (Commissions recommendations and reasons – 55/LM/Sep 01).

The Commission concludes that for the reasons mentioned above, for the purpose of this competition analysis the following products constitute the relevant product markets:

Packet Soup
Soya Mince
Sishebo mixes
Salad dressings
Recipe Mixes
Dry Marinades
Pour Over Sauces
Instant Soups
Black Spreads

According to the Commission the majority of the competitors considered these products to be in separate markets. The Commission uses the example of soup to illustrate this point. Whilst the parties in their legal submissions defined the Instant Soup and Packet Soup as the "soup market" the Commissions standpoint differs. Instant soup is typically sold for consumption in single portions and is seen as a savoury alternative to tea or coffee. They are ready to drink products, requiring the addition of boiling water in a mug. According to competitors, this is a unique product with sophisticated formulations to meet the desired tastes.

Packet soups are traditional, multi-portion soups for preparation in a pot with added water. Packet soup retails for about R1,89 whereas instant soup retails at about R6.69.

3.3.2 Market Shares and Market Concentration.

In the Commissions view the proposed merger would create or strengthen a dominant position in the following categories (all except for soya mince).

Packet Soup (77.5%)
Sishebo Mixes (95.6%)
Salad Dressing (69.8%)
Recipe Mixes (66.2%)
Dry Marinades (99.8%)
Pour-over sauces (82.2%)
Dry pasta sauces (82.1%)
Instant soup (88.8%)
Black spreads (99.5%)

The Commission points out that whilst it is impossible to give a general market share threshold above which sufficient market power for causing restrictive effects can be assumed. However, market power usually arises when the market share is at least 15%. At higher market share, such as 25% to 30% the degree of monopoly power may become quite significant, and market shares over 40 to 50% usually give assurances of strong market power.

The Commission goes further to state "although market share is a valuable tool for evaluating the possible market powers of firms, a more important measure is industry concentration levels. It is evident that there is a very high level of concentration within each of the markets identified by the commission which will be further augmented post merger". (Commissions recommendations and reasons – 55/LM/Sep 01).

3.4 The Competition Tribunal

The Competition Tribunal determined that the Competition Commission adopted its position in relation to the market definition largely on the basis that the parties to the international transaction had adopted a view of the relevant markets in their European filing which was similar to the NPD categories "believing that there was no credible reason to suppose that the demand patterns for South Africa would be radically different. However, this approach fails to take cognisance of the considerable evidence that the SA market is indeed distinctive to the European market". (www.comptrib/cases.co.za)

Whilst the Commission criticises the statistical exercise and quantitative analysis undertaken by the merging parties to determine market definition, the tribunal points out that the Commission "did not conduct any of its own research. The only research conducted in this matter was performed by the merging parties" (www.comptrib/cases.co.za).

Most significantly, competitor of the merging parties do not adhere to the Nielsen market segmentation. Even Floyd's food, the most vigorous opponent of the merger defines the relevant markets by use of a broader market. Their response to defining a relative market was highlighted by the following example "packet soup is widely used by consumers throughout the income and living standard profile as cooking ingredients to enhance the flavour of meal preparation. It is generally accepted that 60% of packet soup is thus used as flavour ingredients for food preparation". (www.comptrib/cases.co.za)

Ina Paarman also refers to a broader market definition. "We would increasingly be looking at broader market definitions as this view increases our opportunity by increasing the potential size of the market". (www.comptrib/cases.co.za)

The merging parties competitors do not endorse NPD's on the basis upon which product definition should take place. "Indeed it is evident that in the main, the majority of the competitors supported the merging parties product market definitions". (www.comptrib/cases.co.za)

The Tribunal criticises the simple application of AC Nielsen data by making mention of Alan Watson of Unifoods submission to the Competition Tribunal:
" The lowest level clusters used are called product classes which are usually defined along strictly historical or product format dimensions in order to assist AC Nielsen store auditors to collect the correct information. A structure which allows a simple practical way to collect data is a priority over use of definitions which would accurately reflect product substitutability....it is clear that AC Nielsen product classes do not constitute product markets that are relevant for business use or competition analysis. There is no industry agreed segmentation, however leading players in each field owe their success to a sound understanding of segmentation and successful players therefore find that similar approaches have been developed independently". (www.comptrib/cases.co.za)

The Competition Tribunal accordingly concluded that "while the econometric analysis conducted by the merging parties is not decisive, there is a sufficient body of evidence to indicate that the narrow market definitions relied upon by the Competition Commission do not properly reflect the market segmentation with which participants in these markets are determined. Even the most conservative approach to market definition, the AC Nielsen categories, do not appear to capture proper market segmentation and hence there are good grounds for supposing that the extent of dominance found by the Competition Commission to result from the merger is a considerable exaggeration of the position...the market approximates more closely to what is set out in the merging parties filing than what is set out in the Competition Commissions recommendations and reasons". (www.comptrib/cases.co.za)

3.5 Conclusion

After having heard both parties, the following order was made by the Tribunal.

"In essence, the merging parties have agreed to dispose of the Royco brand, the Oxo brand and the Quick Soup and Oodles of Noodles sub brands. The merging parties will however retain the Cup-a-Soup, Cup-a-Snack and "Pasta & Sauce" sub-brands.

The merger is approved on the conditions that follow:

The merging parties shall dispose of the following assets ("the divested assets") to a buyer being an independent third party or parties approved by the Commission.

Royco Brand:

This will include all Royco products, save for the sub-brands "Quick Soup" and "Oodles of Noodles" together with at the option of the proposed buyer, a license to use these sub-brand names together with the Knorr brand for a maximum of two years.

Oxo Brand:

This will include the sale of the Oxo brand in totality.

- For each brand or sub brand referenced to above, the sale will include all the intellectual property associated with the brand, i.e. packaging design, formulations, intellectual rights to advertising and promotion material, finished goods and packaging material stock.

- The divestiture could, at the option of the proposed buyer, include production facilities either to be used in a co-packaging arrangement (by means of a service agreement) or as an outright sale of all the assets.

The following assets ("the excluded assets") are excluded from the divested assets and will remain the property of the merging parties:

- The sub-brand "Cup-a-Soup" including "Lite" and "Thick and Creamy"
- The sub-brand "Cup-a-Snack"

- The sub-brand "Mates" including "Chicken Mate", "Mince Mate" and "Tuna Mate"
- The sub-brand "Pasta and Sauce" including "Macaroni and Cheese".

The excluded assets including any intellectual property associated with the sub-brands, i.e. packaging design, formulation, intellectual rights to advertising and promotional material, finished goods and packaging and material stock will not form part of the divested assets.

The merging parties shall submit the name of the proposed buyer to the Commission for its prior approval, together with the relevant documentation in respect of the proposed buyer in order that the Commission can assess whether the proposed buyer would be able to effectively utilise the divested assets so as to be a viable competitor to the merging parties.

CHAPTER 4: QUANTITATIVE ANALYSIS

4.1 Introduction

Initially when addressing the question of demand side substitutability the merging parties found that there was short time series problems with the definition of prices and econometric specification were affecting the possibility of substitution between different product lines. To deal with some of these problems, bi-monthly data on brand product prices, volumes and revenues for 27 of the Nielsen product definitions were assembled for the period between April/May 1998 and April/May 2001. Having a large number of branded products, cross-sectoral as well as the time series observations could be exploited.

With this information the merging parties focused on whether the data presented by Nielsen were relevant markets in the sense appropriate for competition analysis. If they were relevant markets, it was expected that the evidence would be found of significant substitutability of different products within each of the 27 product groups (upon a change in their relative price), and also that their was much more limited substitution of products from one market to another. "Consider for instance one of the 27 product lines, wet cook-in sauce. There are 5 significant brands of wet cook-in sauce. If the price of one of them were to increase, other things being equal, one would expect a significant shift of sales from this brand to the other four" (Titans Economics Report, 2001).

The other way this is tested is to calculate the cross-price elasticity of the different brands, i.e. what is the effect on the volume of sales of one brand if its own price elasticity remains unchanged whilst the prices of the other four brands are increased by the same proportionate amount. In this case the estimate obtained is a shade over 1, meaning that a ten percent increase in the price of four of the wet cook in sauces would lead to an increase of just over 10 percent in the sales volumes achieved by the brand whose prices did not increase. This would be a reasonably significant degree of substitutability, consistent with the idea that all five brands are in the same market.

Product	Between Products Within NPD	Between NPD and consumer functional market
Functional Market 1(a). Cooking Ingredients - Flavour enhancers		
Regular soup	0.538	0.559
Economy soup	-0.629	-0.011
Herbs & spices excl pepper	0.746	0.664
Pepper	0.297	0.286
Salt	0.209	-0.080
Flavourings	0.357	0.303
Stock cubes	0.649	0.470
Curry powder	1.004	1.102
Functional Market 1(b). Cooking Ingredients - Meal Makers		
Curried veg.	1.125	2.055
Chakalaka	2.589	9.773
Functional Market 2. Sauces		
Wet cook in sauce	1.054	3.992
Dry cook in sauce	0.437	5.344
Wet marinades	0.842	2.263
Dry marinades	1.015	1.551
Dry pour-over sauce	1.732	2.652
Dry pasta sauce	-0.817	-1.857
Chutney	0.471	0.009
Salad dressings	0.304	0.077
Tomato sauce	1.695	2.862
Mayonnaise	0.513	0.486
Wet pasta sauce	0.513	-8.994
Pickles	1.630	2.386
Functional Market 3 (a) . Family Ready Meals		
Meal kits	-0.813	-4.250
Functional Market 3 (b) . Personal Ready Meals		
Instant soup	-0.716	-1.492
Instant noodles	-0.517	0.357
Functional Market 4. Flavoured Spreads		
Peanut butter	1.091	1.855
Cheese spread	0.881	-0.747

Table 4.1: Cross Price Elasticities of Products

The merging parties used the table above to illustrate the wide range of estimates of cross-price elasticities from about 2.6 (for chakalaka) to in some cases a negative figure. They use this point to highlight that the variance in the degree of substitutability within the AC Nielsen product definition suggests that their economic significance as potential relevant market definitions also varies, and that they cannot be relied on for the purpose of defining a market. The conclusion of the merging parties is that the market definition selected will have a considerable bearing on the

conduct of the assessment of the effects of the joint venture. If the market is defined too narrowly, products that effectively compete with each other end up being classified under different classes.

4.2 The Panel Data Approach

The primary focus of this exercise was to test the Nielsen Product Definitions against broader market definitions. The merging parties found that to confine the analysis only to time dimensions would be wasteful. To solve that, they considered another approach to explaining spending patterns: a statistical analysis that benefited not only from the time dimensions but also from the cross-sectional variations in the data. This was referred to as the Panel Data Approach.

Using a panel data approach where the merging parties have information on brands, for a number of markets over time, one can break down the effects on consumption patterns of a number of factors that cannot be measured directly. The Panel Data can be useful when the unobserved differences can be accounted for allowing the researcher to disentangle the effects of product substitution from the effects of time, markets or brands.

The model takes the following form:

$$q_{it} = \alpha + \phi_i + \beta\rho_{it} + \gamma\rho_{jt}^{N} + \delta\rho_{jt}^{U} + \lambda\rho_{jt}^{S} + \varpi s_{-ijt} + \eta t + \varepsilon_{jt}$$

α – is a constant

q_{it} – is the quantity bought of brand-product i in time t – for example the volume bought of Maggi packet soup.

ϕ_i – is an effect that depends exclusively on the branded product. This is a way to determine product characteristics unique to that product.

ρ_{it} – the price of the brand product I in time T. It is expected that the coefficient in this variable is negative as it represents an own price elasticity.

ρ_{jt}^{N} – The price of other brands in the Nielsen Product Definition

ρ_{jt}^{U} – The price index of other products available to the consumer in the Unifoods market definition. The index is constructed in a similar way to the Nielsen Product Definition and represents an indicator of the substitution possibilities within the Unifoods markets.

ρ_{jt}^{S} – The price index of the best substitute available to the consumer as defined by the switching survey

s_{-ijt} – Is a measure of purchasing power

t – A time trend representing possible trends in the economy as a whole

ε – the usual error term

The advantages of the model include the ability to test different alternatives about market definition. It also increases the number of observations as both the time series and the cross section analysis are exploited. The number of observations is equal to the number of periods available (around 19) times the number of brands in a NPD (average of 4.5) times the number of NPD's (27). The number of observations relevant for the analysis are now increased to 2,200.

The model found that despite the likely differentiation between brands, consumers react to price. "The expenditure measure coefficient tends to be significant and quite robust" (Titan Economics Report, 2001).

NPD	Own-price elasticity	NPD X-price elasticity	Functional Market X-elasticity
Functional Market 1(a). Cooking Ingredients - Flavour Enhancers			
Curry powder	-0.406	1.004	1.102
Economy soup	-1.496	-0.629	-0.011
Flavourings	0.844	0.357	0.303
H&S excl Pepper	-0.530	0.746	0.664
Pepper	-0.548	0.297	0.286
Regular soup	-2.532	0.538	0.559
Salt	-0.699	0.209	-0.080
Stock cubes	0.082	0.649	0.470
Functional Market 1(b). Cooking Ingredients - Meal Makers			
Chakalaka	4.533	2.589	9.77
Curried veg.	-0.163	1.125	2.055
Functional Market 2. Sauces			
Chutney	-1.733	0.471	0.009
Dry Cook in Sauce	-1.650	0.437	5.344
Dry marinades	0.336	1.015	1.551
Dry pasta sauce	-1.808	-0.817	-1.857
Dry pour-over sauce	-2.397	1.732	2.652
Mayonnaise	-1.147	0.513	0.486
Pickles	1.012	1.630	2.386
Salad dressings	-1.186	0.304	0.077
Tomato sauce	-1.806	1.695	2.862
Wet Cook in Sauce	5.543	1.054	3.992
Wet marinades	1.894	0.842	2.263
Wet Pasta sauce	-2.061	0.513	-8.994
Functional Market 3(a). Family Ready Meals			
Meal kits	-4.043	-0.813	-4.250
Functional Market 3(b). Personal Ready Meals			
Instant noodles	-1.412	-0.517	0.357
Instant soup	-2.315	-0.716	-1.492
Functional Market 4. Flavoured Spreads			
Cheese spread	-2.746	0.881	-0.747
Peanut butter	-0.651	1.091	1.855

Table 4.2: Cross Price Elasticities using Data Panel Approach

The merging parties argument for using functional markets is highlighted in the Panel Data Table 4.2. For example, the cross-price elasticities of NPD for regular soup are very similar to the cross-price elasticity of Functional Markets of regular soup. It would not therefore be justifiable to regard such soup as constituting a separate market.

4.3 Impact of Market Definition on Market Share

4.3.1 Functional Market Definition

Manufacturers	Market Shares	Market Concentration Levels
Unifoods	**4.3**	**18.49**
Robertsons	**65.4**	**4277.16**
Imana Foods	3.6	12.96
National Brands	3.3	10.89
Nestle	2.9	8.41
Osman Brothers	2.9	8.41
Own Brands	3.8	14.44
Other	13.8	190.44
Total	100 %	
Pre Merger HHI Concentration Levels		**4541.2**
Change in HHI		**562.44**
Post Merger HHI Concentration Levels		**5103.64**

Table 4.3: Cooking Ingredients Flavour Enhancers

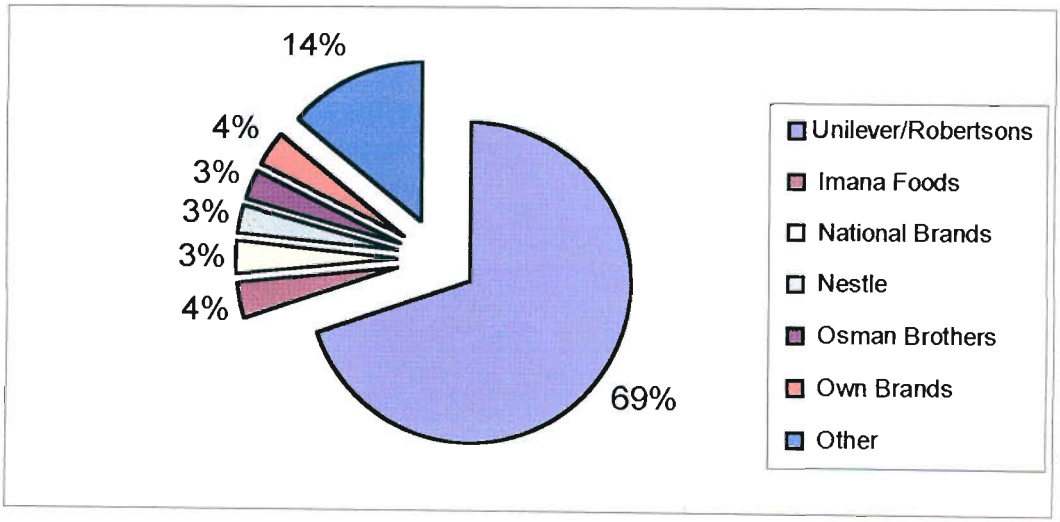

Figure 4.1: Cooking Ingredients Flavour Enhancers

Manufacturers	Market Shares	Market Concentration Levels
Unifoods	**1.5**	**2.25**
Robertsons	**21.1**	**445.21**
Imana Foods	17.6	309.76
Packo	6.2	38.44
Nestle	5.9	34.81
Tiger Brands	21.2	449.44
Own Brands	4.7	22.09
Other	21.8	475.24
Total	100 %	
Pre Merger HHI Concentration Levels		**1777.24**
Change in HHI		**63.3**
Post Merger HHI Concentration Levels		**1840.54**

Table 4.4: Cooking Ingredients Meal Makers

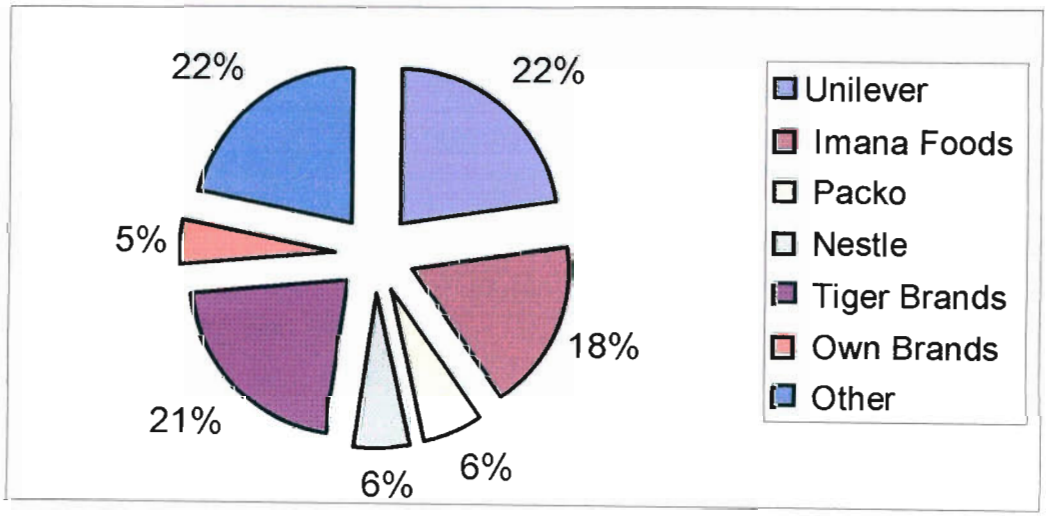

Figure 4.2: Cooking Ingredients Meal Makers

Manufacturers	Market Shares	Market Concentration Levels
Unifoods	**12.2**	**148.84**
Robertsons	**8.4**	**70.56**
All Joy	2.6	6.76
Food Corp	7.6	57.76
Nestle	25.8	665.64
Tiger Brands	20.6	424.36
Own Brands	8.2	67.24
Other	14.6	213.16
Total	100 %	
Pre Merger HHI Concentration Levels		**1654.32**
Change in HHI		**204.96**
Post Merger HHI Concentration Levels		**1859.28**

Table 4.5: Sauces

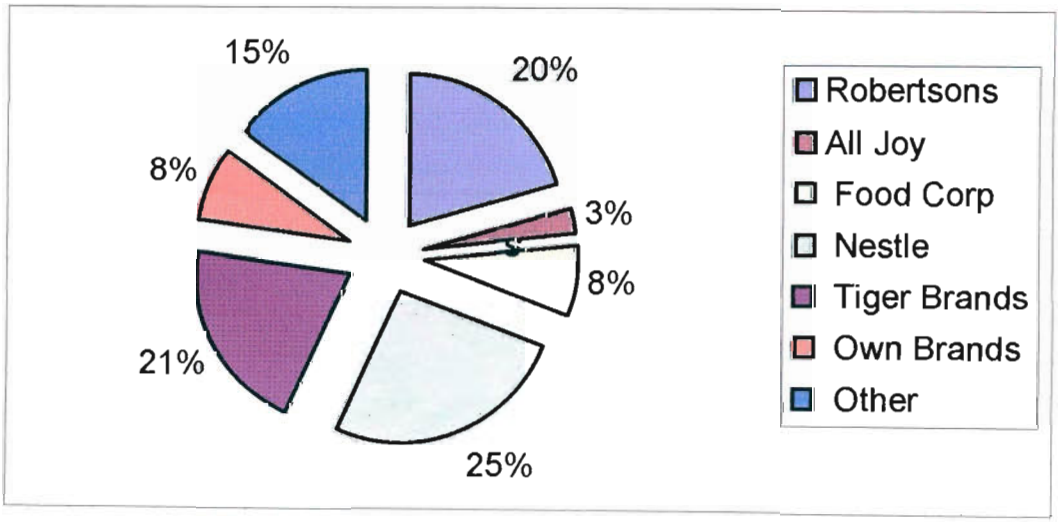

Figure 4.3: Sauces

Manufacturers	Market Shares	Market Concentration Levels
Unifoods	**11**	**121**
Robertsons	**.1**	**.01**
Tigerbrands	8	64
I & J	13.3	176.89
Nestle	9.4	88.36
Pioneer	14.6	213.16
Other	43.6	1900.96
Total	100 %	
Pre Merger HHI Concentration Levels		**2564.38**
Change in HHI		**2**
Post Merger HHI Concentration Levels		**2566.58**

Table 4.6: Ready Meals Family Meals

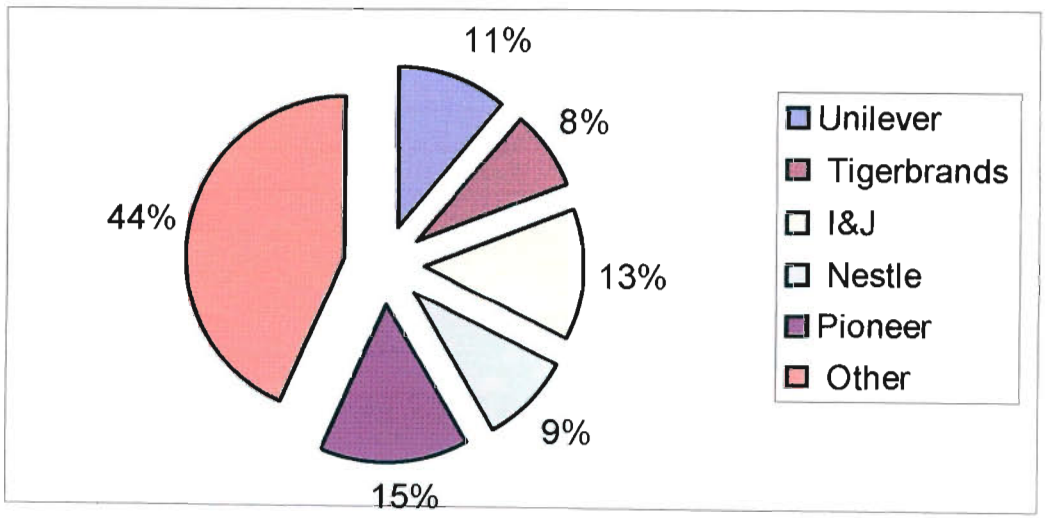

Figure 4.4: Ready Meals Family Meals

Manufacturers	Market Shares	Market Concentration Levels
Unifoods	**67.4**	**4542.76**
Robertsons	**21.1**	**445.21**
Floyd's	3.3	10.89
Nestle	3.3	10.89
Own Brands	3.9	15.21
Other	1	1
Total	100 %	
Pre Merger HHI Concentration Levels		**5025.8**
Change in HHI		**2844.44**
Post Merger HHI Concentration Levels		**7870.24**

Table 4.7: Ready Meals Personal Meals (Instant Soups Only)

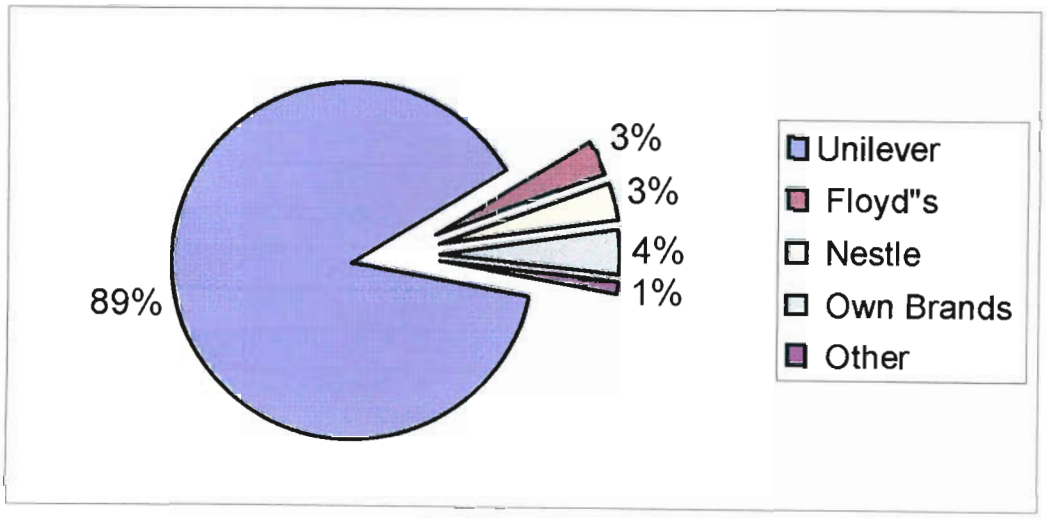

Figure 4.5: Ready Meals Personal Meals (Instant Soups Only)

Manufacturers	Market Shares	Market Concentration Levels
Unifoods	**4.5**	**20.25**
Robertsons	**10.7**	**114.49**
Own Brands	8.3	68.89
Food Corp	4.3	18.49
Premier	3.2	10.24
Rhodes Fruit Farms	4.3	18.49
Tigerbrands	23.1	533.61
Other	41.6	1730.56
Total	100 %	
Pre Merger HHI Concentration Levels		**2515.02**
Change in HHI		**96.3**
Post Merger HHI Concentration Levels		**2611.32**

Table 4.8: Spreads

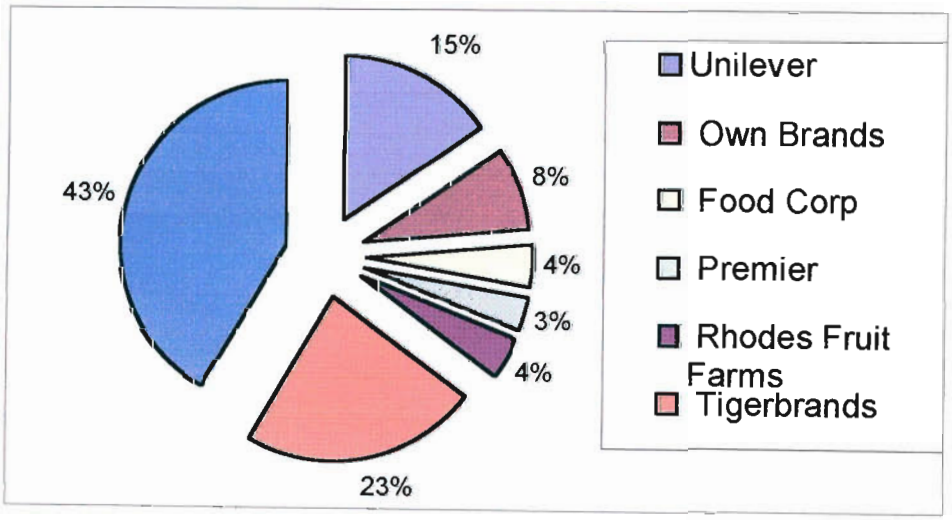

Figure 4.6: Spreads

4.3.2 AC Nielsen Definitions

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**29.4**	**864**
Robertsons	**48.1**	**2314**
Floyds	0.6	**.36**
Nestle	0.2	**.04**
Own Brand	11.7	**136.89**
Star Products	10.2	**118.81**
Other	.7	**.7**
Total	100	
Pre Merger HHI Concentration Levels		**3437.15**
Delta		**2823.3**
Post Merger HHI Concentration Levels		**6265.4**

Table 4.9: Packet Soup

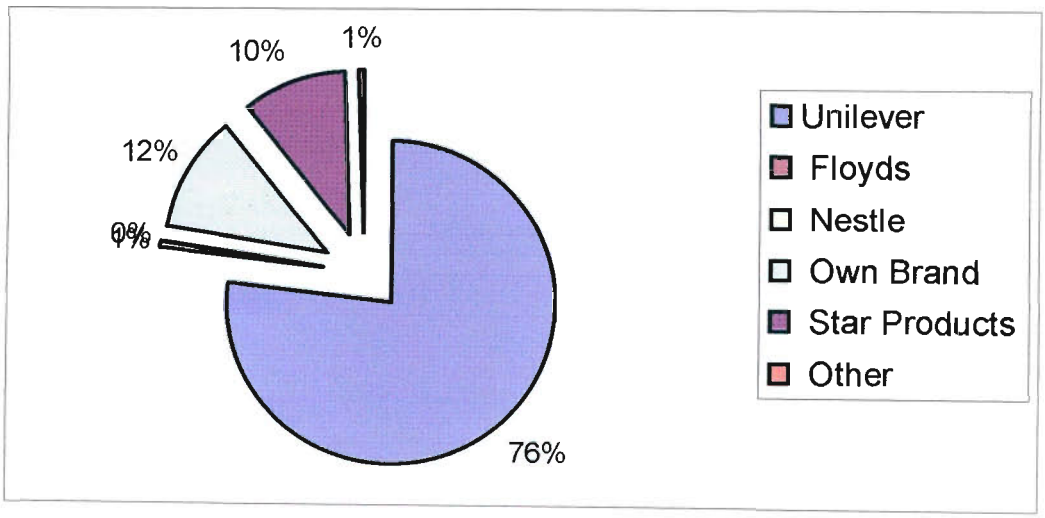

Figure 4.7: Packet Soup

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**11.6**	**134.56**
Robertsons	**83.8**	**7022.44**
Imana	4.6	21.16
Others	0	0
Total	100	
Pre Merger HHI Concentration Levels		**7178.16**
Delta		**1944.16**
Post Merger HHI Concentration Levels		**9122.32**

Table 4.10: Shishebo Mixes

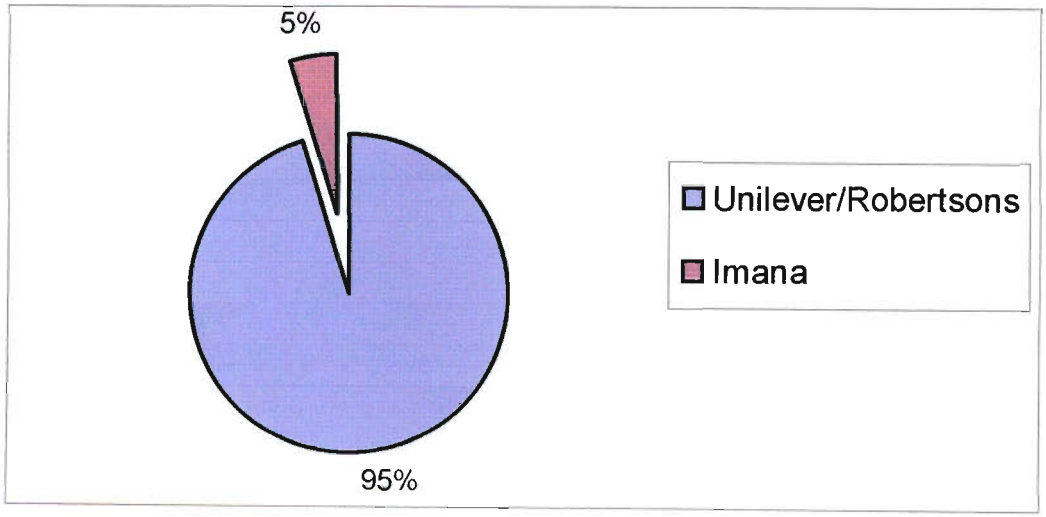

Figure 4.8: Sishebo Mixes

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**14.4**	**207.36**
Robertsons	**55.4**	**3096.16**
Hoskins	.2	0.04
Ina Paarman	10.2	104.04
Kraft	1.1	1.21
Nando's	1.2	1.44
Own Brand	1.9	3.61
Steers	14.4	207.36
Others	1.2	1.2
Total	100%	
Pre Merger HHI Concentration Levels		**3622.42**
Delta		**1568.52**
Post Merger HHI Concentration Levels		**5190.94**

Table 4.11: Salad Dressings

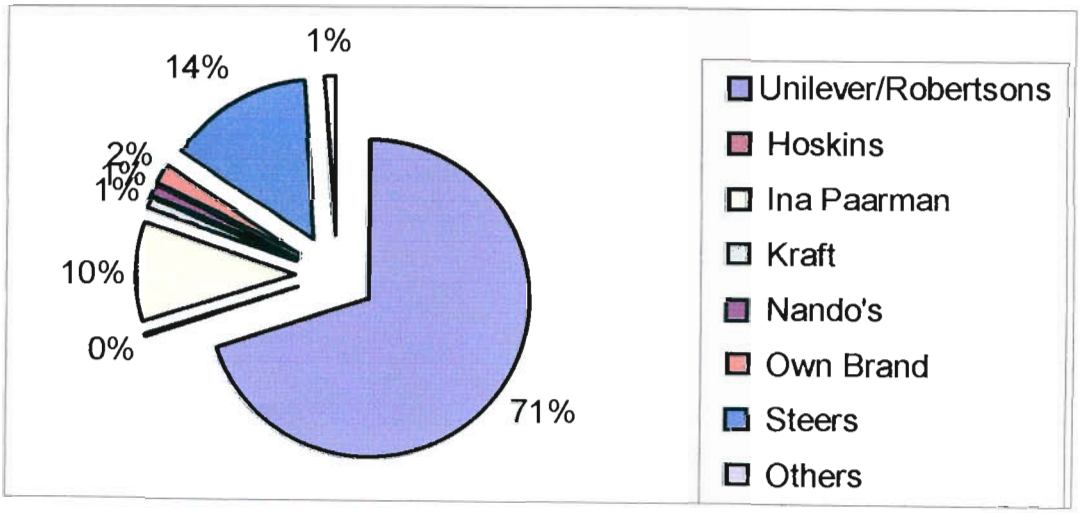

Figure 4.9: Salad Dressings

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**48.2**	**2323.24**
Robertsons	**18**	**324**
Dewkist	0.4	.16
Floyds	5.3	28.09
Nestle	6.9	47.61
Own Brand	1.3	1.69
Other	19.9	19.9
Total	100%	
Pre Merger HHI Concentration Levels		**2744.6**
Delta		**1735.2**
Post Merger HHI Concentration Levels		**4479.89**

Table 4.12: Recipe Mixes

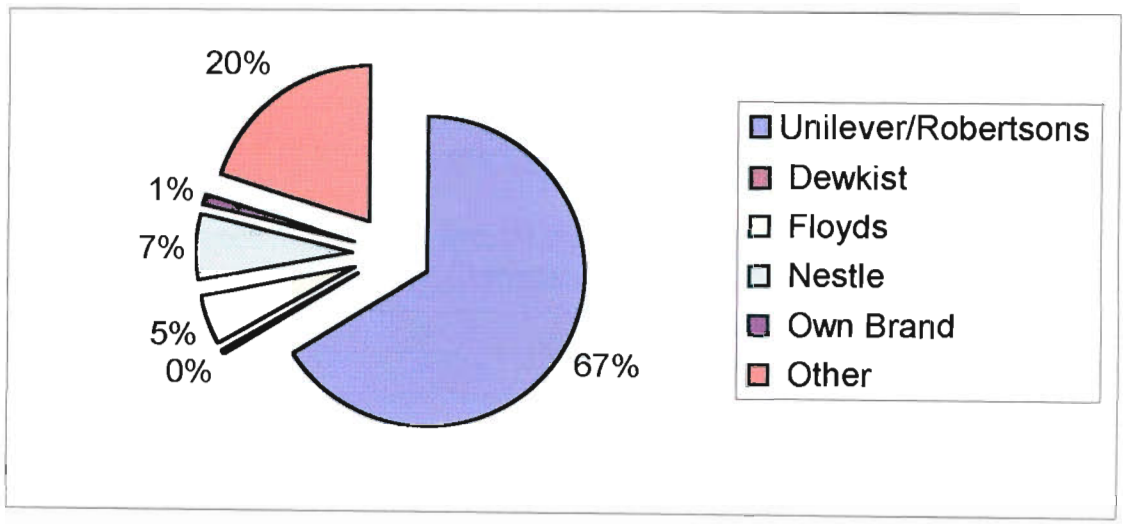

Figure 4.10: Recipe Mixes

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**35.3**	**1246.09**
Robertsons	**64.5**	**4160.25**
Other	.2	.2
Total	100%	
Pre Merger HHI Concentration Levels		**5406.54**
Delta		**4553.7**
Post Merger HHI Concentration Levels		**9960.24**

Table 4.13: Dry Marinades

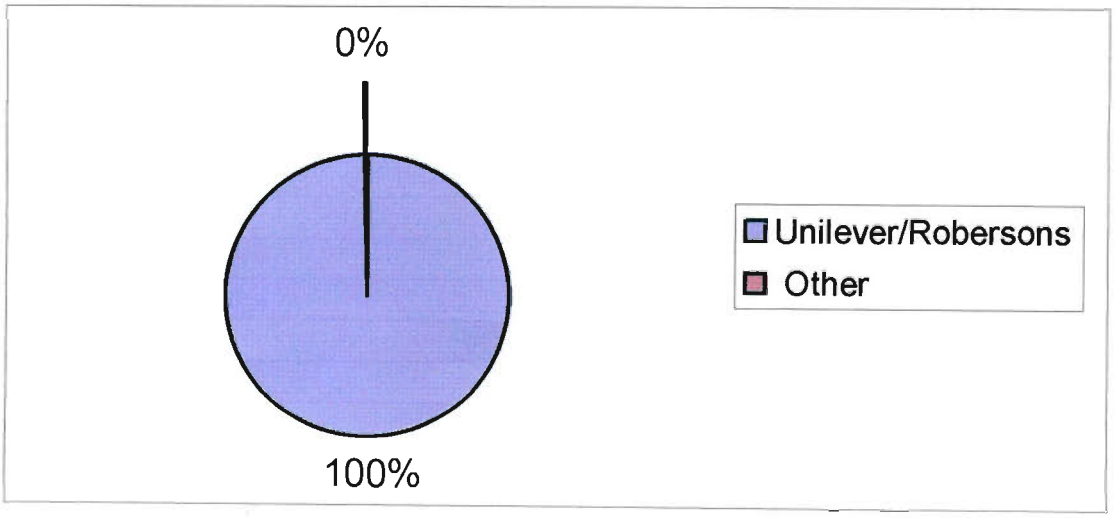

Figure 4.11: Dry Marinades

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**47.8**	**2284.84**
Robertsons	**34.4**	**1183.36**
Floyds	4.1	16.81
Packo	9.5	90.25
Other	4.2	4.2
Total	100%	
Pre Merger HHI Concentration Levels		**3579.46**
Delta		**3288.64**
Post Merger HHI Concentration Levels		**6868.1**

Table 4.14: Pour-Over Sauces

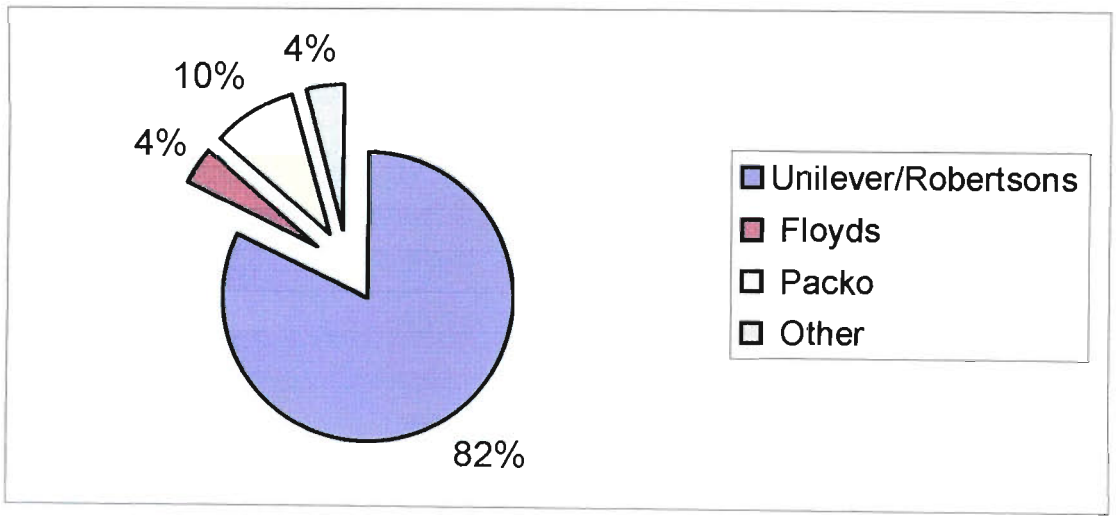

Figure 4.12: Pour-Over Sauces

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**49.3**	**2430.49**
Robertsons	**32.7**	**1069.29**
Tiger	16.6	275.56
Other	1.4	1.4
Total	100%	
Pre Merger HHI Concentration Levels		**3776.74**
Delta		**3224.22**
Post Merger HHI Concentration Levels		**7000.96**

Table 4.15: Dry Pasta Sauces

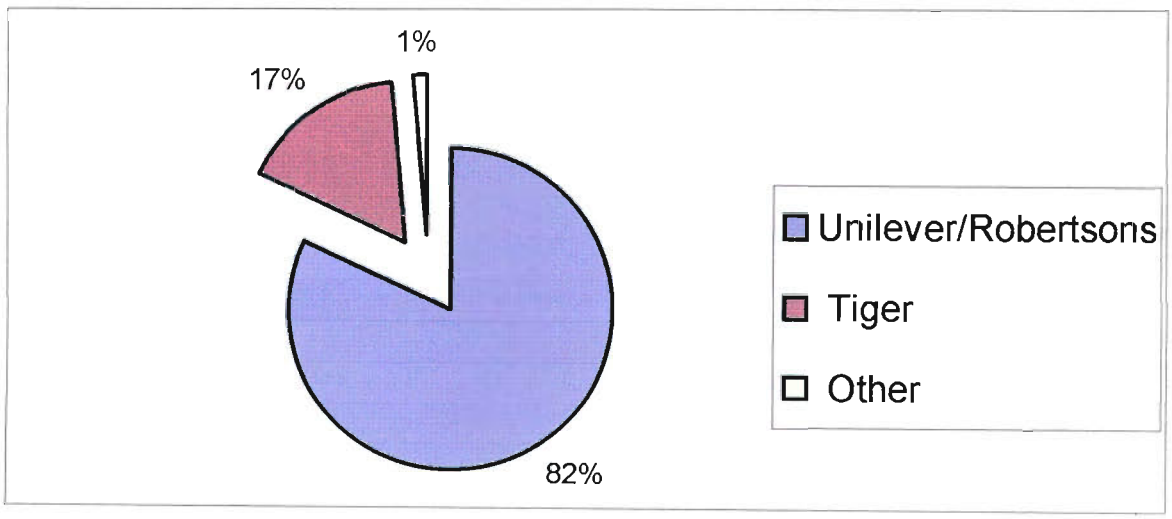

Figure 4.13: Dry Pasta Sauces

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**67.4**	**4542.76**
Robertsons	**21.4**	**457.96**
Floyds	3.3	10.89
Nestle	3.3	10.89
Own Brand	3.9	15.21
Other	.7	.7
Total	100%	
Pre Merger HHI Concentration Levels		**5038.41**
Delta		**2884.72**
Post Merger HHI Concentration Levels		**7923.13**

Table 4.16: Instant Soups

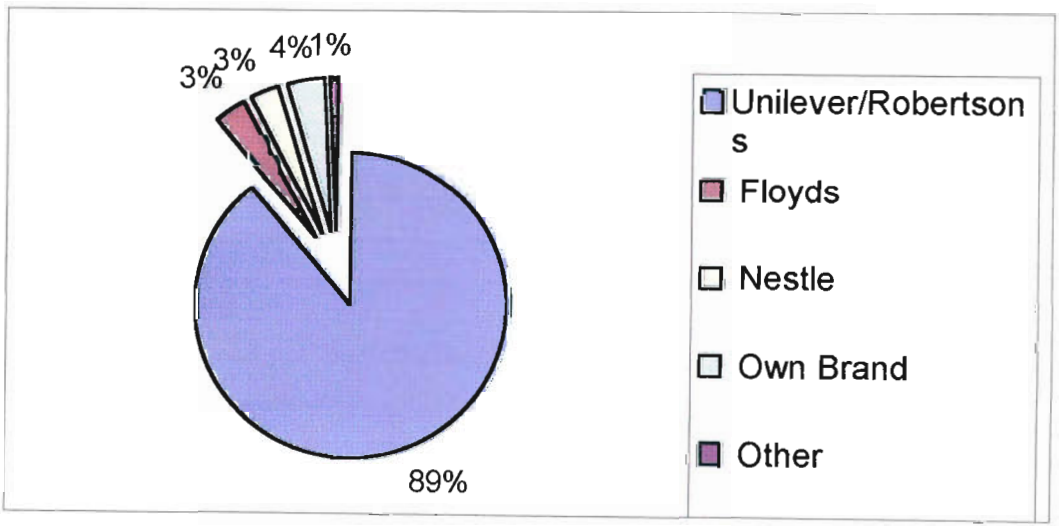

Figure 4.14: Instant Soups

Manufacturer	Market Share	Market Concentration Levels
Unifoods	**10**	**100**
Robertsons	**89.5**	**8010.25**
Other	.5	.5
Total	100%	
Pre Merger HHI Concentration Levels		**8110.75**
Delta		**1790**
Post Merger HHI Concentration Levels		**9900.75**

Table 4.17: Black Spreads

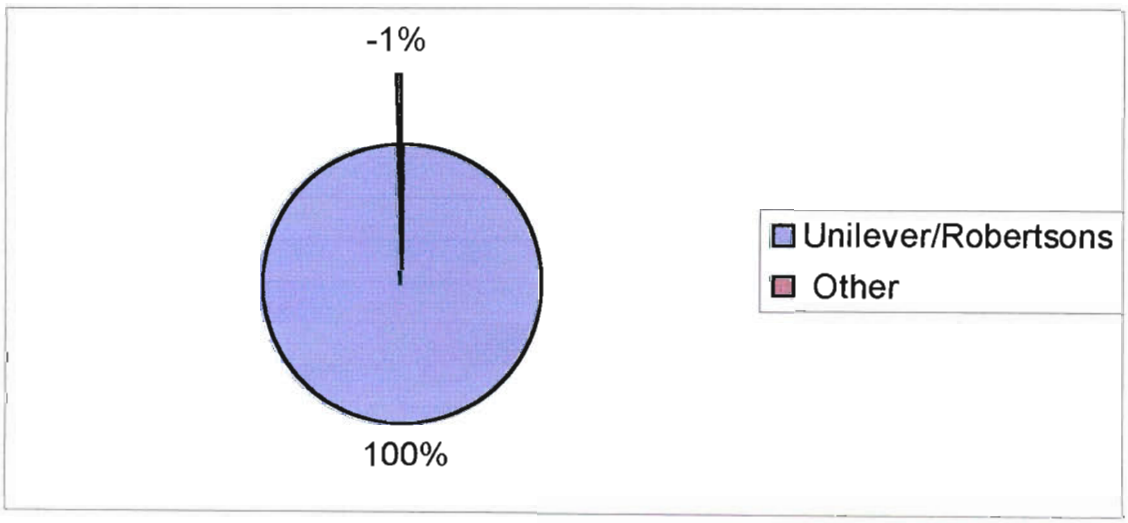

Figure 4.15: Black Spreads

4.4 Conclusion

The effect market definition has on market share and market concentration is made clear in the analysis below.

The first 6 tables above show market share when considering the merging parties functional definition. Whilst cooking ingredients – flavour enhancers- and ready meals – instant soups – have high market shares for the merging parties, the other four functional market definitions show negligible market shares. The market concentration for Unilever/Robertsons within the functional market definitions are as follows:

Cooking Ingredients – Flavour Enhancers	4858.09
Cooking Ingredients – Meal Makers	510.76
Sauces	424.36
Ready Meals – Family Meals	123.21
Ready Meals – Instant soups only	7832.25
Spreads	231.04
Average	**2329.95**

The tables that follow consider market share using the AC Nielsen guidelines set by the Competition Commission. A vast increase in concentration is readily apparent.

Packet Soup	6006.25
Shishebo Mixes	9101.16
Salad Dressing	4872.04
Recipe Mixes	4382.44
Dry Marinades	9960.04
Pour Over Sauces	6756.84
Dry Pasta Sauces	6740.4
Instant Soups	7885.44
Black Spreads	9900.25
Average	**7289.42**

Two interesting points need to be considered:

The Competition Tribunal sided to a greater extent with the merging parties in the definition of a relevant market. By the merging parties own admission their highest post-merger concentration of all the functional market definition lies in the Instant Soup market (a high concentration of 7832.25) that goes a long way to explaining the Tribunals insistence that the Royco brand be divested.

The impact of different market definitions is most clearly illustrated in the spread (functional market) vs. black spread (AC Nielsen) definition. The functional market definition of spreads include products such as jam and peanut butter, and have the effect of diluting the post Unilever/Robertson concentration to a substantially less significant 231. The AC Nielsen market definition of black spreads restricts the market to Marmite and Bovril and creates a concentration of 9900, a true monopoly.

CHAPTER 5: RECOMMENDATIONS AND CONCLUSIONS

5.1 Introduction

One of the great challenges facing international antitrust is the high degree of jurisdiction overlap that exists between merger control regimes . This is brought to the fore when considering the case of Unilever Robertson, where the verdict of the European Commission and the Competition Commission were similar. Two factors which have contributed to the increase in the overlap. The first factor is clearly the globalisation of business. Another factor contributing to the increase in jurisdiction overlap between competition law systems is the increase in the number of countries that have adopted a competition law system.

The scope of the pre-merger notification requirement is generally not limited to transactions that "substantially lessen competition" or "create or strengthen a dominant position". Instead most merger control regimes containing a pre-merger notification requirement employ surrogate data. The typical surrogate criteria is the sales volume of the parties involved in the transaction. Exclusive reliance on sales volumes expands the jurisdictional reach of the merger control regime, with competition regulation often being required to review transactions that have no anti-competitive effect in their territory. The reliance on surrogate criteria to delineate the scope of the merger control regimes creates the potential for overlap between such regimes. As business increases beyond the countries actual border, and as more countries adopt merger control regimes, the potential for overlap increases.

5.2 Cost of Overlapping Merger Control Jurisdiction

Overlapping merger control jurisdiction results in significant public and private costs. First, the application of multiple merger control regimes to the same transaction imposes substantial compliance costs on the firms involved in the transaction. In each transaction, the firms must expend resources to determine whether a filing is required in each of the jurisdictions where they have assets or sales.

Secondly, the increase in overlap between merger control regimes imposes costs on the regulators. In the face of shrinking budgets , regulatory efficiency has become an important goal in many jurisdictions. The administration and financial resources being

made available to the competition regulators are strained as regulators attempt to respond to the challenges represented by globalisation.

Andre Fiebig in his paper – A role for the WTO in International Merger Control – (Fiebig; 2001) suggests the need for an international competition law regime. A body, for example the WTO, would act as a "filter" for competitively insignificant mergers that would otherwise have to be notified in several jurisdictions. The international pre-merger office would also have jurisdiction on global mergers that are notified by merging parties. The primary difficulty with this concept would be to convince the politicians that such steps are in their national interest. Politicians and regulators are generally reluctant to relinquish sovereignty over competition decisions and in particular merger approval decisions to an independent supranational body.

5.3 South African Perspective

South Africa's case is somewhat unique and to a large extent justifies the need for an independent body. Nicola Theron identifies this difference in her statement "although economic criteria are important, the focus is somewhat blurred by the inclusion of some other ancillary objectives" (Theron; 2003).

The South African competition Act gives a list of goals:

Apart from efficiency and consumer choice (a) the efficiency, adaptability and development of the economy and (b) competitive prices and choices for consumers, which concerns itself with consumer welfare, other goals of competition policy are as follows:

(c) to promote employment and advance the social and economic welfare of South Africans,
(d) to expand opportunities for South African participation in world markets and recognize the role of foreign competition in the Republic
(e) To ensure that small and medium sized enterprises have an equitable opportunity to participate in the economy
(f) To promote a greater spread of ownership, in particular to increase the ownership stakes of historically disadvantaged persons.

Whilst (c) to (f) may be seen by some as surrogate data, the need for these goals to be addressed have been backed up by the chairman of the Competition Tribunal, David Lewin who states "our competition act specifies a range of objectives to be served by competition law... objectives like protection of SME's promotion of employment and support of black owned enterprises. Some of these conflicting objectives are deeply embedded in the act" (Theron, 2003).

Merging parties and authorities will always define relevant markets differently. It is not in their interest to do otherwise. A broader market allows for more leeway and is seen as the primary objective of the merging parties whilst a narrower market is seen by regulators as an assurance that consumers will be protected from any monopolistic behaviour.

There are critics of the authorities who believe that the Commission should clearly articulate what principles and methodology is needs to apply when identifying and circumscribing a market. Professor Pier E.J Brooks, past chairman of the Competition Board, the governing body responsible for all mergers prior to the Competition Act being introduced, believes that "in order to dispel the perception among some businessmen that market delineation is done on an arbitrary basis, the Commission needs to publish a comprehensive and readily assumable exposition of the principles and methodologies it will apply in defining markets" (Brooks; 2003).

The opposing argument is that defining a market is an extremely complex exercise and by no means an exact science. Every definition differs in relation to the context of the industry and in setting rules would create a formulaic way of thinking which would stunt the creative argument presented by merging parties and authorities.

There is however little argument that given its limited resources, the authorities post the Competition Act have exceeded the vast majority of expectations. The peer review submitted by the Organization for Economic Co-Operation and Development Global Form on Competition stated that "The competition policy bodies are recognized in South Africa as being notably competent and serious.... South Africa aspires to a modern competition policy regime, to deal with the advanced complexities of much of the South African economy. Merger review in South Africa is done at a high level of sophistication....the range of issues the Tribunal and the Commission have addressed

is impressive"(www.oecd.org). The most notable comment relates to the independence of the Competition Commission and the Competition Tribunal, with the Commission and the merging parties being equal before the Tribunal. This is clearly evident in the Unilever/Robertson case where the Tribunal sided towards the merging parties regarding the relevant market definition.

An immediately apparent concern lies between the gap of public and private sector funding for the defense of cases. Large corporate's involved in mega mergers employ top legal assistance expending hundreds of thousands of Rands (in some cases running into millions) on complex reports and "findings". The Competition Commission is limited to public sector funds with a staff complement of only 91 members that include administrative and support staff. Its ability to defend a case in a manner which is comparable to its private sector counterparts is jeapordised due to the strain on its resources. The use of the AC Nielsen product definitions by the Commission in the Unilever case could be viewed as much as a matter of convenience as one of practicality. With stretched resources, the Commission is limited to the manner in which it can counter-argue the case brought forward by the merging parties.

Whilst the parties in the Unilever/Robertson case provided comprehensive studies relating to relevant markets using demand side substitution and concentration levels, the lack of focus allowed the parties to bombard the Commission with secondary arguments relating to supply side substitution and welfare issues:

1. Barriers to entry
2. Technical Barriers
3. Access to Retailers
4. Distribution and Merchandising
5. Branding as a barrier to entry
6. Rebate Schemes
7. Countervailing power
8. Public interest issues – employment and ability of small businesses or firms controlled or owned by historically disadvantaged persons to become competitive.

If the authorities are prepared to allow a wealth of literature to guide mergers by defining relevant markets through demand side substitutability and evaluating concentration levels, it limits the scope of argument which merging parties can put forward when defending a case. This maximizes the limited resources of the Authorities as well as appeasing the needs of the private sector in providing a guideline within which to structure their case.

Regardless of which recommendation is chosen, the maintaining of a three-tiered structure (Commission, Tribunal and Appeals Court) is imperative going forward. The independence of the Tribunal ensures a fair hearing for merging parties and the appeals court allows for recourse for disgruntled parties.

5.4 Conclusion

5.4.1 Expand and Strengthen the Competition Commission Workforce

Create a specialist team whose sole purpose is to develop economic defenses to merger cases. The reality however is that whilst merging parties focus on one case at a time, the Commission has to be answerable to numerous cases concurrently. With public spending already strained it is unlikely that the workforce will be substantially increased also dispelling the likelihood that remunerations will meet those achieved in the private sector.

5.4.2 Place Most Emphasis on Demand Side Substitutability and Market Concentration with the Use of Guidelines

Authorities will be able to focus on the critical economic objectives. This will move us even more in line with first world regulators who have to a large degree identified demand substitutability and concentration as key to approving or rejecting a merger.

It is hoped that ancillary objectives that have blurred those of economic importance will be given less weighting as democracy is firmly established both in our constitution and our economy.

Whilst it is the private sector which requests for guidelines in order to provide a greater degree of certainty, guidelines will in fact be as beneficial to the authorities in leveling the playing field, focusing on the subjects seen as most critical in protecting

the rights of the consumer. Merging parties and authorities will always define relevant markets differently . A clearer view of what is required when putting forward a case will elevate our system to even more professional and accurate levels promoting efficiency adaptability and development of our competition law whilst providing the private sector with the certainty that it desires.

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