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**AN ANALYSIS OF THE
PRACTICALITY OF USING THE
PUBLIC BENEFIT TEST IN
BUSINESS ACQUISITIONS AND
RESTRICTIVE TRADE
PRACTICES**

**A thesis presented in partial fulfillment
of the requirements of the degree of
Master in Applied Economics
at Massey University**

**ANDREA JANELLE LEASK
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Abstract

The objective of this research was to examine the efficacy of the 'public benefit test' to authorise anti-competitive practices and acquisitions in New Zealand, as applied by the Commerce Commission, under the *Commerce Act 1986*. In particular, the study established whether, and to what extent, companies granted authorisation had successfully achieved the benefits claimed, in comparison to what might have been achieved without authorisation - the counterfactual. No such study has been performed in New Zealand, despite the potentially significant cost to society if anti-competitive acquisitions and trade practices are habitually unable to achieve benefits claimed.

The approach adopted was to compare expectations of benefits held by the Commission and the applicants at the time of merger, with actual achievements. Actual results were also compared with the counterfactual. The case study approach was embraced to accomplish this as it permits an in-depth examination of the issues related to each determination. Questionnaires completed by company representatives of the firms granted authorisation were the primary source of information. Interviews were also held with company representatives to clarify outstanding issues.

Nine authorisations were identified which met a set of criteria developed by the researcher, involving four industries: meat processing, dairy processing, gas, and telecommunications.

One authorisation studied, involving Telecom and the cellphone services market, surpassed expectations of benefits resulting from authorisation, while another, involving a joint venture gas retailing operation in Hamilton, overestimated gains from merger, and thus, benefits have not been achieved. All other authorisations studied, fell somewhere in between these extremes.

The major conclusion of this study appears to be that the Commerce Commission's ability to predict the size, magnitude, and probability of benefits being realised, is poor. This result is attributable to the multitude of factors affecting firms' operations, rather than an oversight by the Commission. In each of the four industries there have been major changes in market conditions, mostly attributable to deregulation, and ensuing competition. The poor predictability of the public benefit test brings into question its usefulness as a major competition policy tool. The major weakness of the public benefit test is its inability to provide an incentive for companies granted authorisation to ensure efficiency gains and other benefits are realised.

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1. Introduction

The *Commerce Act 1986* (hereafter 'the Act') is an Act 'to promote competition in markets in New Zealand,' where competition is defined as 'workable' or 'effective' competition. The rationale behind the emphasis on competition in the Act is the belief that "the interaction of competitive forces will yield the best allocation of New Zealand's resources, the lowest prices, the highest quality, and the greatest material progress etc., unless it is shown, for example, that the possession of a dominant position is better able to achieve economic efficiency" (Commerce Commission (CC), 1987a). Thus, although competition is stated as the primary competition goal, it is favoured not as an end in itself, but as a means of promoting efficiency. Where a less competitive outcome is expected to yield greater efficiency, the competition goal is overridden. Hence, the ultimate competition goal of the Act is the promotion of efficiency.

Section 3(A) of the Act upholds this statement. It states that "where the Commission is required under this Act to determine whether or not, or the extent to which, conduct will result ... in a benefit to the public, the Commission shall have regard to any efficiencies that the Commission considers will result ... from that conduct."

Parties to business acquisitions and restrictive trade practices which breach anti-competitive thresholds set out in the Act,¹ may be granted authorisation where the Commission is satisfied that the acquisition or trade practice will result in a benefit to the public which would outweigh the detriment from the lessening in competition. The procedure adopted by the Commission to weigh the effects of market power and efficiency gains arising from a merger or trade practice, is called the 'Public Benefit Test.'

The objective of this research is to examine the practicality of the public benefit test to authorise anti-competitive practices in New Zealand, and to establish whether those applicants granted authorisation have successfully achieved the public benefits claimed compared to what might reasonably have been achieved without authorisation. The study also encompasses those factors which promoted the achievement of benefits; possible difficulties (if any), which delayed or

¹ Practices deemed anti-competitive are those found by the Commission to breach section 47 or sections 27, 28, 29, 37, 38 of the Act which prohibit the acquisition of shares in a business if the acquirer is likely to create or strengthen a dominant position in a market, or in the case of restrictive trade practices, arrangements which substantially lessen competition.

impeded the realisation of benefits; and whether other unforeseen factors arose to divert the company from its original plans. It is hoped that the research demonstrates the accuracy of the Commission's estimates of the magnitude and probability of benefits and detriments made at the time of the decision.

The approach adopted is a comparison of the expected benefits and detriments flowing from a number of authorised acquisitions and restrictive trade practices put forward by the parties and accepted by the Commission, at the time of the Commission's determination, with the actual outcomes. In addition, the research would attempt to compare actual results with those likely to have been achieved without the acquisition or trade practice.

The case study approach is the most approach to assess the extent to which parties granted authorisation under the Act had achieved the benefits claimed given the rarity of authorisations in New Zealand. The case study approach allows an in-depth examination into a wide range of factors peculiar to each case, and the industry setting, and permits each authorisation to be assessed individually, with questionnaires and interviews customised to suit each case. Given the unique circumstances surrounding each authorisation, the case study approach was considered the appropriate investigation method, as it permitted greater flexibility than other methods.

While a quantitative approach would have provided valuable information to support or refute claims of the extent to which firms have achieved benefits claimed, an insufficient number of authorisations have been granted by the Commission, and in many cases, too little time has elapsed since authorisation was granted, to make valid conclusions from the data. The researcher had envisaged undertaking a comparison of financial data before and after merger, however, only two of the respondents were prepared to make available such information. Much of the financial data supplied was unusable due to its aggregated nature, and lack of comparable data from other industry participants. Thus, informational difficulties played a significant role in determining the method of investigation used.

A number of problems associated with the approach adopted and method of investigation used were foreseen by the researcher. In particular, respondents have no obligation to participate in the study or supply information, therefore availability and access to information was expected to

be a significant factor when drawing reliable conclusions. Furthermore, an asymmetry of information means that caution needed to be observed in relation to data provided by the respondents, as the researcher was, in many cases, unable to validate claims and assertions with other industry participants. These informational difficulties must be borne in mind when results are being considered.

As a consequence of countless internal and external changes, the causal link between the acquisition or restrictive trade practice, and benefits and detriments is often not clear. Additionally, other factors acting on the industry and the firm make it difficult to discern the extent to which the merger influenced the achievement of benefits and detriments, from the influence of other factors. Finally, a counterfactual scenario was used to compare the extent to which benefits and detriments were realised with the merger or trade practice, and without. This requires the respondents to predict the characteristics of the firm and the industry in a hypothetical situation. An exercise such as this is highly speculative and insupportable, thus little reliance can be placed on such forecasts.

Nine authorisations formed the basis of the study. These satisfied a set of criteria developed by the researcher. Authorisations had to have been decided under the 1986 Act, and before January 1, 1996. Also, benefits had to be able to be identified in hindsight, measurement of intangible benefits would prove too difficult. These authorisations involved four industries: meat processing, dairy processing, gas, and telecommunications. Negative responses were received from a number of participants to the authorisations, although only one authorisation (a dairy industry merger between Kiwi Co-operative Dairies Ltd. and Moa-Nui Co-operative Dairies Ltd., CC, 1992a) could not be examined further, as a result of a negative response.

Despite potentially large consequences on society if a significant proportion of parties granted authorisation have not achieved benefits claimed, a study relating to the extent to which parties efficiencies and other benefits are attained following authorisation by the Commission has not before been conducted in New Zealand.

Antitrust authorities and the New Zealand Government have an obligation to New Zealanders to ensure that the laws governing society are appropriate, efficient, and achieve the goal they set out to achieve. They ought to be held accountable for the decisions they make on behalf of New Zealanders. This study attempts to fulfill this obligation to society. The consequences of

erroneous decisions, or inappropriate competition policy are potentially enormous, therefore a study such as this is long overdue.

The literature agree that concentration of market power acquired through merger or other business activity, negatively affects economic growth, and welfare. The absence of competition is believed to lead to a poorer allocation and use of resources, and retarded growth and innovation, since incentives are insufficient to ensure firms strive to gain a competitive advantage over rivals. Thus, firms in possession of market power can afford to sustain slackness, waste, or inefficiencies, without suffering a loss of custom or profitability. The detriment to society arises from efficiency losses due to poor allocation of resources, lost opportunities to introduce productive and dynamic efficiency gains, higher prices, poorer quality, and less goods and services available.

In addition to the acquisition of market power, as a result of a merger or restrictive trade practice, efficiency gains and other benefits may be attained. Productive efficiency gains and cost savings realised through economies of scale or scope, rationalisation of staff, facilities, and expenses, or elimination of duplication, constitute a benefit to society. Innovation or technological improvements may also be accomplished as a result of merger, which were not possible while the two firms operated separately.

Moreover, benefits arising from a merger or restrictive trade practice may accrue to customers, in the form of lower prices; other industry participants or other industries, as cost savings or innovations are imitated or emulated by competitors; other industries may also benefit, as resources are freed for use elsewhere; and society, as scarce resources are being used more productively, using better methods than previously.

The Williamson merger tradeoff model (Williamson, 1968, 1977) provides the framework with which to identify and balance efficiency gains and losses from mergers and restrictive trade practices. The model applies a static partial equilibrium framework to large scale mergers, and assumes an efficiency objective for competition policy has been adopted. Severe operational difficulties limit application of the model in antitrust cases. Nonetheless, the model offers valuable insight into the implications of antitrust determinations and competition policy.

The implications of the Williamson merger tradeoff model were applied to those authorisations identified for examination in this research, in order to assess the extent to which benefits claimed at the time of the Commission's decision, were achieved. The research presented in the following chapters concludes that the poor ability of the public benefit test to predict the extent to which efficiency gains and other benefits will be achieved brings into question its usefulness as a major competition policy tool. All credit goes to the Commission however, since the multitude of other factors influencing the firms' ability to achieve benefits have a far greater bearing on this conclusion than the Commission's evaluation.

The major implication of this research is that firms granted authorisation lack an incentive to ensure efficiency gains and other benefits are achieved. In the absence of competition, companies need not implement programmes to realise efficiency gains and cost savings, as performance is unaffected.

The research will be presented as follows; Chapter 2 outlines the purpose and workings of the *Commerce Act 1986*, with particular emphasis on the public benefit test, and provides an international comparison of competition policy. New Zealand's public benefit test authorises acquisitions and other trade practices deemed by the Commission anti-competitive, where efficiency gains and other benefits outweigh detriments. Australia's and Canada's competition policies contain a similar test. The United States recognises efficiency gains where there is only a small lessening of competition, and gains are expected to be substantial. Finally, the European Union has no 'efficiency defense.'

Chapter 3 reviews the literature on competition policy goals, provides an explanation for the approach adopted in New Zealand, and summarises the conclusions of previous studies related to the extent to which efficiency gains and other benefits have been achieved. A brief overview of the Williamson model, its implications, limitations, and qualifications is also presented.

Chapter 4 justifies the methodology used to extract information from the companies granted authorisation, and other industry participants. Within the case study framework, questionnaires and interviews were held with parties granted authorisation, and industry experts, in order to gather information on the firm, the industry, and developments, since authorisation.

Chapter 5 discusses the meat processing industry and the two restrictive trade practices granted authorisation by the Commission (CC, 1987b, 1995a). The chapter summarises the characteristics of the meat processing industry, and the issues which arose in relation to these cases. An analysis of the extent to which the respondents have achieved the benefits claimed is also presented. As a result of deregulation and freeing up of New Zealand markets, the meat processing industry has been subject to a number of internal and external factors, which have had a significantly larger impact on the firms' ability to realise cost savings, efficiency gains, and other benefits claimed, than the trade practices.

Similarly, Chapter 6 provides an examination of the background to the dairy industry, and the issues which arose in relation to the two applications for merger (CC, 1988a, 1991). Deregulation of the dairy industry, and ensuing competition between dairy companies, for suppliers and domestic product sales, necessitated rationalisation of the industry. While merger facilitated the transformation from a highly regulated industry to a fully deregulated one, rationalisation would have occurred anyway. The mergers simply accelerated the process and prevented greater suffering.

Chapter 7 summarises the background to the gas industry, and identifies those issues considered relevant to the Commission's investigation at the time of the decisions (CC, 1988b, 1992b, 1993c). Each of these gas company mergers was motivated by the need to prepare for deregulation of the industry. In anticipation of intense competition in gas retail markets, which was expected following deregulation, gas utilities endeavored to establish links with larger retailers and wholesalers, and strengthen market position by purchasing interests in other retailers. Competition between retailers has not yet eventuated, but is expected in the near future. One gas industry merger (CC, 1988b) was not able to achieve any of the benefits claimed, cost savings were grossly overestimated, debt servicing costs were excessively high, and extensive repair work was required, which had not been anticipated. The other two gas industry cases were more successful at achieving benefits claimed.

Chapter 8 also examines the background to the telecommunications industry. In particular, the cellular services market. The issues which arose in relation to the Commission's investigation are also examined. Forecasts of expected growth in cellular services were grossly underestimated, and thus, benefits have exceeded expectations. The application by Telecom to acquire the AMPS-A, band suitable for cellular services, was eventually authorised by the Court of Appeal

almost two years after the Commission declined to authorise the application (CC, 1990b, Court of Appeal (CoA), 1992).

Finally, Chapter 9 offers some conclusions arising from the research, limitations, and possible research extensions.

2. An Overview of New Zealand Competition Law

2.1. Introduction

The Long Title of the *Commerce Act 1986* states that it is “an Act to promote competition in markets within New Zealand and to repeal the *Commerce Act 1975*.” Underlying the promotion of competition is the belief that a relationship exists between competition and efficiency, such that the promotion of the first induces the achievement of the second. That is, rivalry between competitors is thought to bring about the efficient allocation and use of an economy’s resources, and economic growth to the benefit of society at large.

The promotion of competition should not be confused with maximisation of competition or the theory of perfect competition. Section 3(1) of the Act defines competition in terms of ‘workable’ or ‘effective’ competition. An industry that is workably competitive has been defined by Clark (1940) as one in which there are a considerable number of firms, selling closely related products in each market area, no collusion among firms, and no entry barriers.

In broad terms, the Act prohibits restrictive trade practices which lessen competition, business acquisitions which create or strengthen dominance, and the use of a dominant position in a market to restrict entry, prevent or deter competitive conduct, or eliminate any person from a market. This is based on the belief that prevention is better than cure.

These prohibitions may however be waived where parties to an arrangement are able to satisfy the Commission that a less competitive arrangement will bring about greater efficiency. The ‘public benefit test’ is applied to arrangements which breach the above prohibitions, called anti-competitive thresholds, to satisfy the Commission that detriment from lessening of competition is outweighed by benefits.

The Act was designed as a key piece of legislation to contribute to the economic liberalisation of the New Zealand economy (Bollard, 1994). Economic initiatives under the fourth Labour Government in 1984, sought to encourage the operation of free markets in New Zealand and limit Government involvement in the economy. This change in economic policy reflected new economic thinking in the United States. Firstly, the Chicago School of economists advocated a

small role for the State in the economy, and competition policy focused on promoting and improving static efficiency. Secondly, contestable markets theory seemed to offer a solution to the conflict between promoting economies of scale and market dominance, in small economies. Under a number of assumptions, proponents of the contestable markets theory believed that the threat of entry into a market was sufficient to ensure incumbents behaved competitively.

Further, the Act provided for the harmonisation of competition law, as agreed under the *Australia New Zealand Closer Economic Relations Trade Agreement (ANCERTA)*, 1983. New Zealand's Act is modelled on the *Australian Trade Practices Act 1974*, except that in New Zealand, provisions for consumer protection fall under the ambit of the *Fair Trading Act 1986*. Some divergence in approach has emerged recently, as Australia has adopted a more stringent regime in relation to anti-competitive practices, while New Zealand's has become more liberal (Bollard, 1994).

The following sections outline these issues in greater detail. Firstly, the structure and institutional arrangements of the Act are discussed, including a summary of the relevant sections in the Act. Secondly, the procedures for clearances and authorisations are mentioned, including an in-depth explanation of the public benefit test which is applied to applications for authorisations of restrictive trade practices and business acquisitions. Finally, a comparison of New Zealand's authorisation procedure with other countries is presented.

2.2. Structure Of The Act

Essentially, the Act reorganised the Commerce Commission to take on the roles of investigation, enforcement, and resolution, previously split between the Commerce Commission and the Examiner of Commercial Practices. Additionally, s25 of the Act obligates the Commission to disseminate information to the public relating to its functions, and exercise of its power under the Act. Thus, the Commerce Commission was established to independently administer the Act through its regulatory and quasi-judicial roles. The Commission's independence from Government is however, limited by s26, which requires "the Commission to have regard to the economic policies of the Government." Upon receipt of a statement from the Minister of Commerce, the Commission must consider the economic policies of Government, until such time as the statement is repealed, when making a determination. That is not to say, that the

Commission is impelled to determine a case in favour of the Ministry's wishes, however, the Commission has tended to place importance on such statements.

Part I of the Act establishes the Commerce Commission and details its membership and operation. Parts II and III prohibit restrictive trade practices and business acquisitions (respectively) which lessen competition, and acquisition or strengthening of a dominant position in a market. Part IV relates to the control of prices. Parts V, VI, and VII are largely administrative; Part V outlines procedures for authorisation and clearances of otherwise prohibited practices; Part VI sets out provisions for enforcement, remedy, and appeal; and Part VII provides for miscellaneous provisions not covered elsewhere. Behaviour which raises competitive concerns are thus, assessed under parts II, III, or IV.

Parts II and III of the Act spell out practices the Act aims to thwart. Section 27 prohibits contracts, arrangements, and understandings between competitors, which substantially lessen competition. Section 30 relates to price fixing arrangements, which are deemed to substantially lessen competition. Section 29 prohibits arrangements containing exclusionary provisions. Section 36 prohibits the use of a dominant position in a market to restrict, prevent, deter, or eliminate entry, or operation of a competitor. Sections 37 and 38 prohibit resale price maintenance by suppliers and others, while s47 prohibits mergers or takeovers which lead to the acquisition or strengthening of a dominant position in a market.

Private litigation may be brought before the Court for most contraventions of the Act. In many cases, the threat of competitors or other interested parties informing the Commission of potentially anti-competitive practices is sufficient incentive to apply for clearance or authorisation voluntarily. Occasionally (for example, the Clear/Telecom dispute HC, 1991c; CoA, 1993; Privy Council, 1994), the Commission is able to stand aside in private litigation cases, and save resources for other enforcement obligations. To date, contraventions of the Act have been challenged by the Commission in the form of investigations, issued warnings, settlements, and litigation. Parties dissatisfied with Commission determinations may be referred to the High Court under Part VI of the Act.

Although conferences are not mandatory, the Commission invariably holds conferences in respect of authorisation applications, as it is an excellent forum for parties to the arrangement, and other interested parties, to discuss benefit and detriment, and provide the Commission with a

comprehensive evaluation of the firm, the markets in which the firm operates, and industry. Two authorisations, both involving the gas industry, discussed in this study did not require a conference. In NGC/Wanganui District Council (CC, 1992b), the Commission did not consider that a conference was necessary to properly consider the application. In Enerco/Progas (CC, 1993c), the Commission had only just completed an extensive investigation into the industry, and no parties indicated that a conference was required.

Interested parties are encouraged to comment on economic and other aspects of the application. As part of the Commission's investigation, industry participants are approached to provide information about the applicant firm, the industry, or any other information relevant to the Commission's enquiry. Alternatively, any interested party may make submissions to the Commission.

Business acquisitions which do not raise anti-competitive concerns, namely, they do not create or strengthen a dominant position in a market, may be granted 'clearance' by the Commission under s66 of the Act. Where dominance is acquired or strengthened, a balancing of detriment and benefit flowing from the arrangement is necessary, to determine the net effect of the acquisition on efficiency and welfare. This balancing process is referred to as 'the public benefit test.' Cases where detriment outweighs benefit are declined, while those in which benefit outweighs detriment are granted authorisation under s67. Essentially, authorisation or clearance protects parties to the arrangement from litigation, either by the Commission, or by private parties.

Restrictive trade practices which do not substantially lessen competition will not be granted clearance, but may proceed. Thus, no protection from future litigation is afforded. The public benefit test is applied to those practices deemed by the Commission to substantially lessen competition. Similarly, s58 of the Act allows the Commission to authorise practices where benefit outweighs detriment.

Despite differences in the wording of the Act in relation to the authorisation of business acquisitions and restrictive trade practices, application of the public benefit test is essentially the same in both cases.

Section 65 of the Act provides a revocation or amendment clause for restrictive trade practices to deter participants from providing false or misleading information in an investigation and

encourages participants to comply with undertakings and conditions specified to the Commission. It also provides for revocation or amendment to authorisations where there has been a material change of circumstances since the authorisation was granted. No such clause exists in the Act in relation to business acquisitions. Despite major changes in some industries following authorisation, the clause has been used only once to revoke an earlier decision which authorised a price fixing agreement in the kiwifruit industry (CC, 1989c). The Commission rarely conducts a review of an authorisation, as its resources are tied up with matters of enforcement, adjudication, surveillance, and education.

Some of the terms used by the Commission in its determinations warrant further explanation. Section 3(8) of the Act defines a dominant position in a market as “one in which a person as a supplier or an acquirer of goods or services ... is in a position to exercise a dominant influence over the production, acquisition, supply, or price of goods or services in that market.” Section 3(9) of the Act requires the Commission to have regard to factors other than market share when assessing dominance, including:

- a.) ... Technical knowledge, the access to materials or capital ... ;*
- b.) The extent to which that person is, ... constrained by the conduct of competitors or potential competitors in that market;*
- c.) The extent to which that person is, ... constrained by the conduct of suppliers or acquirers of goods or services in that market.*

Thus, dominance cannot be assumed merely by identifying a firm’s market share. Other factors such as entry barriers and market power of other participants in the market, including current and potential suppliers and customers, must be considered. Although barriers to entry are not mentioned in the Act, the Commission and the Courts have accepted them as being important in their determination of dominance.

In relation to this study, the height of exit barriers and presence of excess capacity were factors for consideration in the meat processing industry cases (CC, 1987b, 1995a), while in the dairy and gas industries, the inability of new entrants to enter the market by virtue of Government directive occupied the Commission’s assessment of competition (dairy: CC, 1988a, 1991; gas: CC, 1988b, 1992b, 1993c). The Commission’s investigation of the telecommunications industry centred around Telecom’s monopoly ownership of the Public Switched Telephone Network, which a new competitor would need to gain access, and the number of frequency bands available for new entrants to set up a competing cellular service (CC, 1990b).

Given this broad definition, determination of the dominance threshold has been left to the Commission and the Courts. Richardson J. noted that (CoA, 1992, p. 42)

Clearly the dominance test sets a rigorous threshold. It is not sufficient that the influence be advantageous or powerful. It must be dominant ... Only one person can be dominant in a particular aspect of a market at any one time. Not surprisingly standard dictionaries give meanings such as 'ruling,' 'governing,' 'commanding,' 'reigning,' 'ascendant,' 'prevailing,' and 'paramount.'

A more recent Court of Appeal judgment (CoA, 1996) determined that “dominance reflects the ability to act to a large extent independently ... It involves a high degree of market control.” Little guidance was however offered as to what characteristics of the market would constitute a ‘high degree of market control.’ The Court of Appeal supported the Commission’s (CC, 1990b, p. 23) conclusion that “a person in a dominant position will be able to effect an appreciable change in the price and/or other aspects of supply of his goods and services and maintain this change for an appreciable length of time without suffering a serious adverse impact on profitability.”

The 1996 Business Acquisitions Guidelines (CC, 1996, p. 17) prescribes “safe harbour” market share thresholds for the acquisition or strengthening of dominance. A dominant position is unlikely to be acquired or strengthened where the merged entity has “less than in the order of magnitude of a 40 percent share of the relevant market” regardless of the number and size of competitors, or has “less than in the order of a 60 percent share of the relevant market and faces competition from at least one other market participant having no less than in the order of a 15 percent market share.”

A recent study by Bollard, Pickford, and Strong (1997), of applications to the Commission for the clearance or authorisation of business acquisitions, for the period January 1991 to December 1996, revealed that 17 out of 211 applications, were judged by the Commission to lead to the acquisition or strengthening of dominance in one or more markets. Thus, the dominance threshold is rarely breached. Of the many markets in which firms operate, few are likely to violate the dominance threshold.

Their study also revealed that the Commission’s safe harbour market share thresholds outlined in the 1996 Business Acquisition Guidelines (CC, 1996), were in practice, significantly higher. Using a number of independent variables: market share of the participants, market share of the

next largest firm, the three-firm concentration ratio, the number of market players, regulatory, economic, and overall domestic entry barriers, the researchers assessed the probability of the Commission finding a strengthening or acquisition of dominance, in a total of 303 markets in which the firms operated. Using probit regression analysis, they concluded that business acquisitions were not likely to be found by the Commission to acquire or strengthen dominance unless there are high domestic entry barriers, no imports present, and the merged firm is expected to acquire greater than 70 per cent of the market share.

Thus, in effect, dominance means that the firm has a large amount of market power. By comparison, a substantial lessening of competition means that market power has increased. Section 3(2) of the Act defines lessening of competition as the “hindering or preventing of competition.” Lessening of competition should be interpreted to refer to a reduction in the factors which make a market workably competitive (CC, 1995a).

The *Commerce Amendment Act 1996* recently resolved an on-going debate as to the Commission’s jurisdiction to authorise trade practices which lessen competition. The Commission may authorise practices which lessen competition, even if the lessening is not substantial. The *Weddel/Crown* case (CC, 1995a) was one instance where the Commission found there would be a non-substantial lessening of competition, yet some detriment was expected. In such cases, the detriment arising from the lessening is likely to be small. The Amendment created an anomaly in the Act however, since the anti-competitive threshold is not breached by a practice unless there is a substantial lessening.

The Act provides little guidance with regard to what constitutes a ‘substantial’ lessening of competition. The Commission (CC, 1995a) concluded that a substantial lessening of competition “suggests that an increase in market power resulting from the practice in question to a degree which is at least real or of substance”. The Commission refers to the lessening of competition in markets in broad terms rather than using a set of criteria with which to compare applications. For example, a lessening of competition which is not “substantial” is often referred to as “minor” or “small.” While this provides flexibility, it creates ambiguity, and is vulnerable to inconsistencies across industries and over time.

2.3. The Public Benefit Test

The Act provides no guidance on what factors constitute public benefits and detriments, or how the Commission should weigh benefits and detriments. Clarification of these terms and the procedures for balancing benefits and detriments has been left to the Commission and the Courts.

Underlying the Act's emphasis on competition is the assumption that concentrated markets permit industry participants to use market power to the detriment of competitors, customers, and society. This contention is summarised in the Commerce Commission's Guidelines on public benefits and detriments (CC, 1994b). The guidelines state that a detriment to society arises from a lessening of competition, or the acquisition or strengthening of dominance, because the lessening or absence of competition, allows the firm to sustain slackness or waste, thereby permitting a sub-optimal allocation of resources in the economy.

In order to establish the extent of detriment arising from the lessening of competition the Commission conducts an in-depth analysis of the markets in which the firm operates, with emphasis on market structure and conduct. Pickford (1997) notes that the Commission has only recently attempted to quantify detriment. Commerce Commission Guidelines (CC, 1994b) assert that the focus is on the potential for market power to produce future detriments rather than current detriments. In other words, the Commission assesses the potential for a firm to acquire or strengthen market power or lessen competition, rather than the likelihood of exercise of that power to lessen competition.

The uncertain nature of assessments as to the future, and inability to generate accurate data, significantly restricts accuracy of the data and hence, the reliability of conclusions drawn. The Court of Appeal (CoA, 1992) asserted that "the future can never be known with certainty. However, reasonable or likely projections can be made. Accordingly, the Commission bases its analysis on reasonable and likely forecasts of future developments."

The Commission constructs a 'counterfactual' scenario to establish the existence and extent of detriment and benefit arising from the arrangement. The counterfactual is the scenario expected to exist in the event the arrangement is declined. Rather than adopting a 'before' and 'after' comparison, the matter for consideration is 'with' and 'without' authorisation. It is the standard against which to gauge performance of the merger in relation to efficiency gains. Construction of

a counterfactual scenario is perhaps the most difficult of tasks, as it requires the Commission to forecast a hypothetical future based principally on information supplied by applicants to merger.

The exercise of constructing a counterfactual highlights the relationship between the arrangement and the magnitude of ensuing benefits and detriments, because one is able to compare the expected situation with and without the arrangement. The Commission must be satisfied that the detriment or benefit arises as a result of the arrangement, and will not occur in the counterfactual. Thus, a nexus must be established.

Detriments arising from an arrangement are weighed against benefits in order to establish the net effect. Public benefit claims must be accompanied by supporting evidence of the causal relationship between the benefit and the arrangement, the magnitude, probability, and timing of benefits, and if possible, quantification, to satisfy the Commission that the practice or acquisition ought to be authorised. Benefits accruing sooner, rather than later, are given greater weight, as are benefits deemed more likely to materialise. Additionally, parties must measure benefits on a 'net' basis, accounting for costs involved in implementing or achieving those benefits, and must not be changes in the distribution of wealth per se, which have no net impact. The benchmark for consideration of benefit claims is once again the counterfactual scenario, as this reflects the extent to which benefits are expected to be realised with and without the arrangement.

Typically, benefits to the public constitute efficiency gains resulting from economies of scale or scope, rationalisation of facilities, and avoidance of duplication. While other benefits such as increased exports, improved international competitiveness, and improved returns to shareholders are desirable, they arise as a result of the efficiency gain. The benefit to the public is the gain in efficiency, and should not be counted twice by considering how the benefit is used or distributed. However, the term 'public benefit' is not restricted to efficiency improvements and may include other social, environmental, or health improvements whose benefits cannot readily be measured in monetary terms.

Essentially, the balancing of benefit and detriment involves a weighing up of efficiency gains and losses expected to arise from the acquisition or practice. Applications are ultimately successful or unsuccessful on the strength of efficiency gains and losses. In a survey of authorisation decisions by the Commerce Commission over the period 1986 - 1992, Pickford (1993) concluded that since 1990 there was a shift in the application of the authorisation test, whereby efficiency

gains have been weighted more heavily. One contributing factor is likely to have been the addition of section 3A by the *Commerce Amendment Act 1990*, which requires the Commission to have regard to efficiencies when assessing public benefits.

The time frame for making an authorisation determination in relation to business acquisitions is 60 working days from the date of registration of notice (for application). The Commission has self-imposed the same time constraint on restrictive trade practice authorisations.

2.4. International Comparison

The trade-off between increasing market power and efficiency gains, resulting from authorisations of acquisitions and trade practices which consummate large scale firms is likely to be accentuated in small countries like New Zealand, where the scope for scale economies is great in relation to market size (Bollard, 1994). Industry structures in small economies are likely to be characterised by few domestic operators, a higher level of concentration, and an increased incidence of natural monopoly (Bollard, 1994).

Markets tend to be highly concentrated in countries where domestic demand is small, and production is more efficient when one firm, or a few firms, service the market, rather than many small firms, each with high fixed costs, competing for a small portion of the market. This has major implications for competition policy because a policy which rigorously promotes competition and disallows business acquisitions and restrictive trade practices which increase concentration, may result in markets being overcrowded by firms of sub-optimal size. Greater concentration would allow firms to more fully exploit economies of scale and scope with efficiency benefits. Thus, the benefits of natural monopolies and economies of scale in small economies are likely to be significant and achievable.

On the other hand, greater concentration may be accompanied by serious anti-competitive effects, including price increases, and reduction in quantity and quality. In addition to these allocative efficiency losses, incentives to introduce productive and dynamic efficiency gains in concentrated markets are insufficient, and may lead to significantly larger losses in welfare and economic growth. Khemani (1991) warned that an erroneous assessment of the economic effects

of a business acquisition by antitrust authorities is likely to have a greater impact in small than large countries, as the potential efficiency gains and losses are accentuated.

New Zealand's response to this problem has been the whole-hearted adoption of the efficiency defence to otherwise anti-competitive practices and business acquisitions through the public benefit test. Few other countries have adopted an efficiency defense as comprehensively as New Zealand. A public benefit test, similar to New Zealand's, which recognises efficiency arguments is contained in Australia's and Canada's competition law. The United States (US) has gone some way toward incorporating an efficiencies defense, while the European Union (EU) recognises efficiencies, but not as a defence against anti-competitive practices.

Efficiency arguments have rarely been applied in the US because difficulties associated with proving efficiencies are considered by applicants, antitrust authorities, and Courts to be too complex (Griffin and Sharp, 1996). The 1992 Merger Guidelines state that "the expected net efficiencies must be greater the more significant the competitive risk." Thus, the efficiency defence is only available where the likelihood of efficiencies is extremely high and the likelihood of anti-competitive effects is relatively low. Although efficiency considerations are theoretically available in US merger applications, there is no clear judicial treatment or application of efficiencies arguments (Griffin and Sharp, 1996).

The EU's application of an efficiency defense is similar that of the US. An efficiency defence is accepted for applications for business acquisitions where "evidence of technical and economic progress is provided that it is to the consumer's advantage and does not form an obstacle to competition" (Article 2(1)(b) of the European Merger Regulations December, 1989). Consequently, efficiency arguments will not exempt business acquisitions in breach of the anti-competitive threshold, defined in the European Union Merger Regulations as "the creation or strengthening of a dominant position, as a result of which effective competition would be significantly impeded in the common market." Thus, the goal of maintaining "effective competition" is paramount.

All aspects of competition analysis are considered in relation to the common market. Hence, both anti-competitive concerns and efficiency gains are examined in light of their effect on competition, efficiency, and welfare of the Union, rather than individual countries within the Union. Similarly, Canada's *Competition Act 1985* emphasises the common market between the

United States and Canada. The Canadian Bureau of Competition Policy takes into consideration competition from American goods and services, just as New Zealand's Commerce Commission considers competition from Australian goods and services.

Sanderson (1997, p. 623) erroneously comments that Canada is "unique in providing for an explicit efficiency exception to otherwise anti-competitive mergers." Like New Zealand, Canada's Act permits mergers that "bring about gains in efficiency that will be greater than, and will offset, the effects of any prevention or lessening of competition that will result or is likely to result from the merger ... and that the gains in efficiency would not likely be attained if the order was not made" (s96(1)). Canada's Act provides a statutory limitation period on challenging a merger of 3 years (Sanderson, 1997).

New Zealand's *Commerce Act 1986* was modelled on Australia's *Trade Practices Act 1974*, therefore many similarities may be identified between the two Acts. An Australian case - Queensland Cooperative Milling Association/Defiance Holdings (1976) - case is the principle authority on efficiency considerations in anti-competitive cases. Like New Zealand, Australia has adopted a public benefit test which considers efficiency gains as well as other benefits to society. Perhaps the most obvious difference between Australia's and New Zealand's Acts is Australia's adoption of substantial lessening of competition threshold for anti-competitive practices and acquisitions. The anti-competitive threshold for trade practices in New Zealand is the same as Australia's, however, the threshold for acquisitions is dominance. Essentially, this means that Australia's Act is less permissive than New Zealand's. This is supported by Greer (1988), who argued that New Zealand's standard for determining dominance is too lenient and that New Zealand should move toward an Australian standard.

In general, larger economies have tended to set lower anti-competitive thresholds and have been less willing to accept efficiency considerations. This reflects the belief that losses from permitting acquisitions and trade practices which grant market power will be substantial in large economies. Conversely, efficiency gains in small countries from permitting large firms are likely to be substantial. It is appropriate therefore, for large economies to take a less permissive stance to anti-competitive practices, while small economies adopt a more lenient approach.

2.5. Conclusions

The *Commerce Act 1986* was introduced to complement economic reforms to liberalise the operation of New Zealand markets, and provide for the harmonisation of Australian and New Zealand competition policy. The rationale for the emphasis of the Act on the promotion of competition reflects the New Zealand Government's confidence in the competitive process to increase economic efficiency and growth to the benefit of all New Zealanders.

Essentially, the Act establishes the Commission to take on the roles of investigation, enforcement, and resolution of business practices inconsistent with the goal of promoting competition, for example, business acquisitions and restrictive trade practices.

The anti-competitive threshold, for which workable or effective competition is hindered or impeded, is a lessening of competition for restrictive trade practices, and the acquisition or strengthening of a dominant position in a market for business acquisitions. Business acquisitions which do not breach the anti-competitive threshold may be granted clearance, while those that do, may be permitted, if the applicants can satisfy the Commission that the benefits arising from the arrangement outweigh the detriment from a lessening of competition. A balancing exercise is conducted between efficiency gains resulting from economies of scale and scope and rationalisation, and efficiency losses arising from a lessening of competition.

Likewise, restrictive trade practices in breach of the anti-competitive threshold may be permitted where the applicants successfully satisfy the Commission that benefits outweigh detriment. However, restrictive trade practices cannot be granted clearance immunity. Applications for restrictive trade practices and business acquisitions deemed anti-competitive, are essentially successful or unsuccessful depending on the strength of efficiency arguments.

Finally, this chapter attempted to demonstrate New Zealand's liberal approach to competition policy in comparison to other Western nations. New Zealand's comprehensive adoption of the efficiency defence to anti-competitive practices and acquisitions places it at one end of a continuum, followed closely by Australia and Canada, while the US and EU remain at the other end, permitting efficiency defence arguments to business acquisitions not found by antitrust authorities to breach their comparatively more rigorous anti-competitive thresholds.

3. Literature Review

3.1. Introduction

The literature on the efficiency defense to otherwise anti-competitive practices may be assessed in terms of the emphasis attached to various goals of competition policy. The general view towards New Zealand's competition policy appears to be that competition is favoured not as an end in itself, but as a means of promoting efficiency. Where a less competitive outcome yields greater efficiency, the competition goal is overridden. Hence, the ultimate goal of the *Commerce Act 1986* is the promotion of efficiency.

While New Zealand has accepted efficiency as the most appropriate goal of competition policy, other Western nations place greater emphasis on competition. Two schools of thought, the Chicago School and the Structure-Conduct-Performance School of industrial organisation favour efficiency and competition, respectively, as the exclusive competition goal. A number of other goals have been advanced, including welfare, fair conduct, equitable distribution, and other political-social goals, however, these are not widely supported in the literature.

The Williamson merger tradeoff model (Williamson 1968, 1977) provides the tools of analysis to compare the welfare effects of market power and efficiency gains resulting from merger, assuming an efficiency goal has been adopted. As a consequence of severe operational difficulties associated with applying the model to antitrust cases, antitrust authorities and Courts employ the Williamson tradeoff model only to the extent that its implications make a significant contribution toward gaining an impression of the effects of merger on competition, efficiency, and welfare.

This chapter presents a survey of the literature on the goals of competition policy, and discusses the appropriateness of each goal. A summary of the extensive literature on the success with which merging firms have achieved efficiencies and other goals, is provided. Finally, the Williamson merger tradeoff model is described, including a discussion of the qualifications, and complications which render full-blown adoption of the model impractical for antitrust authorities.

3.2. The Goals of Competition Policy

The objective of New Zealand's Commerce Act is to promote competition in markets in New Zealand. There is however, a long-standing debate in New Zealand and overseas, about the focus and scope of competition policy, between those favouring efficiency, and those favouring other objectives. The competition goal adopted by a country has an enormous bearing on the structure, conduct, and performance of markets in that country. In addition, the magnitude, and speed at which efficiency gains are introduced and disseminated through the market will depend crucially on competition policy. Thus, it is relevant to provide some insight into the goals of competition policy.

Greer (1989) identified six possible goals for competition policy: the promotion or maintenance of competition, efficiency, consumer welfare, fair conduct, equitable distribution, and political - social goals. These are examined in turn.

3.2.1. Competition Goal

Proponents of the Structure-Conduct-Performance School of industrial organisation (SCP) advocate maintaining and promoting competition as the exclusive competition goal. This is based on the belief that competition fosters allocative efficiency. They assert that the goals of competition and allocative efficiency can be achieved simultaneously, and are not at odds with one another. Thus, competition is seen as an end in itself.

The essence of the SCP paradigm is the importance of the structure of the market in determining the conduct and performance of firms operating in that market (Cubbin, 1988). Competition policy is aimed at prevent abuses of market power by ensuring markets are workably competitive, rather than being concerned with correcting the effects of abuses of market power, by monitoring the conduct and performance of market participants.

Brunt (1986) maintains that the conduct of market participants is determined by the structure of the market in which they operate. She identifies four elements of market structure likely to affect the behaviour of firms in a market: market concentration, barriers to entry, horizontal and vertical contracts, and the extent of product differentiation. Given the definition of market concentration, the researcher believes there are only three. Market concentration refers to the

number and size of firms in a market, which in turn, will depend on the presence and height of barriers. A highly concentrated market is one in which there are few, large competitors. Highly concentrated markets are characterised by barriers to entry which prevent competitors from entering the market.

Barriers to entry are any impediment or hinderance to the establishment of a new firm in an industry. Barriers may occur as a natural phenomenon of firm operations, such as economies of scale, or may be erected by the firm, industry, or Government. Firm erected barriers include economies of scale and other cost advantages, or ownership of a scarce resource. Industries with few competitors and high barriers to entry are able to raise joint profits by acting collusively. For example, industries such as oil refining are protected from entry by enormously high cost barriers. Finally, Government erected barriers include franchises and patents. Barriers are erected by Government because it is believed that free entry would not be in the best interests of society.

Strategic behaviour by incumbents including investing in advertising or excess capacity, may also be considered a barrier to new entry, since new entrants would need to match the incumbent's investment in order to compete successfully. Opinions differ as to whether these investments constitute a barrier to entry. Most agree however, that investing in sunk costs heightens barriers to entry.

The cost of exit from a market also operates as a barrier to entry (Dixit, 1980). High exit costs act as a deterrent to new entrants, as they prevent the firm from moving resources to more profitable ventures in the event of failure. Grimes (1994) advocated competition policy which encouraged the removal of barriers to exit as he believed this will in turn lower barriers to entry. Few would agree that competition policy should be used to reducing barriers, however, antitrust can reduce the likelihood of permitting acquisitions and trade practices which create or heighten barriers.

A firm's conduct and performance will be influenced by the structure of the market and the extent of barriers to entry and exit. Conduct refers to the behaviour of firms in the market, including decisions as to price, output, quality, research and development spending, and the reaction of the firm to rival's behaviour. Performance is the degree to which firms achieve their

goals. Generally, a firm's performance will be measured by its profitability, shareholder wealth, and market share.

3.2.2. Efficiency Goal

The second possible goal for competition policy espoused by Greer (1989) is efficiency. An efficiency objective seeks to maximise allocative efficiency, except in the event of a conflict with productive efficiency, whereby the net benefit of the two efficiencies is maximised (Greer, 1989). Economists ascribing to the Chicago School of analysis champion the adoption of an efficiency approach to competition policy. They reject the SCP paradigm on the basis of causal link. Rather than viewing competition as an end in itself, they assert that competition contributes to the achievement of efficiency. In the words of Bork (1978, p. 405), "the whole task of antitrust can be summed up as the effort to improve allocative efficiency without impairing productive efficiency so greatly as to produce either no gain or a net loss in consumer welfare. Any departure from that standard destroys the consistency and predictability of the law."

The role of Government and antitrust authorities under an efficiency competition goal is limited to the to the preservation of free and open markets (Greer, 1989). The rationale behind this belief is the assumption that intervention by Government or other regulatory bodies, interferes with the operation of the market, and therefore reduces competition. This may compared to SCP proponents, who advocate a significantly larger role of Government, given the number of potential threats to competition. Antitrust enforcement would also be greater under a competition goal.

Maughan (1994) writing on the New Zealand meat industry argued that an efficiency objective was the most appropriate competition policy goal as it is impossible to derive any stronger welfare concept without resorting to value judgments. This notion was supported by Permon ^{Perman} *et al* (1996). They stated that "the criterion of economic efficiency does not given one any basis for making interpersonal comparisons. Put another way, efficiency carries no ethical content." Essentially, they argue that an efficiency goal does not require, indeed it is not possible, to decide the optimal allocation of resources. Any attempt to do so is fruitless, since it requires a comparison of welfare gains and losses. Indeed, interpersonal comparisons of welfare are not

possible because theorists have not yet discovered a way to compare one person's utility with another's.

Rather than attempting to make ethical assumptions as to welfare gains and losses, an efficiency standard values each person or company's welfare as equal. This is consistent with the Kaldor-Hicks criterion² of efficiency described by Smillie (1996). Each dollar's worth of income redistribution has the same social significance, regardless of whether it falls on a millionaire or a pauper. That is, a dollar to a consumer is the same as a dollar to a producer. The net welfare effect of a change in the allocation of resources is neutral, since the gain of one is equal to the loss of the other.

Of course, in reality, one can make the broad generalisation that producers are more wealthy, and have greater earning power than consumers, therefore, consumers value a dollar more highly than producers. Given the inability to measure and compare utility, including the utility of money, Government agencies have tended to adopt the Kaldor-Hicks approach, to avoid conflict over which groups in society are most deserving of gains and losses. Whether such an approach is fair has long been debated in and out of the literature, however, it is simple, and operationally feasible.

Application of an efficiency objective to competition policy implies leniency toward applications for merger or restrictive trade practices likely to bring about efficiency gains. The previous chapter revealed that New Zealand's competition policy is comparatively sympathetic toward claims of efficiencies compared to other Western nations. It is generally accepted in the New Zealand literature, that the goal of the Act is efficiency. Indeed, although New Zealand's Commerce Act clearly states that its objective is to promote competition, Maughan (1996a, p.222) concludes that "the aim of the Act, despite its Long Title, is to promote as far as possible, the abstract idea of efficiency."

Complete adoption of an efficiency goal would mean virtually all applications for merger or restrictive trade practices would be permitted on efficiency grounds. Arguably, this has been the approach taken by the Commission. One authorisation examined in this research involved the merger of two town milk processors supplying the entire Auckland market (CC, 1988a).

Authorisation of the merger granted the merged entity 100 percent market share of the Auckland town milk market. Detriment from lessening of competition was limited, as entry into the town milk market was prohibited by virtue of Government regulation. However, over the following five years, as Government regulation was removed, the merged entity remained the sole supplier of town milk to the Auckland market.

3.2.3. Consumer Welfare Goal

The third competition policy goal mentioned by Greer (1989) introduces a distributional aspect to antitrust policy. The consumer welfare standard attempts to maximise consumer surplus, represented by the area pBp_c in Figure 3.1 (pictured in the Williamson model section below). In particular, the interests of consumers are placed above all others. The rationale behind the consumer welfare standard is acceptance of the fact that the marginal utility of money (or income) is not equal to all members of society. In general, producers are assumed to have more wealth and greater propensity to earn than consumers, therefore consumers are believed to value money (income) more highly. Thus, in reality, a dollar to a pauper is not the same as a dollar to a millionaire. Under a consumer welfare standard, any activity that contributes to consumer welfare is permitted, while activities expected to harm consumers are prohibited. Difficulties arise in mixed cases where consumer welfare is both adversely affected and enhanced by the merger or restrictive trade practice.

In light of the fact that the consumer welfare standard adopts a more realistic representation of the economy, one would question why antitrust authorities and Governments have not been more enthusiastic about adopting the consumer welfare goal. Essentially, it is because a consumer welfare standard requires antitrust authorities and Governments to make value judgments as to which groups in society are more deserving. Not only would it be impossible for parties to agree on who should benefit and lose, but it is also impossible to measure the incidence of permitting or refusing anti-competitive practices on various groups in society since there is no way to make interpersonal comparisons of utility.

² The Kaldor-Hicks criterion of efficiency may be compared with Pareto efficiency. Pareto efficiency is achieved when it is not possible to improve the allocation of resources to benefit one person, without making any other person worse off. Like the Kaldor-Hicks criterion, Pareto efficiency does not correspond well with reality.

The Commission uses a weighting system to evaluate changes in income distribution resulting from authorisation of an acquisition or restrictive trade practice (Pickford, 1993). Although consumer welfare is not given any more weight than producer welfare, additional weight will be given to income distribution changes which affect numerous customers, and less weight to income changes affecting few producers. In Telecom/Crown (CC, 1990b), the Commission declined to grant authorisation for the acquisition by Telecom to acquire the AMPS-A cellular band frequency because detriment flowing from the agreement was expected to affect large numbers of consumers, by an appreciable amount, over a period of years. While benefits were expected to accrue to shareholders, few were New Zealanders. Commerce Commission guidelines (1994b, p. 8) state that “the promotion of competition, via the enforcement provisions of the Act, may have indirect distributional effects - and that is all that is contemplated by the Act.”

Much of the opposition to goals other than efficiency and competition centres around the need to make value judgments. Any decision which requires one to compromise one person’s welfare for another leaves the decision maker open to criticism. Williamson (1968, p. 28) asserts that “antitrust is an activity better suited to promote allocative efficiency than income distribution objectives.”

The Business Round Table (1988) support this contention, they observe that “while the design and application of antitrust law affects the income levels of different groups in society, the impact is probably minor compared with the impact of other more targeted Government policies (e.g. taxes, tariffs, wage legislation, and Government expenditures) ... There is little reason to expect that a policy that favoured consumer interest in relation to producer interests would improve overall income distribution.”

3.2.4. Other Goals

The final three competition policy goals suggested by Greer (1989) are not widely supported by economic scholars, as they do not contribute to net welfare as directly or effectively as the competition goals mentioned thus far. A fair conduct goal focuses on the conduct of firms in a market. Antitrust resources are concentrated on monitoring the behaviour of firms in markets to ensure market power is not used to the detriment of competitors, customers, or suppliers. Thus,

firms are permitted to acquire market power, but are not permitted to use it to harm others. By contrast, adherents of an equity goal claim that antitrust should be used as a redistributive tool. Although income distribution has an important role to play in competition policy, few accept the view that antitrust is an acceptable or effective cure for income inequalities. Finally, competition policy has been forwarded as a tool for achieving political and social goals. Once again, other Government policies are likely to achieve such goals more effectively than competition policy.

3.2.5. Discussion

Much controversy exists over which competition policy is the most desirable. The previous chapter showed that different countries have adopted various approaches for dealing with efficiency arguments in anti-competitive cases. The same is true of competition goals. There is no one competition goal appropriate for all countries. The one most suitable will depend crucially on factors such as the size of the economy, population, economic thought, and political issues, and is likely to change over time. For example, in the United States the protection of small businesses has been a significant theme. In the European Union, the development of a common market has been of concern. Even in New Zealand, prior to the passing of the 1986 Act, competition policy provided for greater emphasis on the interests of consumers, industry development, and other concerns. Section 80(b)(vii) of the 1975 Act instructed the Commission to have regard to “any other effects aiding the well-being of the people of New Zealand.”

No matter which competition goal is adopted, the underlying purpose of having such laws is to protect social welfare from the harmful effects of market power. The assumption behind this rationale is that firms acquiring market power will use that power to the detriment of competitors, consumers, and perhaps other institutions. In essence therefore, competition law is aimed at preventing concentration of power, rather than trying ex-post to cure its effects.

3.3. Success of Mergers

In view of the aim of this research, to analyse the practicality of using the public benefit test in business acquisitions and restrictive trade practices, it is instructive to consider a partial review the literature on the ability of firms to achieve the benefits of merger, including their ability to

improve profitability, shareholder wealth, market share, and efficiency. Given the amount of research in this area, a brief survey of the results is more appropriate than a complete review.

Because of the diverse range of motives for merger, it is difficult to measure the merged firm's success in achieving its goals. Often merger will be motivated by several factors, which may not be consistent with one another, or other goals of the firm. Additionally, the firm may be subject to other internal or external changes which obscure the firm's success in achieving the goal.

Meeks (1977) conducted an exhaustive study of accounting data for 1,000 merging and non-merging firms in the UK over the post World War II period. Using profitability as an indicator of efficiency, Meeks (1977) found that, in general, average profitability, and hence, by proxy, efficiency, post-merger declined from pre-merger level. In addition, he observed that "the available evidence suggests that while greater size might often appear to offer potential economies, in practice, it was associated with worse strike records, worse absenteeism, more accidents, and more days per man lost through illness, but not higher profitability" (p. 33).

A similar study by Mueller (1980) compared data for merging and non-merging firms, across seven countries, using a variety of accounting profitability measures over, a five year acquisition period, found no support for the hypothesis that merging firms were more profitable after merger than their non-merging counterparts. Mueller's study has, however, been heavily criticised by Fisher and Lande (1983) for use of aggregated data, potentially mismatched control groups, and bias from using accounting data which contains conventions which create a downward bias on post-merger profitability.

Ravenscraft and Scherer's (1980) cross-sectional study of profitability before and after merger during the 1960's and 1970's attempted to address some of the problems of earlier accounting studies. Using disaggregated data they found that "business entities ... were highly profitable before acquisition and, after acquisition, experienced profit declines, ... Profits following many acquisitions did not merely regress, they fell well below 'normal' levels."

The Bureau of Industry Economics (1990) conducted a study of horizontal mergers within three Australian industries. Adopting a case study approach to assess the extent to which efficiency gains and other benefits are achieved, they concluded (pp. xvii, xviii)

The outcome of the mergers have been remarkably similar. In each case it is not at all clear that the merger made a great deal of difference to the structure of the industry in the long run or to the degree of competition faced by the firm in the industry ... The impact of mergers in industries studied appears to be minor ... Expectations about the effects of mergers which are made at the time of the merger are unlikely to be fully realised ... The major implication for competition policy appears to be that estimates of potential costs in terms of increased market power and claims regarding expected benefits made at the time of merger should be treated with considerable caution.

They identified three reasons why benefits were not achieved. Firstly, unforeseen changes in market conditions, for example, changing demand patterns, changes in technology, changes in barriers to entry, and increasing competition from imports. Secondly, they found that firms were overly optimistic or underestimated difficulties involved. Thirdly, firms had taken longer to settle down after merger. Finally, some firms had to undertake considerable investment to realise the anticipated benefits (Bureau of Industry Economics, 1990). The significance of this study should not be understated in relation to the present study. Many of the procedures and methods used in the Bureau's study are similar to this study.

Using a case study approach, to assess the extent to which mergers bring about efficiency gains, Cowling et al (1980, p. 370) found that "it is difficult to accept the view that merger is a necessary or sufficient condition for efficiency gain. In many cases efficiency has not improved, and in some cases it has declined. In other cases efficiency has improved, but no faster than one would have expected in the absence of merger."

A study by Newbould (1970) of thirty-eight newly merged firms revealed that firms failed to carry out rationalisation following merger. Twenty-one of the firms studied did not shut down plant as planned, and thirty out of the thirty-eight firms shut down less than 5 percent of their plant.

Referring to studies by Hartman (1996), Ravenscraft and Scherer (1987), Caves (1989), and Mueller (1985), Brodley (1996) concluded that projections of merger efficiencies are surprisingly and consistently inadequate. Despite predictions of increased future profit, 60 to 80 percent of mergers are unsuccessful ex post.

Despite extensive research in this area, none of the studies have provided sufficient evidence to prove beyond a doubt that merger is an effective tool to achieve a firm's goals. At best, they

suggest that only moderate efficiency improvements have been achieved by way of merger, and in many cases, efficiency declines were experienced by the merged firm. In addition, these studies support the hypothesis that efficiency gains would have eventuated without merger.

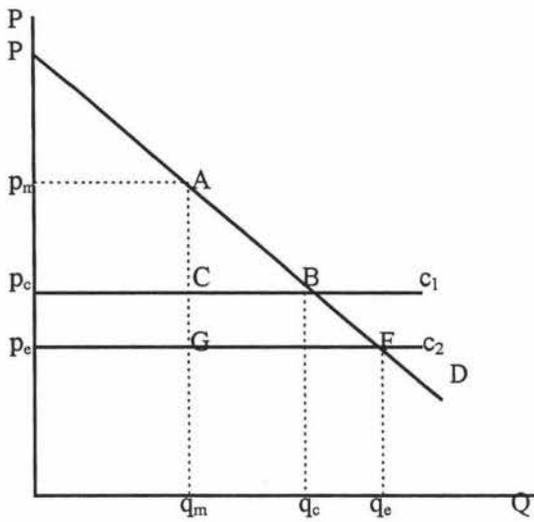
The following section describes the Williamson tradeoff model and discusses its implications for competition policy.

3.4. The Williamson Merger Tradeoff Model

The Williamson merger tradeoff model developed by Oliver Williamson (1968, 1977) provides the economic rationale for permitting anti-competitive acquisitions and restrictive trade practices. Williamson was concerned that merger policy in the United States looked only at the competition effects of mergers, and ignored the potential efficiency gains. He postulated that as well as anti-competitive effects arising from the acquisition of market power following merger, real increases in efficiency, which reduce costs below pre-merger levels may also result. Thus, large scale merger creates a tradeoff between consumer welfare losses and efficiency gains. A graphical representation of the Williamson model is pictured in Figure 3.1 below.

Williamson (1968) called the model 'naïve' because it was based on a number of simplifying assumptions. Firstly, the model assumed that the goal of competition policy is efficiency. Secondly, the market contains two firms, each producing a homogeneous good. Firms have identical, constant unit costs of production. There are barriers to entry which obstruct new entrants' ability to enter the market. Finally, it is assumed that prior to merger, the market is workably competitive.

Figure 3.1 Williamson Merger Tradeoff Model



Source: Adapted from Pickford (1993, p. 211)

Figure 3.1 shows a downward sloping demand curve D , and horizontal cost curve c_1 . Applying the assumptions above, pre-merger welfare is maximised at point B , where price is p_c , and quantity is q_c . Competition ensures price is equal to marginal cost pre-merger. If price were set above c_1 , consumers would purchase the good from the firm's competitor at the lower price, and if it were set below c_1 , the firm would not cover costs, and would become insolvent.

Given the assumptions above, a merger creating or strengthening a firm's market power, implies the absence of competition post-merger. Thus, the merged entity is able to behave to an appreciable extent, independently of competitors, thus enabling the merged firm to effect a discernible change in the price and/or other aspects of supply of the goods and services it produces, for a considerable period of time (CC, 1990b). In the above diagram, price is raised to p_m , and quantity reduced to q_m . In addition, merger may bring about efficiency gains, causing the cost curve c_1 to shift down to c_2 . Welfare is maximised at point F , where price is p_e and quantity is q_e , since price is again equal to cost. Thus, under conditions of pre-existing market power, welfare could be enhanced by lowering price and increasing output.

The area p_mACp_c represents the income transfer from consumers to producers, as consumers are forced to pay more for the goods and services produced by the merged firm. The increase in price causes a redistribution of welfare from consumers who pay higher prices, to producers and

shareholders who receive higher profits. Overall, the redistribution is merely a transfer of welfare from one group to another, with society as a whole unaffected.

The triangle ABC represents the net loss to society for which there is no compensating gain. It represents the loss of allocative efficiency resulting from price being raised above the pre-merger competitive level, and is referred to as the 'dead-weight welfare loss.' The magnitude of dead-weight loss is determined by the extent of the elevation in price, the price elasticity of the demand curve, the presence of economies of scale, and the size of the market. Conclusions drawn from the Williamson model are highly sensitive to specifications of these factors, especially price elasticity of demand, and changes in price and quantity.

Allocative efficiency is defined as the allocation of resources to the production of goods and services society values most highly. Allocative efficiency is achieved in competitive markets by the mechanism Smith (1776) described as the 'invisible hand.' Entrepreneurs acting in self-interest, drive resources toward the production of those goods and services most desired by society, as indicated by society's willingness to pay. Profit-seeking entrepreneurs will enter the market of supply of those goods and services offering the greatest reward. As more firms enter the market, prices and profits fall. The processes of competition, and entry and exit, bring about an equilibrium situation in which entrepreneurs earn only a normal rate of profit. The same process works in reverse for goods and services not desired by society.

Under conditions of market power, resources may not be allocated efficiently because firms lack the incentive to do so. In the absence of competition, the mechanism which serves as a major source of disciplinary pressure on firms in a market is removed (Comanor and Leibenstein, 1969). Under a competitive regime, productive resources are shuffled and reshuffled in search of greater profits through greater efficiency (Bork and Bowman, 1965). Each productive resource moves to that employment where the value of its marginal product is greatest. Firms sustaining inefficiencies will be forced out of the market by the process of competition, as they are likely to have higher costs, and therefore higher prices, than rival firms. Assuming all other aspects of the good or service are the same, consumers will purchase from the firm offering the lowest price.

The area p_eCGp_e represents productive efficiency gains resulting from cost savings realised as a result of the merger, which would not have been achieved if the two firms had continued operations independently. Productive efficiency is concerned with how goods and services are

produced, in order to minimise cost, using current technology. Cost savings flowing from a reduction in administration, salaries, and overhead expenses, rationalisation of plant and equipment, or more efficient utilisation of existing resources might account for the downward shift of the cost curve. Thus, society is, at least to some extent, compensated for price increases by greater productive use of resources, recognising that in reality, the marginal utility of money (income) is not neutral, as theory suggests.

Gains in productive efficiency include economies of scale or scope, restructuring of production facilities, improved use of current facilities, or rationalisation of operational expenses. Economies of scale relate to the shape of the long run average cost curve. An average cost curve that is u-shaped represents increasing, constant, then decreasing returns to scale. That is, on the downward sloping portion of the cost curve, where there are increasing returns to scale (economies of scale), additional inputs generate a larger than proportional increase in outputs. This may result for example, from a firm increasing specialisation. Firms may also attain a cost advantage over other firms by simultaneously producing a variety of products more cheaply than many firms producing these products separately. This is called economies of scope.

Productive efficiency gains achieved through merger are socially desirable because even if cost savings are not passed on to customers in the form of lower prices, the same or more outputs are produced with fewer or the same inputs (respectively), thereby allowing resources previously used in production to be diverted via the market, to produce other desirable outputs.

The net effect on social welfare of the merger in question, is depicted by the Williamson model, as the difference between productive efficiency gains acquired as a result of cost savings and rationalisation (area p_cCGp_e), and allocative efficiency losses resulting from market power (area ABC). As mentioned previously, the area p_mACp_c represents a redistribution of income from consumers to producers, with no net effect on welfare. Thus, an efficiency tradeoff between allocative efficiency losses and productive efficiency gains occurs when a merger (or restrictive trade practice) creates market power and yields economies.

Application of the efficiency tradeoff model to competition policy creates a strong presumption in favour of mergers or restrictive trade practices that yield productive efficiencies according to Pickford (1993), since only a small reduction in costs is necessary to outweigh the allocative inefficiency loss from even a large rise in price. This result derives from the fact that the gain in

productive efficiency applies to all output produced, while the allocative efficiency loss applies only to the output that is restricted. Williamson (1968) estimated that with a price elasticity of demand equal to two, a cost reduction of only 4 percent would be sufficient to offset a price increase of 20 percent.

The model is rich in its implications, and provides a useful basis for identifying and balancing welfare effects of merger and restrictive trade practices to assist antitrust authorities and the Courts in their determinations. However, the model was never intended by Williamson (1977) to be implemented by competition authorities. He recognised severe operational difficulties associated with entertaining full-blown use of the model, especially in relation to accurately predicting the existence and magnitude of economies cited for merger.

The tradeoff model has been widely discussed and evaluated in the literature, a brief summary of its major weaknesses illustrates why the researcher and antitrust authorities use the model as an instructional tool, rather than applying the model and its assumptions to individual cases.

3.5. Problems Applying The Model

Williamson (1968, 1977) identified a number of qualifications to the tradeoff model including the static, partial equilibrium nature of the model, inference and enforcement expense, timing, incipency and second-best considerations, pre-existing market power, income distribution, extra-economic political objectives, and the effect of monopoly power on managerial discretion. These qualifications are examined below.

3.5.1. Static Nature Of The Model

The static nature of the Williamson model means that it is unable to account for dynamic considerations which occur over time. In the context of competition policy in New Zealand, it is appropriate to compare the time stream of efficiency gains and losses expected to arise as a result of merger or restrictive trade practice, and those that would occur in the counterfactual, in order to determine the extent of delaying efficiency gains.

Timing issues arise in relation to application of the tradeoff model because efficiency gains will ordinarily be realised eventually through internal expansion if not by merger (Williamson 1968). Thus, while parties to merger claim efficiency gains arising as a result of the acquisition, in many cases, merger is not responsible for their realisation, but rather accelerates the speed with which they are realised. However, evidence presented earlier in this chapter on the extent to which merger facilitates efficiency gains reveals that many efficiencies claimed, were not achieved ex-post.

Measurement difficulties arise in relation to the timing of efficiency realisation in a dynamic framework. An appropriate analysis of the tradeoff between efficiency gains and losses would involve a comparison between the net discounted present values of the benefits and losses expected with and without merger.

While the model may be extended using time series approach, Williamson (1977) admitted that the direction of welfare gains and losses will vary, and is apt to be difficult to ascertain in particular cases.

Pickford (1995) defined dynamic efficiency as the speed at which new, cost reducing production techniques are adopted, and new products are introduced. Innovative, or dynamic efficiency is attained when “technological change is encouraged and productivity gains retained, rather than frittered away in slackness and ‘rent-seeking’ activities” (Maughan, 1996a). Dynamic efficiency gains typically include technological advancement, innovation, and quality changes.

Adjustments for quality changes which may occur as a result of a merger vastly increase the complexity of the analysis (Fisher and Lande, 1983). Assuming a reduction in quality as a result of a lessening of competition in a market following the acquisition of merger-induced power, productive efficiency gains must be sufficient not only to outweigh allocative efficiency losses, but a reduction in quality as well, for the merger to have a positive impact on social welfare.

Despite numerous difficulties involved in incorporating dynamic efficiencies in the Williamson framework, numerous scholars, including Roberts and Salop (1996), advocated a dynamic approach to analysing merger efficiencies because it provides a far more realistic account of the manner in which merger efficiencies are realised. The static model is inadequate because it is unable to capture the manner in which dynamic efficiencies are realised (Roberts and Salop,

1996). In general, merger does not instantaneously bring about productive and dynamic efficiency gains, since it takes time to implement changes and realise gains.

In particular, Roberts and Salop (1996) argued that a dynamic framework recognises that cost savings achieved by merger will partly diffuse to competing firms over time, and these cost savings will multiply, thereby enhancing competition and increasing consumer welfare by passing on cost savings to consumers. They asserted that efficiency gains attained through merger may be diffused to competing firms via a process of imitation or emulation, over a period of years. Competitors either imitate cost savings implemented by the newly merged firm, or search for new ways of cutting costs, in an attempt to reduce the competitive advantage gained by the merged firm. They called this second alternative 'emulation.'

The success with which dynamic efficiencies are imitated or emulated to competitors depends critically on competitors' ability to identify and imitate efficiency improvements, and the rate at which diffusion occurs. Firms may use patents and other restrictions to appropriate the return on their investment.

In light of New Zealand's dominance threshold for mergers, and public benefit test for authorisation of acquisitions and practices found by the Commission to breach the anti-competitive threshold, diffusion of dynamic efficiencies is less likely than countries with a lower anti-competitive threshold. Many of New Zealand's markets are controlled by one or a few firms who, by virtue of their market power, are able to erect barriers to diffusion of cost savings and efficiency gains. In addition, the dominance threshold means that there are no significant competitors left who would benefit from the diffusion.

The economic literature on innovation and technical change, which fall under the broad heading of dynamic efficiency gains, agrees that a significant portion of economic growth may be attributable to dynamic efficiencies. Thus, prohibiting mergers on account of allocative efficiency losses as a result of the acquisition or strengthening of market power, may have significant consequences for economic growth. Dahdough and Mongoven (1996) quote a study by Robert Solow (1957), which estimated that almost 90 percent of the increase in output per hour worked in the United States between 1909 and 1949, can be attributed to technical change (as opposed to other efficiency gains).

Empirical research also suggests that concentration should be prevented because markets characterised by few firms and high barriers to entry are less likely to invest in innovation, thus, dynamic efficiencies are deferred. A study by Geroski (1990) of 1,203 product and process innovations emerging from seventy-three British manufacturing industries over the period 1970 - 1979, indicated concentrated markets are more likely to retard innovation than stimulate it.

This finding is supported by Scherer and Ross (1990), who concluded that very concentrated markets dampen the incentive to gain market position through accelerated research and development. Further, they argued that market structures most conducive to innovation are those markets protected by barriers, which prevent rivals from appropriating the benefits of a firm's investment in research and development, while maintaining a level of competition sufficient to ensure the efficient allocation and use of resources, and avert slackness. Such market structures lie somewhere between the two extremes of monopoly and perfect competition.

The importance of dynamic efficiency in an economy is supported by Brodley (1987, p. 1026), who argues, "innovation efficiency or technological progress is the single most important factor in the growth of real output in the United States and the rest of the industrial world."

While dynamic efficiency is the most important of the efficiencies, by virtue of its influence on economic growth, it is the most troublesome to measure. Productive efficiencies are the second most important efficiency, and are more readily measured (Brodley, 1987). Productive efficiencies are more important than allocative efficiencies because, as already noted, they apply to all output produced, rather than output restricted as a result of merger.

3.5.2. Partial Equilibrium Nature Of The Model

The nature of partial equilibrium analysis is such that changing the characteristics of one variable, while holding other variables constant, fails to recognize interrelationships between different firms, industries, and sectors of the economy. Thus, the significance of such changes resulting from merger is poorly measured by the model, as effects on other parts of the economy are ignored. Indeed, in the case of merger creating monopoly power, the effect of a reduction in consumer welfare may impact on other sectors of the economy, however these effects will not be identified by the model. Attempts to incorporate such effects through a general equilibrium analysis would greatly add to the complexity of the model.

3.5.3. Inference And Enforcement Costs

The Williamson model is heavily criticised in the literature for failing to take into account the costs involved of monitoring and enforcing competition policy. Antitrust authorities and other Government agencies commit resources to surveillance programmes, investigations and adjudications, litigation, and education, which cannot be used in more productive activities. Williamson (1968) asserted that it is reasonable to expect the net gain from efficiencies to exceed some threshold level before an efficiency defense be entertained. This is to ensure that society is not only compensated for allocative efficiency losses, but also for those resources tied up in antitrust affairs.

In addition, the Williamson model has been criticised by scholars such as Cowling and Mueller (1978), Cowling *et al* (1980) for not taking into account the cost of acquiring monopoly, including costs incurred by unsuccessful bidders. These costs include for example, investment in excess capacity, excessive advertising, efforts to obtain tariff or patent protection, or lobbying or bribery of Government officials. In the New Zealand context, expenses incurred by parties to merger, such as remuneration paid to experts to present information which supports their application, constitutes a cost of acquiring authorisation.

3.5.4. Inciency And Second-Best Considerations

Inciency refers to the necessity to assess the effect of market power gained through a series of mergers within an industry, on the industry and other sectors of the economy, rather than on any single market in isolation. While a merger triggering other mergers may have a negligible effect on market power in isolation, cumulatively, the effect may be substantial (Williamson, 1977). Williamson recommends that a weighting factor be added to mergers acquiring market power where price effects in the industry in question bring about changes in price in other industries or sectors.

Comanor and Leibenstein (1969) pointed out that the magnitude of inciency will depend on the degree of interdependence among industries, the degree of concentration, and the structure of input-output relationships.

By virtue of the dominance standard for business acquisitions in New Zealand, issues related to incipency are likely to arise in other sectors of the economy, rather than within the same industry.

Like incipency, second-best considerations are concerned with the effect of market power on other parts of the economy. Markovitz (1979) interpreted second-best theory to apply to those situations where two imperfections in the market offset one another. In an imperfect world, more imperfections may be more desirable than fewer, as benefits resulting from eliminating an imperfection may be outweighed by the resulting harm on another imperfection. Essentially, he argued that in an economy with many markets characterised by one or a few firms behaving in a dominant manner, it may be preferable to allow a merger creating or acquiring dominance, because disallowing the merger may create distortions or other market failures in other parts of the economy. Thus, second-best considerations disguise the extent of gain or loss of allocative efficiency and weaken the case for antitrust regulation, since disallowing a monopoly in an economy with other monopolies may reduce allocative efficiency, rather than protect it.

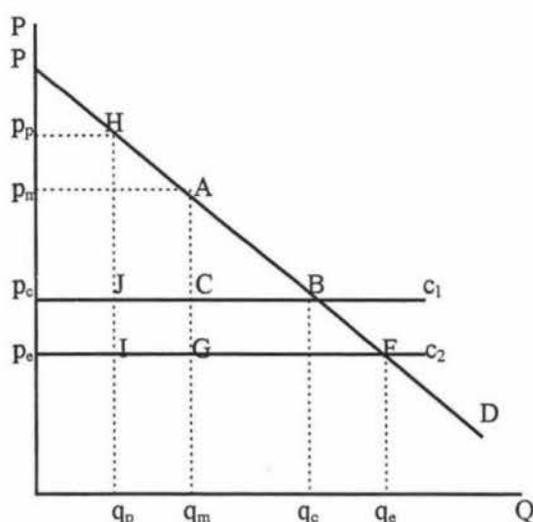
Incipency and second-best considerations could substantially increase the magnitude of cost savings required to offset market power effects in Williamson's tradeoff model.

3.5.5. Pre-existing Market Power

As noted earlier, the Williamson model assumes pre-merger that firms operate in workably competitive markets. The existence of pre-existing market power significantly affects Williamson's conclusion that a small increase in productive efficiency is sufficient to outweigh allocative efficiency losses. The existence of pre-existing market power distorts price and quantity effects post-merger, and allows the merged firm to strengthen a position of dominance.

Deprano and Nugent (1969) argue that firms whose prices are above the competitive market price before merger, as a result of pre-existing power, will need to achieve substantially larger cost reductions than firms with no pre-existing power, to have a neutral or beneficial effect on efficiency, since the size of the dead-weight loss (loss of allocative efficiency) is likely to be larger under conditions of pre-existing market power. A graphical depiction of this argument is presented below in Figure 3.2.

Figure 3.2 The Williamson Model With Pre-existing Market Power



Source: Adapted from Deprano and Nugent (1969, o. 950) and Pickford (1993, p. 211).

The properties of the Williamson model described in relation to Figure 3.1 apply to Figure 3.2 except that pre-merger, price is set equal to p_m , and quantity q_m is produced. A merger strengthening market power allows the merged firm to increase price to p_p and reduce quantity to q_p . In Figure 3.2 the area HIF represents the dead-weight loss under conditions of pre-existing market power, that was represented by the triangle ABC in Figure 3.1. Productive efficiency gains to offset this loss are represented by the area $p_c J I p_e$, an area smaller than in Figure 1. ($p_c C G p_e$), as a result of price being raised above the competitive level prior to merger. One can see that under conditions of pre-existing market power, Williamson's estimates of cost savings necessary to offset welfare effects of price increases are grossly understated.

The net welfare effects of a merger may in fact be negative in the presence of pre-merger exercise of power (Cowling, *et al* 1980). Williamson (1977) argues however, that issues of pre-existing market power may be easily introduced into the basic model.

3.5.6. Income Distribution, Extra-Economic Political Objectives, and Managerial Discretion Considerations

Income distribution issues arise as a result of the Williamson model in relation to the rectangle $p_m A C p_c$ depicted in Figure 3.1. Previously, it has been assumed that the net effect on society has

been neutral, since the loss to consumers from paying higher prices has exactly equaled the gain to producers in the form of monopoly profits. Antitrust authorities may not however, wish to weigh consumer and producer interests equally. Many countries weigh the interests of consumers more highly than those of producers, and require applicants to merger to supply evidence that cost savings will be passed on to consumers to compensate them for their loss.

There is no easy way of incorporating extra-economic political objectives into the tradeoff model according to Williamson (1968). The potential for mergers involving very large firms to acquire political or economic power may be sufficient for antitrust authorities to adopt a less permissive stance toward mergers.

Adhar (1986) identified a number of socio-political reasons for preventing concentration. Firstly, he explained that concentration of economic power leads to concentration of political power. Large enterprises are able to exert considerable political power to achieve their own ends, which may not be in the interests of society. Secondly, mergers creating market power result in the concentration of wealth in the hands of the powerful, who may redistribute such wealth in a socially harmful manner. Thirdly, concentration of power is likely to hinder the growth and success of small business, stifle individual liberty, and may prevent freedom of the press to express an opinion against a company in possession of power. Finally, concentration may adversely effect regional development and employment, resulting in social dislocation.

Another qualification made by Williamson in his seminal paper on welfare tradeoffs, was the effect of monopoly power on managerial discretion. He argued that consideration ought to be given to the fact that market power provides an opportunity to pursue a variety of other-than-profit objectives such as improving customer satisfaction and staff compensation. In addition, market power may influence managers' motivation to search for and implement cost savings, since competitive pressure to do so is absent. This type of inefficiency is called 'x-inefficiency'. Liebenstein (1966) argued that firms' unit costs depend on the degree of competitive pressure, as well as other motivational factors. He concluded that the existence of x-inefficiency is a significant factor in reducing economic growth below potential.

The complexity of incorporating these factors into the Williamson model, the inability in many cases to acquire information on price elasticities, the demand curve, economies of scale, and inadequacy of forecasted information render the model inappropriate for application to antitrust

cases, and to this research. However, the model's implications provide a useful basis for identifying and balancing welfare effects of merger and restrictive trade practices.

3.6. Conclusions

The literature generally accepts the view that the ultimate goal of competition policy ought to accentuate competition or efficiency, or a mixture of both. Most Western nations have adopted a mixture of both, with varying degrees of emphasis on competition or efficiency. New Zealand's stated goal is that of competition, yet the Act permits this goal to be overridden in cases where a less competitive outcome is believed to yield greater efficiency. Recognising the causal link between competition and efficiency, the ultimate goal of the Act is believed to be efficiency.

The Williamson merger tradeoff model provides the tools for analysis to compare the effects of market power and efficiency gains on welfare, which arise as a result of merger. The implications of the model are also relevant in respect of restrictive trade practices. As a consequence of severe operational difficulties, and informational and measurement complications, antitrust authorities and Courts are not able to employ a full-blown use of the model. The model's implications are valuable for providing insight into the welfare consequences of applications for merger or restrictive trade practice, and have significant ramifications for competition policy

4. Data and Methodology

4.1. Introduction

A review of the literature revealed that a large proportion of merged firms were unable to realise efficiency gains and other benefits following merger. The majority of studies support the hypothesis that efficiency gains would have eventuated without merger, and suggest that merger is not an effective tool to achieve a firm's goals. The aim of this study was to evaluate the practicality of using the public benefit test in business acquisitions and restrictive trade practices in New Zealand, and in particular, to examine the extent to which those companies granted authorisation, had achieved the benefits claimed.

The following sections provide details of the procedures used to identify the relevant authorisation decisions, the methods of contacting parties to those authorisations, and the techniques employed to extract information related to the firm, the industry, and developments, since authorisation. A brief examination of the problems encountered, how they were overcome, and the limitations of the approach adopted are also discussed below.

4.2. Cases To Be Examined

A list of authorisation decisions by the Commerce Commission where the public benefit test was applied and authorisation granted, had to be compiled. The Commerce Commission keeps a file of numbered decisions, starting from number 1 in December 1975, through to 311 as at November 11, 1997. These were sorted to identify those in which the public benefit test had been applied, and authorisation had been granted. Two determinations declined by the Commission on the grounds that detriment outweighed benefit were included in this study, because the applications were subsequently authorised by a higher Court ((CC, 1991, HC, 1991a), (CC,1990b, CoA, 1992)). Thus, determinations granted clearance, or declined by the Commission were discarded.

A set of selection criteria was developed by the researcher to identify those authorisations suitable for examination in this research. Firstly, only those authorisations determined under the

1986 Act, and before December 31, 1995 were considered. The basis upon which authorisations were granted under the 1975 Act differed from the 1986 Act, therefore including authorisations under the 1975 Act would diminish consistency. Also, because this research was embarked upon in February 1997, those authorisations determined during 1996 would have had a maximum of eleven months to implement steps necessary to achieve efficiency gains and other benefits claimed. This was not considered sufficient time for the benefits to be realised. In relation to the period of time that should elapse between a determination and ex-post review of efficiencies, Brodley (1996, p. 579) asserted that “the ex-post proceeding should normally be held between three and five years after the ex-ante determination.” This left 37 possible authorisations. These are presented in appendix I.

Secondly, all authorisations which did not involve public benefit analysis were disregarded. For example, no public benefit analysis was required for authorisations related to goods and services subject to price control. Prior to deregulation, some goods and services such as gas and milk were subject to price control, and thus, required authorisation by the Commission to modify prices.

Thirdly, two restrictive trade practices involving collective pricing agreements were discarded. In New Zealand Kiwifruit Exporters Association (CC, 1988c), authorisation was revoked (CC, 1989), and in New Zealand Vegetable Growers (CC, 1987c), collective pricing agreements no longer apply. In any event, it would be too cumbersome to try to derive a causal link between the price increase and benefits achieved, since no productive or dynamic efficiency gains were involved.

Four further authorisations involving two applications by the New Zealand Stock Exchange (CC, 1989a, 1989b) for authorisation of rules containing exclusionary provisions, and two applications by the Sydney Futures Exchange Ltd., Sydney Futures Exchange Clearing House Pty Ltd., and the New Zealand Futures and Options Exchange Ltd. (CC, 1993a, 1995b) for permission to introduce bylaws and rules for the operation of the exchange market, were disregarded. In each of the four applications, benefit claims concerned the efficiency of capital and securities markets, and public confidence in the stock exchange. The nebulous nature of claims, and the international operation of the markets involved, meant that ex-post assessment of benefits would be excessively difficult.

Nine authorisations involving four industries: meat processing, dairy, gas, and telecommunications, were found to meet all of these criteria. These are presented in Table 4.1 below.

Table 4.1 Commerce Commission Authorisations Examined In This Research

CC Decision Number	Date of Determination	RTP/BA	Companies Involved	Industry
205	22.07.87	RTP	Weddel, Waitaki, Richmonds	Meat Processing
216	26.04.88	BA	NZDG, ACMP	Dairy Industry
217	24.05.88	BA	NGC, HCC	Gas Industry
254	17.10.90	BA	Telecom, The Crown	Telecommunications
264	23.05.91	BA	NZDG, Waikato Valley Co-operative Dairy	Dairy Industry
267	09.04.92	BA	Kiwi Co-operative Dairies, Moa-Nui Co-operative Dairies	Dairy Industry
269	29.10.92	BA	NGC, Wanganui DC	Gas Industry
272	22.12.93	BA	Enerco, Progas	Gas Industry
273	02.02.95	RTP	Consortium of North Island Meat Companies	Meat Processing Industry

Abbreviations explained: New Zealand Dairy Group (NZDG), Auckland Co-operative Milk Producers Ltd. (ACMP), Natural Gas Corporation (NGC), and Wanganui District Council (Wanganui DC).

There may be some significance to these authorisations involving just four industries. Over the period of investigation (1986 - 1996), all of the industries experienced a period of rapid change as a result of deregulation and increasing competition between industry participants. Prior to deregulation each of the industries was protected from competition by Government directive. In addition to these authorisations, a number of applications for clearance or authorisation (which were declined), were received by the Commission. It is not unreasonable to assume that these industries undertook massive restructuring and rationalisation which necessitated merger and restrictive trade practices.

There were a number of advantages to the researcher in having only four industries to deal with, namely, it enabled an in-depth study of each industry and the developments subsequent to authorisation, to be conducted.

4.3. Case Study Approach

The unique circumstances surrounding each authorisation, and the rarity of authorisations, necessitated the adoption of a case study approach. The case study approach relies on contextual analysis of a small number of observations to test hypotheses. Case studies apply a number of research techniques to gather evidence to either support or refute a claim of efficiency gains. This approach facilitated an in-depth examination of each of the firms involved in the authorisation, the industry, and developments since the merger or restrictive trade practice. In addition, the case study approach permitted flexibility in relation to the manner in which information was gathered and analysed. In particular, it allowed the researcher to customise questionnaires and interviews to each industry, and individual cases.

While flexibility is cited as a principal advantage of adopting a case study approach, it is also a major weakness. Customisation of survey techniques introduces potential for bias, and lack of randomness and uniformity across observations. Consequently, reliance on qualitative data is vulnerable to refutation. Fisher and Lande (1983) were highly critical of a case-by-case approach to assess efficiency gains. Citing a number of horizontal mergers in the United States, they concluded that “grossly incorrect prediction of the extent of efficiencies, on a case-by-case basis, is very common (p. 1605) ... [T]he record of predictions for individual cases has been shockingly poor - too poor to inspire confidence that any prediction of the level of cost savings could be sufficiently accurate to be a major basis of public policy (p. 1693).

Moreover, Cowling *et al* (1980) argued that the case-by-case approach may understate the full effects of merger if the increase in price by the newly merged firm is matched by other firms. That is, spill-over effects may not be fully realised using the case study approach.

Alternative approaches to identifying the extent to which efficiencies are realised as a result of merger³ include a variety of large-sample studies using either direct or indirect evidence. Direct evidence attempts to quantify the extent to which the business acquisition has achieved efficiencies by comparing accounting data, or stock market prices of the firms involved in the

³ The researcher found no guidance in the literature as to how to prove whether firms had achieved benefits other than efficiencies, therefore the same procedures applied to efficiencies were also applied to other benefits. In addition, the literature provided no instruction on how to compare expected benefits with actual benefits in relation to restrictive trade practice authorisations, therefore they were treated in the same manner as business acquisitions. This seemed appropriate since similar benefits were claimed in relation to restrictive trade practices as were advanced in business acquisitions.

case, with similar firms not involved. Indirect evidence consists of two general types of studies: analyses of the relationship between economies of scale and market structure, and studies relating market concentration to profitability (Fisher and Lande, 1983).

Studies based on accounting data attempt to identify merger related efficiencies by comparing firm performance with industry performance, before and after the merger. A partial review of the results of accounting studies in the previous chapter revealed that only moderate efficiency improvements are achieved by way of merger, and in many cases, efficiency declines were evident. The data used to measure firm performance includes not only efficiencies, but also internal and external changes within the firm over the period, not attributable to the merger. It is difficult, if not impossible, to remove the effects of such disturbances from accounting data, and to do so would require excessive use of assumptions and oversimplification, therefore the reliability of conclusions is diminished. Thus, "data and methodology limitations ... probably prevent these studies from measuring any but the most dramatic efficiency effects that might have occurred" Fisher and Lande (1983, p. 1614).

Accounting conventions mitigate such problems. Accounting practices adopted by firms differ among firms in an industry, and across industries. An intensive examination of the data is required to identify manipulation of the data presented, and changes in accounting practice. In addition, many industries do not collect data at an industry level, and data is rarely made available to third parties.

The second type of study to measure the extent of achievement of efficiencies uses the logic of the Capital Asset Pricing Model to examine stock price movements. Assuming an efficient market (that is, a market in which profit opportunities are eliminated instantaneously, and there is perfect knowledge), share prices of the two firms are compared before merger with the share price post merger. A lower share price after merger indicates a reduction in efficiency. Pautler and O'Quinn (1993), and Fisher and Lande (1983) agreed that stock market studies consistently show that shareholders of acquired firms gain, while shareholders of the acquiring firm receive little or no gain. Thus, it would appear that a paradox arises between the conclusions of studies using profit based measures and share price measures. Typically, share price-based studies tend to flatter the extent to which merged firms achieved efficiencies, while profit-based studies tend to do the opposite.

Like profit-based tests, the fundamental limitation of stock market studies is attributing causation from the change in stock market value, to the merger, as typically stock market prices are sensitive to exogenous shocks. In addition, stock market measures fail to account for market power effects. Stock market tests were not appropriate in this study as many of the firms granted authorisation were private companies and thus, were not listed on the stock exchange.

Indirect tests use cost data to compare merging and non-merging firms' costs, to identify the shape of the long run average cost curve, from which can be inferred the presence economies of scale and cost savings attributable to merger. Cost studies use three main techniques to identify efficiency gains: survivor analysis, statistical analysis, and engineering studies.

The original survivor test was proposed by Stigler (1968). The survivor principle rests on the fundamental postulate that competition sifts out firms of efficient size, while less efficient sized firms lose market share. Studies such as this should not, however, be relied upon in isolation as other factors such as market power, financial structure, or other exogenous effects are likely to have a more dramatic impact on survival.

Statistical cost analysis requires collection of detailed cost data, and use of multiple regression models to predict the effect of changes of inputs or production factors, on productivity, costs, quality, and outputs, while attempting to hold other variables constant. Firms with lower costs than competitors are assumed to be more efficient.

Engineering studies involve an in-depth analysis of processes, plant operation and design, workers, managers, inputs and costs, to identify plant level economies. Although engineering studies are expensive and time consuming, they provide an accurate assessment of plant costs with increasing scale.

Use of cost analyses is, limited by the extent to which industry cost data is available and can be compared, and the extent to which accounting practices vary across firms and industries. These analyses also suffer from an inability to establish a clear link between the merger and changes in costs, quality, productivity etc.

The tests described were considered inappropriate for a study such as this for a number of reasons. Most importantly, they involve large samples, comparing actual efficiency gains against

a control group of non-merging companies. In light of the rarity of authorisations in New Zealand, a large sample study was not possible. Also, in all cases, the acquisitions or restrictive trade practices involved large participants in the industries, or almost all of the industry participants, therefore there were few competitors with which to compare results. Finally, each of the industries concerned had experienced a period of rationalisation, therefore there were no competitors to compare results which had not also merged or used a similar restrictive trade practice.

Informational difficulties also prevented the adoption of accounting based tests. Prior to undertaking this study, the researcher was conscious of the fact that acquiring access to cost data would be extremely difficult, given the commercially sensitive nature of this information. However, it was thought that companies would be willing to supply such information under the guarantee of confidentiality and anonymity. Only one of the respondents (NZDG) was prepared to provide access to cost data, but this was at an aggregated level, and only annual data was available. For statistically relevant conclusions to be drawn, quarterly or monthly data would have been required, at a disaggregated level. A comparison with other industry participants would have also been necessary to establish whether efficiency gains and other benefits arose as a result of the merger or restrictive trade practice, or as a result of some other factor affecting all industry participants.

On account of informational difficulties, and the inappropriateness of large sample studies to the research at hand, the case study approach was the most suitable choice. This is supported by a similar study in Australia by the Bureau of Industry Economics (1990). Comparing actual results with those claimed at the time of merger, they concluded that inadequacies of available data necessitated the adoption of the case study approach.

Having outlined the cases to be examined, and the approach employed to analyse the information, it is now appropriate to discuss the methods used to extract the information, and the problems experienced, in order to provide some evaluation of the reliability and accuracy of the conclusions. This is presented in the following section.

4.4. Sources of Information

A letter was sent to the Chief Executive of each of the companies involved in the nine authorisations, asking for a preliminary indication as to their willingness to participate in the study. The letter outlined the subject of the research, its purpose, and a request to consult with people who were involved in the application, and who were familiar with subsequent developments in the company or the industry concerned. Table 4.2 lists the responses by the companies approached.

Table 4.2 Companies Approached to Participate in the Research, and Their Responses

Industry	Decision Number	Company	Response	Company Representative	
Meat	205	Richmonds	Positive	John Loughlin	
		Weddel	No longer operating		
		Waitaki	Bought out by AFFCO		
	273	Richmonds	Positive	John Loughlin	
		Lowe Walker	Negative		
		AFFCO	Positive	Tony Wright	
		Taylor Preston	Positive	Geoff Vautier	
		Hill Country Beef	Negative		
		Progressive Meats Ltd	Negative		
		Cavalier Meats Ltd	Bought out by Waitotara		
		Waitotara Meat Co Ltd	Negative		
		King Country Lamb Ltd	Negative		
		Waikato Beef Packers Ltd	Bought out by Greenlea		
		Te Kuiti Meat Processors Ltd	Negative		
		Frasertown Meat Co. Ltd	Negative		
		Benmore Products Ltd	Bought out by Auckland Abattoirs		
		Auckland Abattoirs Ltd	Negative		
		Coromandel Meat Processors Ltd	Negative		
	Paramount Export Ltd	Bought out by Wallford Meats			
	Dairy	216	New Zealand Dairy Group (NZDG)	Positive	Barry O'Donnell
		264	NZDG	Positive	Barry O'Donnell
267		Kiwi Co-operative Dairies Ltd	Negative		
Gas	217	Natural Gas Corporation (NGC)	Positive	Ian Wilson, Martin Sharp	
		Natural Gas Waikato (NGW)	Positive	Phil Harris	
	269	NGC	Positive	Ian Wilson, Martin Sharp	
		Wanganui District Council	Positive	Chas Pointer	
		Wanganui Gas	Positive	Trevor Goodwin	
	272	Enerco	Positive	Graeme Higgs	
	Telecommunications	254	Telecom	Positive	Andrew Webster, Karl Upston-Hooper
BellSouth			Positive	Val Hayes	

Although a positive response was received from AFFCO, no questionnaire was received from the company, despite numerous phone calls, letters, faxes, and two questionnaires being sent.

Table 4.2 shows that of the 27 companies approached (noting that Richmonds, NZDG, and NGC were involved in more than one authorisation), positive responses were received from 11, and 6 are either no longer operating, or have been bought out by other industry participants. While it

appears that few companies were prepared to participate in this study, only one authorisation could not be examined further as a result of a negative response (CC, 1992a). Positive responses were received from all except one of the principal initiators of the applications, therefore all the other authorisations were examined.

Lowe Walker was the only company heavily involved in an application for authorisation that declined to participate in the study. However, positive responses were received from the three other principal initiators in the consortium of meat processors' application to close the Weddel processing plants in 1995 (CC, 1995a).

It is possible that Lowe Walker's refusal to participate was influenced by current proceedings under s30 of the *Commerce Act 1986* against some members of the consortium, including Lowe Walker, for collective price fixing, and recent prosecution against Mr Lowe for obstructing Commission members from obtaining information.

A certain amount of bias was expected to arise from negative responses, since the researcher was unable to discern whether a negative response was the result of the company's inability to achieve previously claimed benefits, an unwillingness to disclose such information to third parties, or no inclination to participate. All of the smaller processors which were less heavily involved in the Weddel/Crown case (CC, 1995a), who declined to participate, admitted that the Weddel plant closures had little effect on their company's operations, as most of the Weddel throughput was appropriated by the bigger players.

Not only did these factors, and a number of others, have a bearing on respondents' willingness to participate in the study, but also on their willingness to answer questions in an open and candid manner. Factors such as whether the company representative had been involved in the authorisation, whether their employer coerced them into completing the questionnaire, and interviewer bias, may have distorted their responses in some way. Candid and guarded responses were received from representatives involved, and not involved, in the original application, therefore, the researcher is unable to derive a causal link between involvement in the authorisation, and the manner in which respondents answered questions. However, this possibility cannot be discarded. No causal link could be established between responses and company representatives being coerced into filling in the questionnaires. Both chief executives and employees were slow to return questionnaires, and in some cases, incomplete questionnaires

were returned. These factors may have provided some indication of coercion. Finally, interviewer bias may have been evident at any stage of the information gathering process. For example, questions may have been leading, or indicated a preferred response.

Subsequent to receiving a response from each of the companies, a questionnaire was developed for each authorisation, and sent to each of the companies which had agreed to participate in the study. The questionnaires were the primary source of information regarding the extent to which each company had achieved efficiencies and other benefits claimed. While the broad structures of the questionnaires were consistent across industries, the diversity of industry characteristics, and benefits claimed by the applicants at the time of the decision, necessitated individual questionnaires for each case. A sample of one of the questionnaires completed by Telecom (CC, 1990b), in relation to its acquisition of the AMPS-A frequency is presented in appendix II.

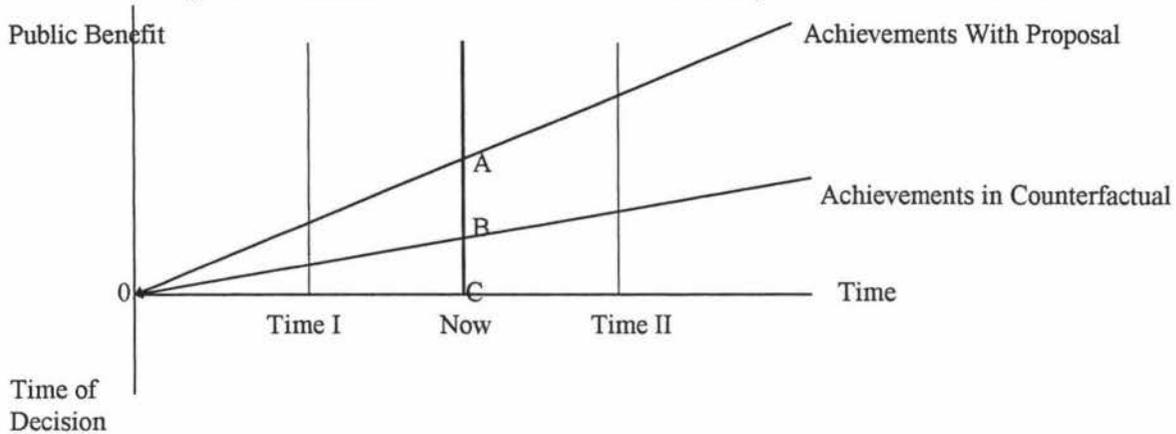
The first page of each questionnaire provided a summary of the benefits claimed by the participants at the time of the decision. They were asked whether they accepted these benefits as a fair summary, and were given an opportunity to comment on the Commission's evaluation. This was important because the Commission does not usually accept all benefits claimed, and does not grant the same weight to them as the applicants. For example, in Telecom's application to purchase the management rights to AMPS-A band (CC, 1990b), Telecom advanced a number of benefits including efficiency gains resulting from economies of scope, economies of scale, dynamic efficiencies, indirect losses ensuing from a lower tender price paid for the band in the counterfactual, benefits to Telecom shareholders flowing from improved profitability, and benefits related to increased tax revenue under Telecom ownership. The Commission did not accept Telecom's claims of benefits accruing to shareholders, and the New Zealand Government, and thus, New Zealanders, in relation to increased tax revenue and higher tender price. Some weight was attributed to benefits flowing from economies of scale, however, this was less than predicted by Telecom. Significant weight was, nonetheless, attributed to benefits accruing from economies of scope, and dynamic efficiency gains. However, the Commission was not willing to accept claims that benefits would be passed on to customers.

The next set of questions in each questionnaire asked the respondents to comment on what they expect would have happened in the market or industry if the acquisition or practice had not been authorised, and how their company would be different in the counterfactual. The success of this study depended on the respondents' ability to estimate the difference between actual efficiency

gains and those that might reasonably be expected in the counterfactual. A prediction of the counterfactual was necessary to compare the extent to which efficiency gains and other benefits had been achieved compared to what might reasonably have been expected if the authorisation had been declined.

Figure 4.1 will help illustrate the difficulties involved in consideration of the counterfactual.

Figure 4.1 Achievement Of Public Benefits Compared to Counterfactual



In Figure 4.1, the line 'achievements with the proposal' represents expectations of public benefit achievements flowing from the agreement held at the time of the decision. The line 'achievements in the counterfactual' represents expectations of public benefits in the event the authorisation were declined. Point 0 is the time of the decision. The period of time between time I and time II is when public benefits are expected to be realised. The vertical line labeled 'now' in this diagram may fall before or after time I or time II, depending on when the authorisation was granted, and when public benefits were expected to eventuate. Thus, the time lapse between the determination and the study may not have been sufficient for public benefits to be realised in those authorisations granted more recently.

Respondents were asked to compare benefits achieved with those that might reasonably have been achieved if authorisation had been declined. There was some difficulty ensuring respondents were comparing actual results with those expected in the counterfactual (points A and B, respectively), rather than, points A and C for example, where point C is the outcome expected without any changes to market conditions.

In addition, exogenous changes to market conditions since the authorisation may have shifted the lines ‘achievements with the proposal’ and ‘achievements in the counterfactual.’ If so, this required respondents not only to compare actual results with those expected at the time of the decision, but also with a counterfactual, taking account of such changes.

The subjective nature of attempting to surmise a hypothetical set of circumstances meant that little reliance could be placed on such predictions. In order to limit bias, the researcher asked each respondent the same question as to the counterfactual, so as to find some conformity amongst industry participants.

The following sections of the questionnaire asked respondents to assess the extent to which each benefit claimed had been achieved since authorisation (in comparison to what might reasonably have been expected in the counterfactual). The companies were also asked about market conditions, including market structure, conduct, and performance, in order to provide a full account of changes over the period since authorisation. Relevant comments made by company representatives are presented in the following four chapters.

Many claims made to the Commission related to lowering of costs as a result of productive efficiencies, dynamic efficiencies resulting from increased investment in research and development, and rationalisation. In relation to a lowering of costs, participants were asked whether cost savings had been achieved, and if so, to what extent. Respondents were then asked to compare these cost savings with what might reasonably have been achieved in the counterfactual. Where cost savings were expected to be passed on to customers, companies were asked to provide evidence of this. The same question structure was applied to dynamic efficiencies and rationalisation programmes, except participants were asked to supply financial information on research and development spending, and details of rationalisation. They were also asked what factors, if any, had delayed or impeded the realisation of benefits expected to result from the acquisition or practice.

Some general financial information was requested from the companies, however few were prepared to disclose such information. Finally, respondents were asked to comment on the practicality of the public benefit test, and were thanked for their contribution toward the success of the research. Most comments on the practicality of the public benefit test related to length of time it took for the Commission to decline or authorise the application, and depth of the

Commission's assessment. Respondents recognised however, the necessity for comprehensive investigation, given the complexity of the industries. Barry O'Donnell, Company Secretary for the NZDG believed that the Commission had taken a very impractical attitude to NZDG's applications to merge with ACMP and Waikato Valley (CC, 1988a, 1991). Essentially, he complained that the Commission was overly concerned about retaining competition in the domestic market when 95 percent of the dairy industry's product is exported.

A letter was sent with each questionnaire outlining respondents' right to withdraw from the study at any time and to refuse to answer any questions. An assurance that confidential information supplied would be handled in such a way as to protect respondents' anonymity was also given. Confidential information supplied by the respondents was not to be disclosed to any party other than the researcher and supervisors, or used for any other purpose without permission, and was to be stored in a securely locked filing cabinet, in a locked room. Finally, information supplied was to be destroyed or returned to the respondent three months after completion of the research. These conditions were met by the researcher.

Any issues which arose from the companys' responses were raised in an informal interview with the person who filled out the questionnaire. Company representatives were also asked general questions related to the industry, developments in the company since the acquisition or practice, and aspects of competition in the market, past, present, and future. Interviews were held with all the company representatives listed in table 4.2 except Andrew Webster at Telecom (CC, 1990b), Tony Wright at AFFCo (CC, 1995a), and Val Hayes at BellSouth (CC, 1990b). Andrew Webster was not interviewed in relation to his responses in the questionnaire as he left Telecom in December 1997. Personal communications were held with his replacement, Karl Upston-Hooper. An interview was not held with Tony Wright as their questionnaire was not received, despite innumerable letters and telephone calls. Finally, interviews were not required with BellSouth as it was not a participant to the application, merely a competitor in the telecommunications industry.

Other industry experts and regulatory bodies were also approached to provide information about industry developments, the extent to which efficiency gains and other benefits had been achieved by the industry, and industry conditions. In relation to the meat processing industry, personal communications were received from Dr Bill Maughan (Economist), and interviews held with Brian Spiers, Chief Economist at the New Zealand Meat and Wool Board's Economic Service,

and Brian Lynch, Executive Director at the Meat Industry Association. In relation to the dairy industry, an interview was held with Nigel Mitchell, Manager of External Policy, and personal communications were received from John Dawson, Manager of Milk Supply and Supplier Relations at NZDG. Interviews were held with Ian Wilson, Transmission Services, and Martin Sharp, Wholesale Gas, at NGC, in connection to the gas industry. Finally, as mentioned previously, personal communications were received from Val Hayes, Corporate Communications Executive at BellSouth, in relation to the cellular services market.

A number of reports and papers prepared by these organisations, or prepared by experts on behalf of these organisations, were made available to the researcher. Papers prepared by independent experts were also studied. In addition, the Commission supplied material related to these four industries.

4.5. Conclusion

The aim of this study was to evaluate the practicality of using the public benefit test to authorise otherwise anti-competitive business acquisitions and restrictive trade practices. In particular, this research attempted to examine the extent to which those companies granted authorisation had achieved the benefits claimed compared to the counterfactual.

In light of the unique circumstances surrounding each authorisation, and the limited number of authorisations over the period (1986 - 1996), the case study approach was the most appropriate technique to gather and analyse information. It allowed the researcher to carry out an in-depth analysis of the company, the market, and the industry. In addition, informational difficulties prevented any other approaches being adopted.

Informational difficulties, lack of randomness, and lack of uniformity were problems associated with the case study approach, and the nature of the research. An exhaustive study of the literature, the firms, the markets, and the industries was conducted by the researcher to minimise reliance on information supplied and comments made by the respondents. The rarity of authorisations in New Zealand made random selection of a sample of applications granted authorisation imprudent. Finally, a lack of uniformity could not be avoided. The broad structure of the questionnaires was however, consistent.

Nine authorisations, involving four industries were identified, which met a set of criteria developed by the researcher. The four industries examined were: meat processing, dairy processing, gas, and telecommunications.

Questionnaires were sent to those companies granted authorisation which had agreed to participate in the study. Responses were followed-up by interviews to clarify any points of contention. Where possible, responses were cross-checked with other respondents and industry experts to confirm their validity.

5. Meat Processing Industry

5.1. Introduction

Two meat processing industry applications for authorisation have been accepted by the Commission under the 1986 Act. Both involved applications for restrictive trade practices under s58 of the Act by groups of meat processing companies, to acquire and permanently remove the assets of a competitor from the market, in an effort to reduce excess capacity in the industry. The first application (CC, 1987b), hereafter referred to as Whakatu/Advanced, involved an application by Weddel Crown Corporation Ltd, Waitaki International Ltd, and Richmond, to effect the permanent closure of Whakatu Freezing works in Hastings, and Advanced works in Gisborne.

The second meat processing industry authorisation, hereafter referred to as Weddel/Crown, involved a proposal by a consortium of seventeen North Island meat processing companies to collectively acquire and close the Weddel New Zealand Ltd. processing plants, which had been placed in receivership and liquidation.⁴ The Weddel plants consisted of Tomoana (located near Hastings), Aotearoa (Cambridge), Kaiti and Pacific (Gisborne), Feilding (Feilding), and FME (Whangarei).

This chapter summarises the background to the meat processing industry, and the cases before the Commission. Particular emphasis is placed on the industry's characteristics, specifically, excess capacity, high exit costs, and the intense competition between processors to procure stock and sell processed meat on international markets. An analysis of the issues which arose in relation to each restrictive trade practice, and the survey results is then presented.

⁴ The applicants comprised: AFFCO New Zealand Ltd, Richmond Ltd, Lowe Walker New Zealand Ltd, Hill Country Beef New Zealand Ltd, Progressive Meats Ltd, Cavalier Meats Ltd, Waitotara Meat Company Ltd, Taylor Preston Ltd, King Country Lamb Ltd, Waikato Beef Packers Ltd, Te Kuiti Meat Processors Ltd, Benmore Products Ltd, Auckland Abattoirs Ltd, Coromandel Meat Processors Ltd, and Paramount Export Ltd.

5.2. Industry Background

The importance of the New Zealand meat processing industry to the New Zealand economy is considerable. In 1996, \$2.655 million worth of meat and edible meat offal was exported, representing 12.9 percent of New Zealand's total exports (Department of Statistics: New Zealand Yearbook 1997, p. 552), second only to dairy produce, which accounted for 14.6 percent of total exports. Its importance can also be measured by the industry's contribution to Gross Domestic Product. For the year ended March 1994, sheep, beef and mixed livestock contributed \$2.168 million toward Gross Domestic Product (GDP), representing 2.9 percent of GDP (New Zealand Yearbook 1997, p. 411).

The introduction of the *Employment Contracts Act* in 1991, removal of economic licensing in 1981, and the removal of farm subsidies in 1984-85 contributed to the dramatic changes which took place in the meat processing industry (Maughan, 1996b). Firstly, the *Employment Contracts Act 1991* significantly freed up the labour market, and provided greater flexibility to meat processing firms, in relation to hours of work, wages and salaries, and creating and terminating employee contracts. Prior to its introduction, meat processing industry workers, and their affiliated union, were notoriously powerful, frequently receiving wages far in excess of workers in comparable employment in other industries. Thus, initially, the Act was more beneficial to new entrants than incumbents, as new entrants did not have to renegotiate contracts with existing employees. The demise of Fortex meat processors in 1994, is believed to be in part due to an inability to reduce wage rates to match new entrants' remuneration costs.

Secondly, economic licensing of meat works was introduced in 1939 to stabilise the industry. Over the period 1939 to 1981, Maughan (1996b) found that only three small works had closed and one new one opened. Licensing effectively acted as a barrier to new entry, thus preventing progress associated with competition, and free entry and exit, and allowed inefficiencies to persist.

Farm subsidies introduced during the 1930's to protect farmers' incomes from the adverse effects of overseas fluctuations in price and demand, and SMPs - another type of subsidy introduced in the early 1980's to stimulate sheep meat production, were abandoned during the economic reforms instigated under the fourth Labour Government. Payments made to the agricultural sector under the scheme could no longer be sustained. Once the agricultural sector

was exposed to a competitive international market, farm profitability fell dramatically, leading to an exodus of farmers from industries most affected. Some farmers switched to more profitable land use, such as forestry or horticulture, while others left entirely.⁵ Sheep numbers fell 30 percent over the period 1985-1995 (Davison, 1995). This was partly offset by increases in beef, dairy, and deer numbers (7 percent, 15 percent, and 122 percent) over the same period (Davison, 1995).

Consequently, a paradox of entry at a time of industry overcapacity arose. New meat processing companies entered the industry, building new, smaller, more efficient plants, and introduced new technology. Meanwhile, stock numbers fell dramatically, especially in respect of sheep, therefore the demand for killing space fell. By 1985 the industry suffered massive overcapacity. A report by Pappas *et al* (1985) estimated overcapacity in the industry at 35-40 percent. Capacity is however, an extremely elastic concept. Derivation of capacity depends on a number of factors including: how many shifts, how many days worked per week, and whether one is referring to maximum capacity that can be processed without changing factors such as the number of shifts and days worked, or maximum throughput that has been achieved on any particular day or week. A processor is able to significantly increase capacity simply by adding a second or third shift. The extent of overcapacity in the meat processing markets defined by the Commission, in relation to the Commission's assessment of lessening of competition, was a matter of considerable significance in both Whakatu/Advanced and Weddel/Crown.

Overcapacity is accentuated by the seasonal nature of stock farming in New Zealand. Meat processing firms build sufficient capacity to process stock on demand. Farmers' demand for slaughtering facilities is largely dependent on pasture growth. Demand for slaughtering facilities is high during the autumn months when grass growth is slow, and virtually non-existent during winter. Competition to procure stock is especially prevalent during shoulder months (immediately preceding and following peak-season), as meat processing firms attempt to smooth seasonal variations in demand, which leave significant underutilised capacity for much of the year, by paying premiums to farmers for their stock.

⁵ Using information contained within the N.Z. Meat Producers' Board Strategic Plan 1993 - 2000, Maughan (1996b) found that between 1985 and 1995, 1.2 million hectares of land which was formally used for sheep and beef cattle was converted to forestry, dairy production, or lifestyle blocks.

Meat processing firms compete rigorously to procure stock during periods of excess capacity in order to increase throughput and spread fixed costs over a greater number of units. An example will help illustrate this point. Fixed costs do not vary with the amount of stock processed, therefore, if monthly fixed costs are \$10,000, and only one hundred stock units are processed, unit costs will be \$100 plus variable costs. If however, one thousand stock units are processed, unit costs will be \$10 plus variable costs. In order to secure additional stock, meat processing firms bid up the price paid to farmers for their stock. If all firms engage in such price competition, firm margins are reduced, sometimes to an unprofitable level.

The forces driving this competition for stock are excess capacity and a high proportion of fixed costs to total costs. McWilliams (1994) study of New Zealand's meat processing industry estimated the proportion of fixed costs to total costs to lie between 55 and 60 percent. A similar study by Casey (1997) of five New Zealand processing companies over the period 1985/86 - 1995/96 concurred with this result. He estimated the proportion of fixed costs to total costs in meat processing companies surveyed at between 47 and 60 percent.

Casey's (1997) study also revealed the New Zealand meat processing industry is characterised by demand uncertainty and short run decreasing average costs. He argued that these attributes exacerbate competition for stock, and contribute to an on-going problem, which is unlikely to be resolved by imposing greater competition on the industry. Instead, the industry will experience cut-throat competition, and continued instability. The generalised feature of such markets is an inability to reach a sustainable equilibrium. Many industries display characteristics of demand uncertainty and short run decreasing average costs, yet do not suffer from instability, therefore, confirmation that such markets exists is extremely difficult.

A combination of high exit costs, and a high proportion of fixed costs to total costs, contribute to the unwillingness of meat processing companies to exit the industry. The principle exit costs incurred by the meat processing firm upon closure include: redundancy payments to employees, site clean up costs - obligatory under the *Resource Management Act 1991* - demolition costs, and in the case of receivership, legal and accounting fees. High exit costs prevent resources moving out of the industry in the event of poor profitability, and act as a barrier to exit since the meat processor, or processors paying the exit costs are unable to fully appropriate the benefits. That is, the processor(s) paying for the closure are unlikely to procure all the throughput of the closed plant or firm, because farmer suppliers of the closed plant are able to transfer their supply

allegiance to any meat processor. They have no obligation to supply stock to the acquirer. In addition, industry participants claimed in Whakatu/Advanced (CC, 1987b) and Weddel/Crown (CC, 1995a), that the cost of exit is too great to be borne by a single party. Thus, industry participants have an incentive to stay in the industry as long as possible, despite poor profitability, in the hope that a competitor will fail first.

Grimes (1994) argued that competitive forces cannot be relied upon to restore stability to the industry in the event of closure, as capacity is likely to be repeatedly recycled (purchased and reopened by rivals or new entrants) within the industry. This argument is supported by Table 5.1 below. Table 5.1 reveals that although there have been 33 plant or company closures between 1986 and January 1998, 22 have been recycled, and 11 have been closed permanently. Note that 7 of these 11 permanent closures were achieved by the two collective agreements authorised by the Commerce Commission (Whakatu/Advanced, Weddel/Crown).

Table 5.1 North Island Meat Processing Company Changes in Ownership, Openings and Closures of Plant 1986 - 1997.

Year	Closed Company	Plant Closed / Opened	Closed / Recycled	Operational Status
1986	Hawkes Bay Meat Company	Whakatu	Closed	Closed
		Advanced	Closed	Closed
		Takapau	Recycled	Operational
	Waitaki North Island	Longburn	Closed	Closed
1987	Te Aroha AB	Te Aroha	Recycled	Operational
	Crown Meats	Feilding	Recycled	Operational
1988	Te Kuiti AB	Te Kuiti	Recycled	Operational
1989	Waitaki	Waingawa	Closed	Closed
		Waitara	Recycled	Downsized
		Feilding	Recycled	Rebuilt
		Imlay	Recycled	Downsized
		Wairoa	Recycled	Operational
	Ventec	Tirau	Recycled	Operational
	Hawera AB	Hawera	Recycled	Operational
1990	SouthPacific	Morrinsville	Recycled	Operational
	Welpro / Grace	Ngauranga	Recycled	Operational
	Otaki AB	Otaki	Recycled	Operational
	Thames AB	Thames	Recycled	Operational
1991	Paramount	Te Kauwhata	Recycled	Operational
	NZ Beef Packers	NZ Beef Pack	Recycled	Operational
1992	King Country Lamb	Bennydale	Closed	Operational
1995	Weddel	Whangarei	Closed	Closed
		Cambridge	Closed	Closed
		Feilding	Closed	Closed
		Gisborne	Closed	Closed
		Hastings	Closed	Closed
1996	Hawera Processors	Hawera	Closed	Closed
	Waitotara	Tirau	Recycled	Operational
	Crusader	Bennydale	Recycled	Operational
1997	Benmore Products	Auckland	Recycled	Operational
	Paramount	Taumaranui	Recycled	Operational
	Waikato Beef	Morrinsville	Recycled	Operational
1998	AFFCo	Taumaranui	Closed	Closed

AB = abattoir, domestic market.

Source: Data for years 1986-1990 provided by New Zealand Meat and Wool Board's Economic Service, New Zealand Meat Producers Board. Data from 1990-1997 provided by industry participants and Brian Lynch, Chief Executive of the Meat Industry Association, 11th November 1997.

Grimes (1994) also argued that market forces cannot be relied upon to induce the closure of the least efficient company. Other factors such as financial leverage and size may have more influence on a firm's ability to avoid exit.

Plant and equipment used in the meat processing industry are recycled for several reasons. Firstly, the specific nature of the assets means that they cannot easily or cheaply be converted for use in other industries. Therefore, other industries are less willing to pay as much as meat

processing industry participants. Secondly, the assets are sold at a price significantly lower than replacement value, therefore industry participants are keen to purchase the second-hand assets rather than purchase them new. Thirdly, many plants are located in rural areas or adjacent to small towns, and are large. Hence, demand for the land and buildings is likely to be very limited. Accordingly, the meat processing industry has experienced a series of company failures, without any permanent reduction in capacity.

Despite declining sheep numbers and poor profitability over the last decade, new entrants have continued to enter the market. One reason for this is the ability to purchase exiting companies' assets at written-down values, and recycle them back into the industry. Pickford (1995a) identifies a number of other reasons including: market distortions caused by the presence of quota restrictions; new plants tend to be more efficient than old plants as they are able to install new technology; and opportunities exist for entry into specialised and profitable niche markets not dominated by incumbents.

The meat processing industry may be described as a 'sick industry' by virtue of its inability to achieve stability in the face of changing demand and supply conditions, and increased competition following deregulation. Industry participants argue that circumstances unique to the industry, such as high exit costs and a high proportion of fixed costs to total costs, prevent the competitive mechanism from restoring stability and profitability. The two restrictive trade practices discussed below were expected to accomplish what the competitive market had been unable to do.

Cases Before The Commerce Commission

5.3. Whakatu Decision : determined 22 July 1987

Whakatu/Advanced was the first authorisation under the 1986 Act. The agreement between Weddel, Waitaki, and Richmond (all North Island meat processors), sought to permanently remove the Whakatu and Advanced plant capacity from the market. Prior to the agreement (March 26, 1987) Richmonds obtained clearance for the acquisition of 100 percent of the issued share capital of the Hawke's Bay Farmers' Meat Company, which included the ownership of Whakatu Freezing works. The Advanced works in Gisborne was owned by Waitaki. The

participants to the agreement jointly possessed approximately 93 percent of the market for sheep and lamb killing services and 91 percent of capacity, and 74 percent of beef killing services and 75 percent of capacity in the lower North Island. The effect of the closures of Whakatu and Advanced was to reduce slaughter capacity in the lower North Island by 16 percent for sheep and lambs, and 10 percent for beef.

Legal proceedings were initially brought against Waitaki - but were later discontinued - for failing to comply with notification requirements of the Act, as the agreement was entered into and Whakatu works closed, prior to acquiring Commission clearance or authorisation. The Act seems to require that authorisation is obtained prior to implementation of an arrangement, although the law on this issue is not regarded as settled.

Detriments

The agreement was found by the Commission to 'substantially lessen competition' in the market for the provision of slaughtering services for sheep, lamb, and beef, primarily for export, and the procurement of stock for slaughter in the lower North Island. The lower North Island was accepted by the Commission as the appropriate market because Whakatu (situated in Hastings) and Advanced (Gisborne) competed for stock within the lower North Island. Therefore, regions outside the lower North Island would be unaffected by the arrangement.

Competition was expected to lessen as a result of the agreement, by virtue of the applicants acquisition of market power. With fewer competitors, the applicants were expected to have greater incentive and ability to behave independently of the market. During peak season, when farmers require their stock to be killed, and demand for killing space is high, companies were not expected to compete as rigorously to acquire stock as was necessary before the closures. Therefore competition on the basis of price was expected to diminish. Given the extent of overcapacity in the market for sheep and lamb killing services, competition was expected to continue during shoulder and off-peak periods.

Farmers were expected to be disadvantaged by the closures, since price competition for stock was expected to diminish, and farmers previously supplying Whakatu or Advanced had fewer options. The closure of Whakatu and Advanced meant the farmers would have to send their stock to one of the parties to the agreement, or to a competitor, geographically removed from their

usual place of supply. Some farmers claimed they were reluctant to transport stock long distances, as the price of the stock falls either, because the cost of transportation is borne by the farmer (during non-shoulder periods), or stock may be damaged in transit.

Thus, lessening of competition arose from the elimination of killing capacity in peak periods of the season, lengthening of peak periods, possible queuing for killing capacity during those periods, and a reduction in price competition. Authorisation was expected to disadvantage the farmer as a result of diminished price competition, reduction of choice of works, and additional holding costs due to farmers' inability to have stock slaughtered as desired. Quantification of detriments was not attempted.

Finally, the collective nature of the agreement rose anti-competitive concerns, especially given the poor record of the meat industry in relation to restrictive trade practices in the past, including collective pricing agreements between meat processors, which was abandoned only following an investigation by the Commission (CC, 1987b, p. 39).

The Commission concluded however, that the lessening of competition was limited to two works out of fifteen, and not to any other aspect of competition between the companies. The Commission also found that detriment to farmers was restricted to beef slaughtering in the shoulders and off-peak periods. Overcapacity would remain in sheep and lamb slaughtering, therefore no detriment was found.

Deputy Chairman of the Commission, W. E. B. Tucker identified additional undesirable effects resulting from the agreement including: the creation of undercapacity for beef; shortening of the competitive shoulder periods; increased costs of holding stock for farmers, and greater difficulty in marketing stock at the right time; a need to transport some stock further; and a loss of employment in the region. Furthermore, he asserted that the benefits of the closures depended crucially on the length of time before new entrants enter and compete for the additional throughput.

Benefits

The principal benefit resulting from the closures related to the lowering of fixed costs in the industry. Fixed costs incurred by Whakatu and Advanced were removed from the industry as a

result of the closures, and stock previously processed by these plants was processed instead by competitors. Average unit costs incurred by the remaining processors in the defined market were expected to fall as fixed costs would be spread over a greater number of units.

Additional benefits flowed from the lowering of fixed costs. Company profitability was expected to improve, allowing greater investment in further processing and innovation. This in turn was expected to “ensure ... [the] industry does not continue down the path of a ‘sunset’ industry,” and strengthen the meat industry’s position in international markets, which would have flow-back effects to the New Zealand economy” (CC, 1987b, p. 39). It appears however, that the Commission gathered little information on what steps would be made by the participants to fulfill these goals, and when they were expected to be realised.

The participants also argued that improved profitability would allow meat processing companies to offer greater job security, which would lead to a reduction in wage costs. It was thought that workers would accept a wage cut in return for greater job security. Additionally, it was argued that increased throughput would encourage meat processors to invest in labour saving technology which would improve productivity. These employment-related benefits were not accepted by the Commission, on the grounds of insufficient evidence.

Discussion

The Commission concluded that the detrimental effect of the lessening of competition arising from a reduction in farmer choice and anticipated fall in farmer returns were likely to occur in relation to the market for sheep and lamb killing services, at peak season only. The restrictive trade practice was authorised on the basis that the benefits of restructuring were expected to occur in a more efficient and timely manner than without the practice.

The Commission was not unanimous in its determination. Tucker, in his dissenting opinion commented that “commercial realities must, ... eventually force even the most reluctant company to acknowledge the need to reduce costs by becoming more efficient” (CC, 1987b, p. 12).

In addition, Tucker asserted that public benefits claimed by the applicants “would also result from the competitive process through unilateral plant closures and/or improved internal efficiencies, though they would take longer to achieve by these means. However, the efficiency

solutions arising from the competitive process would in all probability be more enduring than those flowing from the agreement. The arrangement does not foreclose the option of pursuing improved efficiencies, but it may well delay the need to do so by virtue of improved profitability” (CC, 1987b, p.18).

5.3.1. Survey results – Whakatu decision

The main benefits advanced by the applicants in relation to the Whakatu/Advanced closures may be summarised as:

1. Reduction in costs,
2. Reduction in industry capacity,
3. Greater stability, and improved profitability,
4. Greater investment in further processing and innovation, and
5. Lower wage costs.

These are considered in turn.

Reduction In Fixed Costs

The closure of Whakatu and Advanced effected the permanent removal of fixed costs incurred by those plants. Stock previously processed by Whakatu and Advanced were sent instead to one of the remaining processors in the region. The realisation of benefits expected to flow from the removal of fixed costs depended however, on the length of time before capacity was opened or closed, and the ability of processors to transform lower unit costs into improved profitability and greater stability.

Reduction In Industry Capacity

The closures of Whakatu and Advanced executed the removal of 16 percent of sheep and lamb slaughtering capacity, and 10 percent of beef capacity in the lower North Island, as intended. However, a significant proportion of this capacity was reinstated, either by industry participants, or new entrants.

Over the period 1987-1994, following the Whakatu and Advanced closures, and before the Weddel closures, capacity in the North Island was reduced by a further ten sheep and four beef works (or 53,070 sheep and lamb heads per day and 2,340 beef heads per day) (CC, 1995a, p.

26). In addition, AFFCO claimed (CC, 1995a) it removed \$100 million in fixed costs since the Whakatu and Advanced closures by removing chains. Evidence of voluntary closures such as this undermine the parties' argument that cooperation is needed to reduce capacity.

Antithetically, new capacity was added or recycled by existing competitors and new entrants. Over the same period, fourteen new companies opened eight sheep processing plants and eight beef processing plants to process 13,430 heads of sheep per day, and 1,930 heads of beef per day, while incumbents added additional capacity to process 2,650 heads of beef per day (CC, 1995a, p.26).

As part of the agreement to close the Whakatu and Advanced plants, Waitaki agreed to close its Feilding plant. The Feilding plant has, in fact, been recycled and rebuilt under the ownership of AFFCO, who acquired Waitaki in 1989, and currently operates triple shifts, according to John Loughlin, Chief Executive, of Richmonds.

This information would tend to suggest that net capacity was removed over the period, however, this ignores the effect of declining livestock numbers, and overestimates the industry's ability and willingness to voluntarily reduce capacity in the short to medium term, in response to overcapacity. Estimates of livestock numbers at the time of the decision were made only for the following season. The applicants expected an increase in sheep and lamb slaughtered in the North Island (measured in lamb equivalents) from 17.9 million in 1986, to 18.2 million in 1987. Thereafter, throughput was expected to decline, until the national sheep flock stabilises in 1990 (CC, 1987b). Table 5.2 below shows that lamb equivalents processed fell over the period 1987/88-1995/96, and stabilised in the latter years.

Table 5.2 Lamb Equivalents Slaughtered In North Island Meat Processing Plants 1988/89-1995/96

Year	Lamb Equivalents Slaughtered
1987/88	14.3
1988/89	16.3
1989/90	11.8
1990/91	13.0
1991/92	10.3
1992/93	12.4
1993/94	12.7
1994/95	12.6
1995/96	12.9

Source: Data provided by Brian Spiers, Economist at the New Zealand Meat and Wool Boards' Economic Service. Conversion factors: 1 lamb = 1 lamb equivalent, 1 sheep = 1.42 lamb equivalent as per Casey *et al* (1997, p. 13)

In light of the extent of overcapacity in the industry by 1995, when the Weddel plants went into liquidation and receivership (which will be discussed in the following section), one could conclude that the Whakatu/Advanced closures were unable to reduce capacity in the industry, beyond the short term. However, factors such as the introduction of new technology, which may have encouraged new entry over this time, are likely to have had a significant impact on this result. This is supported by Southpac (1994), who argued that over the period 1984-1994, processing costs declined by around 20 percent as a result of technological improvements, better plant configurations, and changes to labour legislation.

The extent to which capacity was introduced or recycled into the industry over the period would have considerably diminished benefits expected from the removal of fixed costs. The industry's ability to appropriate the benefits relied on other industry participants using existing infrastructure to process additional throughput. Any purchases of plant and equipment effectively introduced additional fixed costs.

Greater Stability And Improved Profitability

The Southpac report (1994) also advised that the meat processing industry suffered from poor profitability over the period. Earnings had been insufficient to cover debt servicing costs, return to equity providers had been well below market rates, and the industry was severely undercapitalised. Accordingly, they concluded that the industry had failed to take advantage of the benefits of capacity reductions or efficiency improvements, and investment in innovation and

research and development expenditure had not materialised. Details related to the Report remain confidential.

Further evidence of the inability of the Whakatu/Advanced arrangement to restore stability and profitability to the industry may be seen in the fact that only one of the three applicants to the arrangement survived. Richmonds continued to expand over the period 1987-1994, while the Waitaki plants were closed, and many recycled, by AFFCO in 1989, and Weddel plants remain permanently closed as a result of a collective agreement between a consortium of industry participants in 1995.

There was speculation at the time of the Whakatu/Advanced closures that Richmonds would not survive without the closures. Richmonds was financially weak as a result of a merger of Dawn Meats in 1986, and opening of the Takapau plant in 1987. Mr Loughlin, believed that although the closures played an important role in Richmond's rapid growth over the period, and Richmond's ability to reduce costs, the way in which Richmonds was managed also facilitated such growth. Essentially, the Whakatu and Advanced closures "provided the environment for [growth at Richmonds] to happen." Geoff Vautier, Financial Controller at Taylor Preston spoke to the same effect in relation to the Weddel closures. He claimed that there had not been a huge amount of change in Taylor Preston as a result of the closures.

In light of the evidence detailed in the Southpac report, the fact that Richmonds is the only surviving party to the agreement, and the state of the industry by 1995, one can assume that the Whakatu/Advanced closures were not able to reestablish stability in the industry, or improve profitability.

Lowering Of Wage Costs And Enhanced Job Security

The last benefit claimed by the participants to the agreement related to a lowering of wage costs and enhanced job security, since the remaining meat processors were less likely to exit the market. As mentioned above, ten sheep and four beef works were closed in the North Island over the period 1987-1994. This would indicate poor job security for meat industry workers, not the opposite, as expected.

The applicants argued that workers would be willing to accept lower wages in return for greater job security. Additionally, greater throughput would provide a greater incentive for processors to invest in labour saving technology, which would in turn lead to greater productivity.

The New Zealand Meat Industry Association Annual report 1995 revealed that labour productivity in the meat processing industry improved over the period 1985-1995. The number of employees required to slaughter total livestock slaughtered fell from 0.03 to 0.02, a 33 percent decline, and the number of employees required to process total meat production fell from 39 to 21, a 46 percent reduction.

A paper by the New Zealand Meat and Wool Board's Economic Service (1995) also confirmed productivity improvements in export slaughter facilities. Comparing sheep and beef daily capacity and the number of days to process capacity in 1982 and 1995, they concluded that the industry experienced a 43 percent increase in plant utilisation for sheep processing, relative to capacity available in 1982, and a 101 percent improvement on 1982 beef plant utilisation. While these studies substantiate the industry's claims of improved labour and plant productivity, one cannot derive causal relationship between the productivity gains and the closures.

The Whakatu/Advanced closures were less successful than anticipated at removing excess capacity from the meat processing industry despite additional voluntary closures. New entry and recycling of plant and equipment effectively reintroduced a significant portion of capacity removed. In addition, declining stock numbers over the period accentuated problems related to overcapacity. Consequently, benefits arising from the removal of fixed costs were not realised in full. The following section discusses the extent of overcapacity and instability in the industry by 1994, when a consortium of North Island meat companies applied to the Commission for authorisation of a restrictive trade practice to close the Weddel plants.

5.4. Weddel Decision : determined 2 Feb 1995

The second meat processing industry authorisation involved an arrangement by a consortium of North Island meat processing companies (listed in footnote 1) to acquire and close the Weddel processing plants, in receivership and liquidation at the time of the determination. Effectively, the agreement sought to remove excess slaughtering capacity, mainly in relation to sheep, and

prevent industry participants, including new entrants, from using the Weddel plants for slaughtering or processing for at least 10 years.

The arrangement effectively removed the opportunity for new entrants or existing industry participants to purchase the Weddel assets at their written-down values, thus eliminating a new entrant's ability to enter the market with a cost advantage. In its application to the Commission, the consortium stated that "the arrangement will limit the ability of existing competitors or new entrants to acquire a windfall opportunity to enter the meat processing market."

The consortium members accounted for over 70 percent of the meat processing undertaken in the North Island in the 1993/94 season, the balance being held by Weddel (20 percent), and four other meat processing companies not members of the consortium: Huttons Kiwi Ltd., Greenlea Premier Meats Ltd, Hawera Processors Ltd, and Wallford Meats NZ Ltd. (10 percent). Prior to closure, Weddel was a significant competitor in the market, processing 23 percent of the North Island's sheep throughput, and 12 percent of the beef throughput in the 1993/94 season. Thus, the closures were expected to have a significant impact on the meat processing industry in the North Island.

The Commission adopted a similar market definition in this application as that used in Whakatu/Advanced. However, in Weddel/Crown, the Commission adopted a geographically extended market area to include the whole of the North Island. The North Island was considered the relevant region because the Weddel plants were located throughout the North Island, and competition for the procurement of stock outside a meat processor's region was common, especially during shoulder periods.

A number of submissions and reports submitted to the Commission in relation to the application indicate that the necessity for rationalisation of the meat industry was widely accepted. A s26 statement issued by the Minister of Commerce on September 25, 1989 reflected the Government's desire for rationalisation of the industry. Accordingly, it was part of the economic policy of the Government "to encourage the rapid rationalisation of the industry, so as to enhance the export performance and competitiveness of the industry. The Government [believed] that the public interest [was] best served by this process occurring as soon as possible." This statement was later repealed, on May 9, 1995, after authorisation had been granted.

As mentioned in chapter 2, the Commerce Commission is obliged under s26 to have regard to such statements. It is unlikely however, that the Commission would have decided differently in the absence of the Ministry's statement.

Non-rationalisation of the meat processing industry was expected to have dire consequences for processors, farmers, and the economy. A submission by the Boston Consulting Group (1994), argued that 50 percent of the meat processing industry would fail in the event of non-closure of Weddel, and the remainder of the industry left weak. AFFCO professed that without the arrangement to permanently close the Weddel works, it was unlikely to remain in the industry.

In addition, a consortium of international banks made an implied threat to Government that they were prepared to withdraw from the meat processing industry in the event of non-rationalisation. The Sunday Star Times (November 13, 1994) reported that bankers would "refuse seasonal finance to the industry and scuttle efforts to reactivate the collapsed Weddel plants." The Commission referred to allegations of coercion by the banking sector in the Draft Determination (CC, 1994a, p. 38) "the suggestion appears to be that a large section of the financial sector may be acting to ensure that its members who are currently exposed to the meat industry do not have their position made worse by the entry of new, more efficient processors. For such a policy to achieve its apparent purpose, it would, in itself, be at risk under the Act."

A counterfactual situation was devised by the Commission, with the help of industry experts, in order to assess the likely impact of the proposal. This was a crucial step in the evaluation of the proposal, because of the substantial changes expected in the industry's structure. Naturally, the precise specification of the counterfactual was somewhat speculative, given future uncertainties.

Yeabsley (1994), Director of the New Zealand Institute of Economic Research, who prepared a report on the expected benefits of the closures on behalf of the consortium, speculated that the most likely 'without' scenario would involve the reopening of three of the Weddel plants: Whangarei, Cambridge, and Feilding, and the closure of one relatively small plant within the next four years. The Commission eventually accepted this as an appropriate counterfactual.

Detriments

Those detriments listed above, in relation to Whakatu/Advanced, were advanced in relation to Weddel/Crown. Rather than repeat them here, a summary is provided.

The Commission concluded that a lessening of competition arose from market power gained by consortium members, especially those located in Poverty Bay and Whangarei, where only one processor remained. Detriment from the lessening of competition was expected to take the form of reduced price competition, queuing for killing space during peak periods, lengthening of peak periods, and a reduction in farmer choice. Although no evidence was presented, it was understood by the Commission that members of the consortium had agreed not to open new capacity, and that AFFCO would close some existing facilities. The collective nature of the agreement was again of concern to the Commission. The applicants argued however, that the costs of closure were too great to be borne by one party alone. Having regard to these factors, the Commission concluded that the detriment from the lessening of competition would be minor. No attempt was made by the Commission to quantify detriments.

Benefits

The participants presented three main public benefits arising from the proposal. Yeabsley (1994) estimated the net present value of the benefits to fall within the range of \$15 million to in excess of \$100 million. The primary benefit was expected to arise as a result of the removal of fixed costs from the industry. Like the Whakatu/Advanced closures, the Weddel closures were expected to increase throughput in the remaining processors' plants, lowering unit costs. The net present value of this benefit was estimated to be approximately \$16 million if three of Weddel's plants were assumed to remain closed in the counterfactual, or \$90 million if four plants remained closed.

Other benefits were expected to flow from the removal of fixed costs. The participants claimed that lowering of unit costs would improve profitability, which in turn would allow greater investment in research and development, international marketing, and domestic processing. While the Commission considered this a desirable outcome, no weight was accorded to these benefits as the increase in investment arose as a result of efficiency improvements, and was therefore

'second-round' or 'indirect effects.' Also, the applicants were not able to establish the necessary link between the efficiency gains and the increase in investment.

Finally, the arrangement was expected to improve industry confidence and reputation, and move the industry beyond 'survival mode.' The participants claimed they struggled constantly to remain in the industry. It was hoped that improved profitability, combined with greater confidence in the stability of the industry, would stimulate growth. Interestingly, the Commission attributed significant weight to this benefit, given the relative vagueness of the claims. The Commission believed that improved industry confidence and reputation would make an important difference to the future of the industry.

Discussion

As required under s26 of the Act, the Commission, in its assessment of the application, had regard to the statement issued by the Minister of Commerce (issued Sept 25, 1989) in relation to the urgency for the rationalisation of the meat processing industry. Attention was also given to the expected benefits and detriments. The Commission concluded that the benefits arising from the proposal outweighed detriments from the loss of competition.

Associate members P.C. Allport and J.G. Auton dissented from this opinion on the basis of a difference of opinion in the interpretation of s 61(6) of the Act. They argued that a contravention of s27 of the Act requires a business acquisition or practice to breach the 'substantial' lessening of competition threshold. They concluded that the intended practice lessened competition, but fell short of the 'substantial' threshold, therefore the intended practice was not unlawful, and no authorisation was required.

5.4.1. Survey Results – Weddel decision

The main benefits claimed by the applicants in relation to the Weddel closures may be summarised as:

1. Reduction in costs,
2. Reduction in industry capacity,
3. Greater stability, and improved profitability,
4. Greater investment in further processing and innovation, and
5. Movement away from 'survival mode.'

These are considered in turn.

Reduction In Fixed Costs

The principle benefit expected to flow from the closures was the removal of fixed costs from the industry. This was achieved. Weddel plants have been permanently closed. Dr Yeabsley (1994) estimated the benefit attributable to the removal of fixed costs to be in the range of \$15 to \$100 million. Mr Loughlin believed that the benefits realised, were in the top end of the range, but does not have detailed information. Further, he postulated that Richmond's throughput increased about 40 percent as a result of the closures of Whakatu and Advanced, and Weddel.

The applicants' estimates of benefits were calculated net of the costs of closing the Weddel plants. These costs were estimated at \$50-55 million. Mr Loughlin claimed the consortium received more for the assets than expected, and when combined with lower than anticipated site clean-up and demolition costs, the actual cost of the arrangement was \$27 million. Geoff Vautier supported this statement. This meant industry participants paid off the debt acquired to finance the arrangement in 13 months, instead of 24 months as expected. This created a significant, unexpected benefit to processing firms, as funds were available for use elsewhere.

Mr Vautier claimed that some of Weddel's fixed costs were recycled back into the industry, as the Weddel assets were sold mostly to industry participants. As part of the agreement, the assets could be purchased for replacement purposes only. However, he understands that many consortium members purchased additional plant and equipment for expansion, not to replace old assets.

As was the case with the Whakatu/Advanced closures, the participants' ability to appropriate the benefits of the removal of Weddel's fixed costs depended crucially on the length of time before capacity was opened or closed and the ability of the processor to transform lower unit costs into improved profitability and greater stability.

Reduction In Industry Capacity

While the Whakatu/Advanced closures removed some excess capacity from the industry, much of this was subsequently reinstalled by industry participants and new entrants, thus, dissipating

cost advantages, and further accentuating the overcapacity problem. In addition, stock numbers had continued to fall. Sheep numbers in the North Island declined consistently over the period 1985 to 1992/93 from 35.328 million in 1985 to 24.765 million in 1992/93. Beef numbers in the North Island over the same period increased slightly from 6.692 million in 1985 to 1.649 million in 1992/93 (Department of Statistics: New Zealand Yearbook, 1985, 1997). By 1994, the industry suffered again from massive overcapacity and poor profitability, which meant meat processors fought rigorously for what little stock was available.

Evidence presented in Table 5.1 suggests that the consortium has not been successful at removing capacity from the industry, and has instead, continued to add capacity. Since the Weddel closures, two additional plants have been closed, while five others have been recycled, mostly by industry participants, and are currently operational. In addition, three new plants have opened: Universal Beef Packers (1995, Te Kuiti), Lamb Packers (1996, Feilding), Hill Country Lamb (1996, Napier), and one further plant - Progressive, is scheduled to open in 1998.

Brian Lynch, Executive Director of the New Zealand Meat Industry Association (Inc.), commented that the New Zealand meat processing industry once again suffers from overcapacity, almost to the same extent as that which existed at the time of the Weddel closures. This is because industry participants, including consortium members, have increased capacity either by adding more shifts, or by installing new technology. Geoff Vautier believes that capacity is cheaper than ever to build.

The extent of overcapacity in the industry became apparent in the 1996/97 season when industry profitability fell dramatically (Mr Loughlin). Mr Loughlin referred to the 1996/97 season as "the year from hell." The following comment by Mr Loughlin, demonstrates the extent of overcapacity in the industry and at Richmonds. "In the 1996/97 season the industry did suffer from overcapacity in sheep and lambs at all times. [At Richmonds] there was not one week where full capacity was used. In beef, there was a 3-4 week period where capacity was fully used, otherwise overcapacity." He does not believe however, that the extent of overcapacity is as severe as it was at the time of the Weddel closures.

Despite efforts to collectively and voluntarily reduce capacity in the industry, overcapacity remains a fundamental problem. The fall in the demand for meat processing works as a result of declining stock numbers, has not been matched by a reduction in supply. New entrants and

incumbents continue to add more capacity and introduce new technology. High exit costs have meant old, inefficient works have been slow to leave the industry, despite poor profitability. As a consequence of overcapacity and industry participants purchasing most of the Weddel assets, the benefits of the removal of Weddel's fixed costs have been less than estimated.

In addition to overcapacity, the Southpac Report (1994) identified several major structural problems including stock procurement mechanisms, ease of entry, barriers to exit, financial gearing, and commercial incentives.

The stock procurement mechanism in the industry is such, that processors have little control over market price during shoulder seasons, when competition is particularly fierce between processors to acquire stock. Mr Vautier commented that "no one is prepared to break ranks to get price down. We tried to pull the price down, but the market wouldn't follow."

The fact that these problems were not addressed by the Weddel closures would suggest that the closures were never expected to provide an enduring solution to the industry's basic problems, and that it would simply be a matter of time before such drastic measures would again be required..

Greater Stability And Improved Profitability

The meat processing industry has endeavoured to restore financial stability by equilibrating debt and equity to more acceptable levels. According to Mr Loughlin, "the industry is more evenly capitalised than [at the time of the] Weddel [closures]." The Southpac Report (1994) revealed that over the period 1989-1993, the industry had a debt to equity ratio of 4.5:1. This high level of gearing could not have been sustained, given the banks' stated intention to reduce its investment in the industry. Additionally, industry profitability was insufficient over the period to cover interest payments in most years, and provide a satisfactory return to equity providers. While the Southpac Report has been sighted by the researcher, details remain confidential.

The entry of new processors to the market since the Weddel closures would indicate that financial stability has returned to the industry, since the new entrants were likely to have been financed by the same banks that announced dissatisfaction with industry profitability. One could assume that banks have gained confidence in the industry and are once again prepared to invest

in the industry. As mentioned earlier in this chapter, Pickford (1997a) identified a number of other reasons for entering the meat processing industry, even during periods of poor profitability.

While it may be that the meat processing industry is more financially stable than at the time of the Weddel closures, Mr Vautier and Mr Loughlin agree that the withdrawal of the banks from the industry remains a very real possibility.

An analysis of profitability of individual companies in the industry would have provided some indication of industry stability, however, companies are incredibly secretive and often present information in a manner inconsistent with previous years and other companys' accounts.

Mr Loughlin asserted that profitability at Richmonds in a good year is around 1.5 percent of sales, and in a bad year, 0.2 of a percent of sales. Profitability at Richmonds fell from \$7.5 million in 1995/96, to a loss of \$2.2 million in 1996/97. This may be compared to AFFCO's profit, which fell from \$26.5 million to \$9.8 million before tax, and Waitara, whose profit fell from \$3.5 million to \$1.7 million (Mr Loughlin). Finally, Mr Vautier claimed that profitability at Taylor Preston in 1996/97 was half as much as AFFCO, and they are only one-seventh of the size.⁶ The meat processors questioned were unwilling to supply evidence to support these claims.

The implications of having profitability margins as low as 1.5-2.0 percent of sales are an inability to attract capital investment for expansion, an inability to compensate shareholders, insufficient funds to invest in research and development to ensure the long run survival of the firm, and vulnerability to price fluctuations.

Casey's (1997) study of five meat processing plants in New Zealand concluded that industry instability is not the result of short term market conditions or mismanagement, but rather, an inability for the market to find an equilibrating solution. Mr Vautier confirmed that the industry was getting toward the instability experienced in the industry at the time of the Weddel closures, at the end of the 1996/97 season. Mr Loughlin asserted however, that "the extent of the problem is not as bad as Weddel. I think [closure of capacity] will occur voluntarily." He believes that the industry will be able "to do deals to get the costs and benefits from closures."

⁶ Mr Vautier informed the researcher of the amount of profit made by Taylor Preston, and the profit margin after tax, but was not prepared to make this information publicly available.

Greater Investment In Further Processing And Innovation

Improved industry profitability ensuing from reduced costs as a result of increased throughput, was expected to provide the impetus and ability to invest in international marketing, domestic processing, and research and development, which in turn would move the industry beyond survival mode. Mr Loughlin asserted that increased research and development expenditure at Richmonds was facilitated by the Weddel closures because they are “not worried about going broke tomorrow.” Richmonds has invested heavily into North American marketing of lamb, working capital programmes, computer programs, IT support for marketing, and efficiency of plants. He believed that additional investment in efficiencies and offshore markets has, to some degree, been achieved. Mr Loughlin was not however, willing to provide evidence to substantiate the claim of increased spending on such items at Richmonds.

Mr Vautier remarked that, “the key is that the return to profitability enabled the capital expenditure program to proceed. Most of this was spent in extending the further processing facilities and as such enable improved marketing opportunities.” Capital expenditure at Taylor Preston over the period 1991/92-1996/97 has been: 1991/92 \$0.8m, 1992/93 \$2.4m, 1993/94 \$2.6m, 1994/95 \$1.0m, 1995/96 \$1.5m, and 1996/97 \$3.4m. If indeed, there is some link between the Weddel closures and capital expenditure at Taylor Preston, as Mr Vautier suggested, this would imply that the benefits expected to accrue from the Weddel closures, including improved profitability and increased investment in research and development, have only recently been realised.

Taylor Preston forwarded five intended developments which would be possible in the event of the Weddel closures and not in the counterfactual. Of the five developments, four have been achieved at least to some extent. A new carton chiller expected to cost \$200,000, was indeed built, and ended up costing close to \$600,000, with a further \$300,000 spent the following year. Some development of steer processing was achieved, however the main developments were in chilled lamb. Approval of beef slaughtering facilities to EEC standard were achieved as stated. Finally, there was some increase in the number of visits by marketing personnel to establish new relationships, build on current ones, and develop new products. Mr Vautier did not comment however, whether in hindsight these developments would have been achieved without the closures.

While industry investment in further processing and research and development may have improved since 1994, it is difficult to establish the link between such benefits, and the Weddel closures. Other factors such as international prices, exchange rates, opening up of new markets, or a change in quota or tariffs to overseas markets are likely to have had a more significant impact. Mr Vautier acknowledged that the Weddel closures only had a small effect on investment at Taylor Preston.

Movement Away From 'Survival Mode'

Improved financial stability in the meat processing industry was expected to increase industry confidence and reputation. The industry was optimistic that greater stability would encourage overseas markets to commit to New Zealand meat products, and strengthen trading relationships.

Mr Loughlin asserted that “pre-Weddel there was a ‘how fast can this payback’ mentality ... there has been a psychological change.” This comment would suggest that the industry has succeeded in moving from short term “survival mode” to a longer term “investment mode.” Mr Vautier qualified this assumption saying,

[The] industry moved beyond survival mode for a year or two, but last year [the industry] got into the same rut.

The key aspects in which survival has proceeded beyond the short term [at Taylor Preston] are:

*Ability to expand the nature of the business by vertically integrating into pelt processing; and,
Generating cash in order to reinvest in the company.*

In light of comments made in the questionnaires and interviews, and personal communications with meat industry participants, the researcher is able to conclude that the industry continues to suffer from instability. The Weddel closures were unable to provide a long term solution to the industry’s stability problem, as a number of fundamental structural problems were not addressed by the closures. Further voluntary or forced closures will be experienced by the industry. Thus, instability is likely to continue.

Discussion

Finally, an assessment of the market shares of the six largest industry participants (who were members of the consortium) given in Table 5.3 below, reveals that Richmonds has increased its

market shares and capacity of sheep, lamb and beef slaughtering, as has AFFCO, and Lowe Walker. Taylor Preston has increased market share and capacity of sheep and lamb slaughtering, but achieved no change in market share and capacity of beef. Finally, Waitotara has increased its market share and capacity of sheep and lamb slaughtering. This would indicate that these processors have either acquired a significant proportion of Weddel's market share and have opened capacity to replace Weddel's, or other industry participants have lost market share to the larger processors, and closed capacity, or both.

Table 5.3 Comparison of Market Share and Capacity of Sheep and Lamb Kill, and Beef Kill, 1994/95 and 1996/97 (%).

	Market Share Sheep & Lambs		Capacity Sheep & Lambs		Market Share Beef		Capacity Beef	
	1994/95	1996/97	1994/95	1996/97	1994/95	1996/97	1994/95	1996/97
AFFCO	24	31	24	31	26	33	29	30
Weddel	23	-	27	-	12	-	17	-
Lowe Walker*	0	4	0	3	20	28	19	22
Richmond	21	28	23	29	9	Δ	9	11
Taylor Preston	8	11	6	6	3	3	3	6
Waitotara	6	11	4	9	-	-	-	-
Total	76	74	80	69	70	>70	77	69

* Including Hill Country Beef.

Δ Not willing to disclose, but larger than 1994/95.

Source: 1994/95 figures quoted from Weddel/Crown (CC, 1995a). 1996/97 figures supplied by Mr Loughlin, Richmonds, 1998.

A comparison of the 'Total row' in 1994/95 and 1996/97 ought to be treated with caution. At first glance one could assume that the industry participants listed had lost market share and reduced capacity. This is not accurate. In fact, the opposite has happened. A large proportion of Weddel's market share has been appropriated by the industry participants listed, and much of the capacity removed has been reinstated.

The success with which industry participants have been able to improve investment, profitability, and stability as a result of cost savings must be weighed against complaints received by the Commission of the absence of premium prices during peak periods, and delays sheep farmers were experiencing in having their stock slaughtered, especially in regions with one remaining processor, following the Weddel plant closures. Farmers argued that the Weddel closures, coupled with drought conditions in some regions, such as the East Coast, left those regions with

insufficient capacity to meet killing requirements at the peak of the season. However, these problems persisted only for a short time as competition for stock returned once processors introduced new capacity.

Furthermore, the Commission is currently prosecuting some consortium members for collective price fixing. Whether the agreement to close the Weddel plants facilitated such collusion is, however, unclear.

Evidence of voluntary closures, greater financial stability, in terms of lower gearing ratios, and some investment in further processing and research and development suggest that some of the benefits expected to flow from the Weddel closures have been realised. Statements by industry participants questioned indicates however, that only a weak causal link exists between the closures and the benefits. Moreover, declining stock numbers and international price fluctuations have had a major negative impact on profitability, and weakened any stability gained.

5.5. Conclusion

A paradoxical situation arose in the 1980's as a result of economic reform, whereby animal numbers fell, in response to the removal of subsidies, while the number of meat processors rose, as licensing was removed. This created a situation of overcapacity, which, despite several attempts by industry participants, has not been rectified. In addition to overcapacity, the meat processing industry suffers from a number of structural problems. Namely, the industry is characterised by low barriers to entry and high barriers to exit. Also, meat processors compete at both ends of the chain, to procure stock and sell on international markets, thus, profitability margins are squeezed during shoulder periods, when competition to procure stock is intense, and when international prices are low. Consequently, the industry goes through cycles of extremely poor profitability, weak balance sheets, and inability to invest in long term projects to initiate an upward cycle.

While some benefits have been achieved since the closures of Whakatu/Advanced and Weddel, they have been less than anticipated. The industry is only marginally more stable and more profitable than at the time of the closures, and only small increases in research and development

and further processing spending have eventuated. This result is due to a large extent, to new capacity being added or introduced to the industry.

However, these outcomes must be considered in relation to the counterfactual. Given the state of the industry at the time of the closures, rationalisation would have occurred anyway, but perhaps with more dramatic consequences. There was a very real chance that the banking industry would have withdrawn from the industry completely. If this had happened, many more companies would have collapsed, causing a great deal of distress and hardship to employees and surrounding townships. Even if the banking industry had remained financier to the meat industry, some industry participants would have failed. Thus, the collective agreements are seen by some, as a responsible attempt by industry participants to resolve the industry's problems in a way that caused the least harm to society.

6. Dairy Processing Industry

6.1. Introduction

Over the past ten years, there have been a series of dairy company mergers throughout New Zealand, many of which, have not required authorisation by the Commerce Commission. Three applications for merger requiring authorisation have been forwarded to the Commission. Three dairy industry applications for merger have appeared before the Commission. One was declined, but authorised on appeal to the High Court (HC, 1991b), while the other two were authorised. The Kiwi/Moa-Nui (CC, 1992a) application granted authorisation by the Commission cannot be examined as the Kiwi was not prepared to participate in this study. The mergers have been driven by dairy companies' need to improve efficiency and maximise shareholder returns by increasing throughput, and thereby spreading overheads over greater volumes of milksolids.

The first dairy industry authorisation under the 1986 Act involved the acquisition by New Zealand Cooperative Dairy Company Ltd (now called the New Zealand Dairy Group, NZDG) of 60 percent of the issued share capital of Auckland Cooperative Milk Producers Ltd (ACMP), the remaining 40 percent was retained by the New Zealand Dairy Board (NZDB) (CC, 1988a). Subsequently, in 1992, NZDG acquired the remaining 40 percent of ACMP held by the NZDB. The case attracted much publicity and was heavily criticised by other dairy companies, farmers, and other interested parties as the authorisation effectively granted the NZDG 100 percent of the Auckland town milk market.

The second dairy industry authorisation involved the purchase by NZDG of 100 percent of the issued share capital of Waikato Valley Cooperative Dairies Ltd. The Commission declined to authorise this application as they considered the detriments arising from the proposal to be of such magnitude as to outweigh the public benefits. This decision was, however, overturned on appeal to the High Court. The Court found that the Commission had given insufficient weight to the failing company argument advanced by the NZDG and Waikato Valley. The parties' application to the Commission stated that Waikato Valley had experienced financial difficulty, and would fail if the application was declined. As a result of poor financial performance, and comparatively low payouts to farmers, Waikato Valley had been losing suppliers to neighbouring dairy companies, further accentuating their precarious financial position. In addition, the Court

concluded that the Commission had given inadequate consideration to the constraint imposed as a result of the cooperative structure of the industry.

The following sections outline the structure of the dairy processing industry, with particular emphasis on its export orientation, the role of the NZDB, its cooperative structure, and seasonal nature of milk supply. The issues which arose in relation to each of the cases is then presented, including survey results.

6.2. Industry Background

The New Zealand dairy industry is export oriented. Around 90 to 95 percent of milk processed in New Zealand is exported as milk powder, cream products, cheese, protein products, and other dairy products, almost exclusively through the New Zealand Dairy Board. New Zealand dairy products constitute approximately 20 percent of total merchandise trade receipts for New Zealand, and in 1993-94, made up 3 percent of all production in New Zealand (New Zealand Yearbook, 1997, p. 411, 443).

The NZDB is involved in the exporting and marketing of New Zealand's dairy products on behalf of the dairy companies, thus, eliminating the need for duplication of research and marketing functions by individual companies. Although the NZDB has a virtual monopoly over the export of New Zealand dairy products, it is a small player on the international market, and therefore cannot charge more than the competitive price on the international market without losing buyers. Thus, the NZDB is a price-taker. While this is generally true, there appear to be significant reservations. In quota-restricted markets, prices tend to be higher, and margins greater. Non-bulk, niche market products also tend to attract higher margins. The NZDB has tried to increase market power and margins by selling brand-specific consumer products in a range of countries.

The passing of the *Dairy Board Amendment Act* in August 1996, clarified the legal ownership of the Dairy Board, which is now owned collectively by the dairy companies. In earlier years, the NZDB was able to exercise substantial influence over the activities of dairy companies through its financial interests in dairy companies and companies related to the industry. Many of these interests have been sold off, in order to concentrate on the Dairy Board's primary function, "to

add value to products at every stage of the marketing chain” (The New Zealand Dairy Board Annual Report, 1997, p.1).

New Zealand dairy companies are cooperatively owned by supplying shareholders. That is, those farmers supplying milk to the dairy companies, are also the owners. The extent of each farmer’s ownership is determined by the amount of milk solids supplied. The more supplied, the greater each farmer’s ownership stake in the dairy company. Farmers receive payment from the dairy companies for the amount of milk solids supplied, and a return on their shareholding in the company, in a combined payout.

A report by Ernst and Young (1994) on the benefits of cooperatives, established that cooperatives operating in a competitive environment are likely to operate at similar levels of debt, efficiency, and growth as corporate entities. Cooperatives may not, however, behave in the same manner as a corporate firm, for example, dairy companies are likely to operate at a level of output in excess of that level of output which maximises profit, as larger volumes of production maximise returns to shareholders, but may not contribute positively to profit. By virtue of their cooperative ownership, dairy companies are obliged to take whatever milk farmers supply, even if the milk supplied is greater than required.

The cooperative ownership of the Dairy Board by the dairy companies, and cooperative ownership of dairy processing companies by farmer shareholders, is believed to act as a restraint on anti-competitive behaviour, since each must attempt to maximise shareholder returns. If ownership of dairy companies was separated from milk supply, processing companies would have an incentive to minimise the cost paid to supplying farmers in order to maximise profit. The same would be true of the Dairy Board. Instead, processing companies and the Dairy Board try to maximise payout to shareholders, while ensuring long term survival. Thus, even in a position of market power, where processing companies have the ability to lower the price paid to milk suppliers, they would not.

Dairy companies receive compensation for the manufacturing cost incurred, based on a standard cost model, developed by the Board. This method provides an incentive for dairy companies to achieve lower unit costs than standard costs, as this allows the dairy companies to compensate shareholders in excess of other dairy companies, with higher unit costs. The trend seems to have been, that processing companies with lower unit costs have taken over those with high unit costs.

Small companies, producing high margin, niche products argue that the standard cost model favours large-scale, bulk product, processors, who are able to gain scale economies.

Accordingly, much of the variation between dairy companies' payout to farmers derives from processing cost differentials and efficiency of operations. Dairy companies attempt to offer the highest possible payout to farmers, while ensuring the sustainability of the company. Thus, dairy companies with comparatively lower payouts will lose suppliers to neighbouring dairy companies with higher payouts.

Competition for milk supply is intense, since profitability is essentially throughput driven. Increased throughput, within capacity limits, spreads overheads over larger volumes of milk solids, thereby lowering unit costs. Thus, dairy companies offering suppliers a low payout are vulnerable to merger or takeover as the company will quickly lose suppliers, which in turn will cause a reduction in throughput, an increase in unit costs and poor profitability, further accentuating the payout differential. Dairy company numbers have reduced from 57 in the 1977/78 season, to 12 as at October 4, 1997, although there are three further amalgamations expected to take place in the near future.

In addition to competition for milk supply, since deregulation of the industry, beginning in 1988, dairy companies compete for market share on the domestic market. Given the export orientation of the dairy industry however, factors affecting the domestic market are less significant than events in overseas markets.

The dairy processing industry was artificially separated in 1943 into town milk and manufacturing milk industries in response to war-time demands. Town milk suppliers calve throughout the year to produce milk for the domestic market 12 months of the year. Town milk represents approximately 5-10 percent of all milk processed in New Zealand. The rest is provided by manufacturing suppliers, and is used in the production of cheese, yoghurt, butter, and other products, and exported through the Dairy Board.

Manufacturing suppliers supply milk for nine months of the year. Although timing differs in different parts of the country, and on different farms, in general, the herd is dried off in May, June, and July, in preparation of calving. Once calving begins in August, milk is again supplied to processing companies.

The cost of supplying milk year round is greater than supplying milk for nine months of the year because on farm production does not match pasture growth, therefore suppliers have to purchase additional feed. To compensate town milk suppliers for additional costs incurred in producing milk year round dairy companies pay a premium over the payout paid to manufacturing suppliers.

New Zealand's comparative advantage on world dairy product markets derives from the use of year-round pasture-fed cows. As a result, on the farm costs are significantly lower than other countries who have to purchase feed and house animals during winter months. The disadvantage of this is that milk production is highly seasonal, which raises manufacturing costs, since plant utilisation rates are low. Plants need to have sufficient capacity to process milk supplied during peak periods - September through till November - thus, off-peak, throughput is low, and processors sustain excess capacity. Retaining such capacity incurs significant fixed costs, as overheads are incurred whether or not the plant is processing milk solids. The milk processing company attempts to maximise throughput during periods when milk is available in order to spread overheads over a greater volume of milk solids, thereby reducing unit costs. There have also been attempts to spread milk production more evenly through the year. For example, the first authorisation discussed in the following section, involved the implementation of a Winter Milk Supply Scheme.

To summarise, the dairy industry is characterised by a cooperative ownership structure, export orientation through the NZDB, and seasonal variations in milk supply. The following sections discuss the issues which arose as a result of the two applications for merger, and the survey results.

Cases Before The Commerce Commission

6.3. NZDG - ACMP Decision : determined 26 April 1988

At the time of the authorisation, the New Zealand town milk industry was heavily regulated, although some attempts to deregulate the industry had been implemented. The *Milk Act 1988* provided the legislative framework for deregulation of the industry. The primary purpose of the

Act was to assure the continued home delivery of milk. Each processor was required to offer home delivery within a licensed district, and was granted exclusive rights of supply within that district. A 'sunset clause' in the Act meant regulatory controls would automatically lapse in 1993, unless the Government took steps to reintroduce them, which it did not.

While competition within licensed home delivery districts was prohibited, processors were able to compete to supply bulk users and supermarkets outside their district. The bulk user and supermarket trade accounted for 12 percent of the market in 1988. Despite administrative changes which came into effect on September 1, 1987, allowing competition between milk processors for bulk users and supermarkets, the Commission found no evidence of competition between NZDG and ACMP in the Auckland market.

The Auckland town milk supply district was split evenly between the two licensed processors: NZDG and ACMP, 49.5 percent and 50.5 percent, respectively, for the year ended August 31, 1987. A merger between NZDG and ACMP granted the merged concern 100 percent of the home delivery market, and prevented competition in the bulk user and supermarket trade from a processor within the region. Processors outside the Auckland region were still able to compete for the bulk user and supermarket trade, however, NZDG's size of operations rendered competition unlikely.

NZDG was at the time of the decision, New Zealand's largest cooperative dairy company, processing about one third of the country's milk production. Any rival attempting to enter NZDG's licensed area was likely to face resistance from NZDG. As a result of economies of scale and greater throughput than any other milk processor in New Zealand, NZDG's unit costs were lower than its competitors'. Thus, other milk processors wanting to supply the bulk user and supermarket trade in Auckland faced higher unit costs and additional transport costs not incurred by NZDG. A price war with NZDG was futile.

While NZDG's cost advantage may have dissuaded competitors from entering the Auckland market, it should not be considered an injustice. As mentioned in earlier chapters, cost savings or efficiency gains gained through better allocation of resources, more productive use of resources, or technological advancement, represent a gain to society, as resources become available for other uses.

Detriments

In light of Government regulations which prohibited competition for home delivery of milk, anti-competitive concerns related to the effect on potential competition in the milk delivery market when the *Milk Act* expired, and competition in the bulk users and supermarket trade. Despite the sunset clause in the Act, the Commission was unwilling to rely on the assumption that all regulatory barriers would be removed by 1993. Thus, the Commission was unable to accept the proposition that competition between NZDG and ACMP would emerge in a deregulated market in the counterfactual.

The merger raised anti-competitive concerns as bulk users and supermarkets would no longer have a choice of processor within Auckland. Prior to merger, bulk users and supermarkets could threaten to, or indeed, change milk processors, in the event of poor service or non-trivial cost and price increases. After merger, a more significant change in price or quality of service would be required to make it worth supermarkets securing supply from processors outside Auckland. Transport costs were the major obstacle to competition in the supermarket and bulk user trade in Auckland. It should be noted, however, that only a few processors other than the merged entity, would have the capacity to supply the whole Auckland market.

The Commission was also concerned about the potential lessening of competition in the yoghurt market. The merged concern would have controlled 85 percent of New Zealand's market share of retail sales of yoghurt. In addition, it would have licensing and distribution links amounting to a further 12 percent. The Commission accepted an undertaking by NZDG to divest itself of the Yoplait franchise to an independent purchaser.

In addition, farmer suppliers would have less choice as to which dairy processor they wished to supply. Prior to merger, NZDG suppliers had the option to transfer supply allegiance to ACMP or any other neighbouring processor, in the event of dissatisfaction with payout or any other aspect of NZDG's operations. After merger however, dairy farmers had one fewer processor to choose from. In light of the reduction in farmers' choice and ability to transfer supply allegiance, NZDG had fewer constraints on its behaviour. It was expected that the cooperative structure of NZDG would prevent any deterioration in payout or any other aspect of operations being experienced by farmers.

Thus, the main detriments expected to arise as a result of the merger are: high consumer prices, restricted service, limited or low quality supplies, and dynamic inefficiencies in the future ensuing from sub-optimal development of products, processing, and packaging.

Benefits

As part of the public benefit claims, NZDG stated in its application that they intended to introduce a Winter Milk Supply Scheme which would provide a more realistic pricing mechanism for town milk. In essence, the scheme eliminated the need for separate town milk supply by encouraging manufacturing milk suppliers to calve earlier or later, thereby maintaining milk supply over the winter months. NZDG claimed winter town milk production was achieved at a cost almost three times greater than the peak-season price for manufacturing milk. Over the summer months, the premium had been 39 percent of manufacturing milk. While recognising that winter milk production incurred greater costs, NZDG believed this premium was unjustifiably high.

Authorisation of the merger was needed to implement the Winter Milk Supply Scheme because NZDG risked losing its town milk suppliers to ACMP. Town milk suppliers were undoubtedly better off under the traditional pricing scheme, and were unlikely to support the scheme. If the merger between NZDG and ACMP was not permitted, NZDG's town milk suppliers were likely to transfer allegiance to ACMP. If however, the merger was permitted, "such resistance can be expected to dissipate once ACMP's shareholders have become part of NZD[G]"⁷ In other words, the merger would prevent NZDG's suppliers from transferring allegiance to ACMP.

The Winter Milk Supply Scheme was heralded as a major benefit of the merger. In essence, the difference between the town milk scheme and the Winter Milk Scheme, was that premiums for milk supplied would be paid during winter months only, rather than throughout the year. Barry O'Donnell, Company Secretary at NZDG, claimed that the town milk industry at the time of the decision was extremely expensive, and unprofitable. NZDG estimated average savings of in excess of 6 cents per litre throughout the year, based on a winter premium averaging 2.4 cents per litre over a full year's milk supplies. Without authorisation, these cost savings would be delayed three years according to NZDG. The cost of declining the merger was estimated by

⁷ NZDG's application for merger or takeover registered with the Commission on November 11, 1987.

NZDG to be around 5c per litre or \$5.75m per annum, as a result of delayed implementation of the Winter Milk Supply Scheme.

NZDG offered two schemes to manufacturing dairy farmers in the Paerata region. Of the 134 suppliers offered the scheme, 115 accepted, and 109 implemented either scheme A or B. Option A involved calving early to supply at least 500 litres of milk daily in May, and 1,000 litres in June and July, to receive an incentive payment of \$2.50 per litre of milk supplied above payout between May 1 and July 31. Option B was based on 10 day periods. Milk supplied in the first two periods in May, and the last two periods in July, gained an additional \$1.00 incentive on each litre supplied. Milk supplied in the middle five periods received \$2.50 above payout. A farmer had to supply at least 500 litres a day through the nine periods.

NZDG also claimed that a process of rationalisation would facilitate more efficient utilisation of resources, which were grossly underutilised. The two town milk processing plants in Auckland were operating at 50 percent of capacity according to the participants. NZDG proposed to close ACMP's Rockfield Road milk station, and process all town milk at its Takanini plant. NZDG also planned to dispose of the ACMP tanker fleet, operating one tanker fleet on a double shift basis. Productive efficiency gains and cost savings arising from rationalisation of plant and equipment were estimated at \$2.2m per annum, or 2.5 cents per litre of milk. Details of how this amount was calculated remains confidential, however, the Commission accepted that benefits attributable to the merger fell within this range.

NZDG argued that lower processing costs ensuing from rationalisation, would grant the merged entity a cost advantage, and thus, permit competition in other milk supply districts. The cost advantage was expected to outweigh additional transport costs incurred in supplying supermarket and bulk users in other licensed districts.

The applicants also argued that export related advantages would emerge as a result of the merger, including sharing of technology, coordinated marketing, export of a wider range of value-added products and increased international competitiveness. These benefits were not given any weight by the Commission as they resulted from the efficiency gain, and to give them weight would be to double count the original benefit. Additionally, the merger involved the integration of NZDG's and ACMP's town milk operations, which supplied the domestic market.

The merger may be seen as a strategic move by the NZDG to prepare for deregulation of the town milk industry. Effectively, the merger eliminated one potential competitor from the market, while at the same time, offering a solution to an overly expensive town milk operation. In addition, the merger was expected reduce power held by supermarkets in comparison to the counterfactual. Competition between processors for the supermarket and bulk user trade would have put immense pressure on price. Mr O'Donnell commented that without the merger there would have been "huge scraps over the Auckland market, and both companies were going to lose."

In light of legislation which prohibited competition except in the supermarket and bulk user trade, the cooperative structure of the company, and the potential for efficiency gains and cost savings resulting from the Winter Milk Supply Scheme, the Commission concluded that the benefits were sufficient to outweigh detriment. The Commission also asserted that declining the merger would, in effect, serve to raise the participants' costs substantially above what they would otherwise be. Thus, authorisation was granted.

6.3.1. Survey Results – NZDG - ACMP decision

The main benefits advanced by the applicants in relation to the merger between NZDG and ACMP may be summarised as:

1. Reduction in costs,
2. More efficient utilisation of resources,
3. Greater competition to supply supermarkets and bulk users in regions outside Auckland

The extent to which these benefits have been achieved are examined in turn.

Reduction In Costs

Table 6.1 below reveals that NZDG has successfully reduced the cost of obtaining winter milk supply by 65 percent over the period 1988-1997. However, these cost reductions must be compared with the counterfactual, and with anticipated gains.

Table 6.1 NZDG Town Milk/ Winter Milk Expense 1988-1997

Year	Town Milk/Winter Milk Expense (\$000)
1988	24,856
1989	59,013
1990	66,494
1991	17,566
1992	14,061
1993	13,168
1994	12,099
1995	11,089
1996	9,659
1997	8,725

Source: New Zealand Dairy Group Annual Reports 1988-1997. Note that town milk supply was replaced by winter milk supply in 1990-91.

The success of NZDG's merger with ACMP depended crucially on the successful implementation of the Winter Milk Supply Scheme. NZDG no longer has any town milk suppliers. Winter milk is supplied during winter months by 240 contract suppliers (1997). The two schemes (A and B) originally offered to prospective winter milk suppliers no longer exist, however, their basic tenets remain.

Winter milk suppliers' milk is processed by NZDG's Takanini plant in Manurewa, Auckland, throughout the year, while manufacturing milk suppliers' milk is processed in one of NZDG's other ten plants.

The aim of the Winter Milk Supply Scheme was to reduce the cost of milk by paying farmers a premium only in winter months, rather than throughout the year. This has been achieved according to Mr O'Donnell. Winter milk suppliers are now paid a premium for milk supplied from May 1 through to July 31. However, the premium required to attract winter milk has been significantly greater than anticipated. Additionally, the cost of establishing the scheme was greatly underestimated. In a letter to the Commission dated November 1, 1990, NZDG stated that "while the Winter Milk Supply Scheme will achieve some reduction in the cost of town milk to the company, this has been eroded to a considerable extent by a high winter premium of \$7.50 for next winter (which was set before the dramatic downturn in dairy returns could be foreseen) as well as by the establishment costs."

The anticipated gains claimed by the NZDG at the time of the decision, resulting from the Winter Milk Supply Scheme, were based on winter premiums of either \$2.50 or \$5.00 per kilo of

milkfat. NZDG annual reports (1991-1994) reveal the winter premium required to attract winter milk were significantly greater than anticipated. This information is presented in Table 6.2 below. NZDG was not willing to release information to the author regarding winter premiums paid after 1994.

Table 6.2 NZDG Winter Premium Paid to Winter Milk Suppliers 1991-1994

Year	Winter Premium paid (\$ per kilo of milkfat)
1991	6.0
1992	8.4
1993	7.83
1994	6.438

Source: New Zealand Dairy Group Annual Reports 1991-1994.

One could reasonably assume from the information presented in Table 6.2 that anticipated cost savings of \$2 million on an annual basis, or about 2.5 cents per litre of milk supplied, were considerably dissipated by the winter premium paid to attract or maintain winter milk supply. Furthermore, the Winter Milk Supply Scheme cost \$9 million dollars to set up, significantly more than the \$7.2m anticipated.

Mr O'Donnell explained the difference between anticipated premiums and actual premiums paid to attract and maintain winter milk supply. "The supply of milk during winter months requires a farmer to change his farming practices. Such changes may require more effort or cost. Trial and error has been required to establish the extent of that extra effort and cost and the level of incentive required before farmers will expend the extra effort." In other words, it took some time before NZDG and its winter suppliers agreed on a level of compensation which sufficiently remunerated farmers for their additional cost incurred in supplying milk out-of-season. Thus, NZDG underestimated the incentive necessary to attract and retain winter suppliers, and therefore overstated the claimed benefits from the proposal.

East Tamaki Cooperative Dairy Company warned the Commission at the time of the decision that the scheme would not succeed in reducing the price paid for town milk. Only 40 percent of East Tamaki's suppliers were able to meet the necessary performance criteria when East Tamaki introduced the scheme in 1987, and all of them sought premiums in the second year in excess of what NZDG intended to offer.

NZDG is currently in a quandary over winter milk supply as Northland Dairy claim they can produce winter milk cheaper than anywhere else in the country, and is offering to sell winter milk to other dairy companies at a lower price than NZDG is paying to their farmers to produce the milk. In effect, NZDG is currently paying winter suppliers a premium in excess of the market rate. Any rational business would immediately seize such an opportunity to reduce costs, but the cooperative nature of the dairy companies means that they have a responsibility to supplying farmers to accept their milk. NZDG is therefore unwilling to accept the offer. Thus, a less efficient solution has been chosen than would have eventuated under a corporate structure.

While the cost of acquiring winter milk has declined over the period 1988-1997, these cost reductions have not been as large as anticipated at the time of the decision. This result derives from NZDG's underestimation of the premium required to compensate winter milk suppliers for additional effort and cost.

More Efficient Utilisation Of Resources

The second principle benefit of the merger with ACMP derived from cost savings resulting from rationalisation of facilities. The same arguments advanced in relation to the meat processing industry applications (CC, 1987b, 1995a) applied to this application. NZDG claimed that closure of ACMP's Rockfield Road plant would remove those fixed costs incurred by the plant, and increase throughput at NZDG's existing facilities. As a result, overheads are spread over greater volumes of milk processed, thereby reducing unit costs.

NZDG closed AMCP's town milk processing plant on Rockfield Road in Auckland, and all town milk is now processed at their Takanini plant as intended. The closure of Rockfield Road facilitated cost savings estimated at the time of the decision to be in the order of \$2,202,570. These were to be achieved by rationalisation of staff, elimination of factory services expenses, administration, maintenance, wastage, and depreciation. NZDG also claimed it would dispose of ACMP's tanker fleet and operate their own on a double shift basis. Town milk operations no longer have their own tanker fleet and NZDG now operates the whole tanker fleet on a double shift basis. Additional cost savings with respect to inward cartage were also realised.

Prior to merger, ACMP's Rockfield Road plant and NZDG's Takanini plant both operated at less than 50 percent capacity, therefore closure of Rockfield Road led to the more efficient use of

existing resources. Elimination of duplication of resources was expected to free resources for alternative use.

Mr O'Donnell believes that cost savings in relation to more efficient utilisation of resources and the Winter Milk Supply Scheme have been realised, and have been larger than expected.

Greater Competition

Legislation which protected dairy processors in home delivery licensed districts at the time of the decision expired on March 31, 1993. Consequently, competition in all domestic markets including home delivery and supermarket and bulk user trades, is now possible. In fact, processors actively compete throughout New Zealand. NZDG has franchised its 'Anchor' brand so that other processors in the South Island, for example, are able to produce, distribute, and sell Anchor products throughout the South Island.

Supermarkets have now taken over as the primary marketplace for dairy product sales. Supermarkets now account for approximately 40-50 percent of dairy products sold on the domestic market (NZDG). This effectively grants them significant power in negotiations with dairy companies in relation to price, quality, quantity, and service. Strategic moves by NZDG have attempted to constrain this power by branding their products. NZDG hopes customers will request Anchor products, thereby forcing supermarkets to purchase Anchor products on terms and conditions set by NZDG.

If the merger had not been authorised, Mr O'Donnell believes that there would have been rigorous competition between ACMP and NZDG for supermarket contracts. Whichever company won the contracts would have survived, while the other would have failed. Thus, rationalisation would have occurred anyway, the merger simply executed the process in a less damaging manner, and with greater speed.

Discussion

Mr O'Donnell claims that "the impact of the merger not proceeding would not have been great" since "town milk is only a small part of the business of [NZDG] and of the dairy industry." Indeed, rationalisation of the town milk industry in New Zealand was inevitable. NZDG would

have eventually acquired ACMP in the counterfactual through the natural process of competition for suppliers (Mr O'Donnell). NZDG's size of operations would have created a cost advantage, and allowed it to pay comparably higher payouts to shareholders. The payout differential would have allowed NZDG to takeover ACMP. Thus, authorisation did not change the outcome, rather, it facilitated the early introduction of cost savings, and prevented ACMP shareholders suffering poor returns between the time of the decision and competitive takeover.

The Winter Milk Supply Scheme would also have been implemented eventually without the merger, but with a delay of perhaps three or four years, and competition in the town milk industry induced by deregulation would have bought about a process of rationalisation (Mr O'Donnell).

In light of the fact that the same outcome would have occurred with or without the merger, the actual benefits are those attributable to the merger eventuating three to four years earlier. Thus, the real benefit to society is the improved use and allocation of resources resulting from cost savings and efficiency gains, over the three to four year period.

In a concluding statement in the Commission's determination, the Commission stated that "it would be difficult for the merged company to justify future milk prices in Auckland, or elsewhere, at levels higher than or even as high as other processors - given the participants' explicit and public claims as to the potential efficiency gains arising from the merger" (CC, 1988a, p. 74). Table 6.3 below reveals that milk prices did however, rise over the period Jan 1987-May 1990.

Table 6.3 Price of 1 litre and 2 litre Containers of Milk January 1987-May 1990

	Price of 1 litre (\$)	Price of 2 litres (\$)
Jan 1987	0.90	1.80
July 1988	n/c	1.90
Sept 1988	0.95	n/c
Oct 1988	n/c	2.00
Dec 1988	1.00	n/c
May 1989	1.10	2.20
As at May 1990	1.20	2.40

Source: Woolworths (NZ) Ltd. submission to the Commerce Commission in relation to NZDG/Waikato Valley (CC, 1991).

6.4. NZDG – Waikato Valley Decision : determined 7 June 1991

The second dairy industry authorisation application was declined by the Commerce Commission on the grounds that the detriment from NZDG's strengthening of dominance in the town milk and milk acquisition markets outweighed benefits expected to result from the merger. This decision was reversed on appeal to the High Court (HC, 1991b).

Much of the debate between the Commission and the applicants (NZDG and Waikato Valley), revolved around the continuing viability of Waikato Valley. NZDG and Waikato Valley claimed that Waikato Valley was a failing company, and thus, not in a financial position to remain a viable competitor of NZDG. Waikato Valley had been unable to match NZDG's payout in the 1990 season, and this situation was expected to worsen in the 1991 season. As a result of the payout differential, there was a net transfer of 66 suppliers to NZDG from Waikato Valley in the 1989/90 season, and a net migration of 15 suppliers in the 1990/91 season. A further 250 Waikato Valley suppliers indicated to NZDG that they wished to transfer to NZDG should the merger not proceed.

Waikato Valley submitted that loss of suppliers to the extent anticipated, would make the company's position unsustainable. Fewer suppliers means smaller volumes of milk processed, and thus, higher unit costs, as fixed costs are spread over fewer units. Higher unit costs would grant other processors a cost advantage and worsen the payout differential. This in turn, would cause more suppliers to transfer allegiance. Waikato Valley claimed that without the arrangement it would become insolvent within a short period of time.

Detriments

The Commission was concerned that the proposed merger would strengthen NZDG's already dominant position in the Waikato region. At the time of the decision, NZDG was New Zealand's largest dairy company. The merged entity would acquire and process approximately 10 percent of the country's raw milk, leaving only one other dairy company in the Waikato - Tatua Dairy Cooperative - with only 130 suppliers, compared to NZDG's 6,009 suppliers. Thus, NZDG would have a virtual monopoly on the acquisition of unprocessed milk and milk production in the Waikato.

Furthermore, dairy farmers in the region had less choice as to which processor to supply. A farmer could divert milk supply to one of the neighbouring dairy companies, namely Tatua (Waikato), East Tamaki (Auckland), Bay Milk (Bay of Plenty), Northland Dairy (Northland), or Kiwi Dairy (Taranaki). Dairy companies may not accept a dairy farmer's milk supply where the costs of transporting the milk exceed the benefit of increased throughput, or where the dairy company does not have capacity to accept additional milk. The Commission found evidence of intense competition between NZDG and Waikato Valley for suppliers, which indicated that Waikato Valley was the main alternative for NZDG suppliers. This competition would cease upon authorisation.

The absence of competition for suppliers was expected to increase the price of dairy products sold by the merged entity on the domestic market, and dynamic inefficiencies in the future ensuing from sub-optimal development of further products, processing, and packaging. In addition, the absence of competition for suppliers could potentially have reduced payout to shareholders, although the cooperative nature of the companies was expected to minimise this detriment.

Benefits

A report by Pappas *et al* (1991), commissioned by Waikato Valley and NZDG, claimed that significant benefits were expected to accrue from the merger. Firstly, Waikato Valley suppliers would benefit immediately from enhanced payouts to the value of 15 cents per kilo in the 1991/92 season, increasing to 25 cents per kilo in the 1995/96 season. Secondly, capital expenditure would be freed for research and development and programmes, to improve efficiency

and international competitiveness, as NZDG would not have to build additional milk acquisition facilities. Thirdly, NZDG claimed that the merger would lower dairy industry costs by 5 percent, and improve the industry's ability to compete internationally. This final argument was not accepted by the Commission as the NZDB is the sole exporter of dairy products, not the NZDG, and any internal cost savings were unlikely to be acquired by other milk processors. Finally, NZDG claimed that the merger would avoid Waikato Valley suppliers failing as a result of poor payouts, and avoid community disharmony caused by some suppliers transferring allegiance from Waikato Valley to NZDG and others remaining with Waikato Valley. Neither of these arguments were accepted by the Commission. Details of cost savings contained within the Pappas *et al* Report (1991) have been sighted by the author, but remain confidential.

After the proposal was declined by the Commission, the financial position of Waikato Valley became even more precarious. Under section 26 of the Act, the Minister of Commerce issued a statement relating to the Government's support for rationalisation of the dairy industry. The applicants appealed to the High Court (HC, 1991b), where the decision was reversed, and the merger authorised. The High Court claimed that the Commission had placed insufficient weight on the ability of the cooperative structure of NZDG to constrain anti-competitive behaviour. With the benefit of hindsight, and the Minister's statement, the Court placed considerable weight on Waikato Valley's financial difficulties.

6.4.1. Survey Results – NZDG – Waikato Valley decision

NZDG's merger with Waikato Valley was motivated by increased export potential, and had a vastly greater impact on NZDG than the merger with ACMP, according to Mr O'Donnell. Waikato Valley concentrated almost exclusively on manufacturing milk supply, and 98 percent of its dairy production was exported. Not taking into account natural attrition or any other factors (such as payout), which may have influenced farmers' willingness and ability to supply milksolids, NZDG's merger with Waikato Valley increased the number of suppliers from 4,622 in 1991 to 6,009 in 1992, and the volume of milksolids supplied increased from 294.58 to 322.694 million kilos.

In the case of Waikato Valley, the counterfactual became reality. Following the Commission's determination to decline to grant authorisation, Waikato Valley's financial viability deteriorated

to the extent that NZDG temporarily accepted to manage Waikato Valley on behalf of its existing shareholders, until such time as the appeal was heard by the High Court. A significant proportion of Waikato Valley's shareholders had indicated that they wished to transfer to NZDG, and other neighbouring dairy companies, in the event of the High Court declining to overturn the Commission's determination. The competitive situation brought about the failure of Waikato Valley.

In this rare case, the authorisation merely effected the inevitable. The deterioration of Waikato Valley's financial position following the Commission's decision to decline authorisation, meant that by the time the High Court authorised the merger, Waikato Valley was effectively insolvent. The payout differential between NZDG and Waikato Valley had become too large for Waikato Valley shareholders. Most had applied to NZDG and other dairy companies to switch allegiance. Mr O'Donnell explained:

Low payout equals low income. They [farmers] would seek to join a higher paying company. NZDG would have accepted supply to the extent that it had manufacturing capacity. [The loss of suppliers] would have increased their costs (fixed costs spread over less milk), and further worsened payout ... [and] eventually failed.

Further, he argued that "those who could not transfer to another company would have had to suffer, exit the industry/farming, or convert the farm to sheep/beef farming," thereby causing unnecessary suffering. Thus, the mergers eliminated the need for this anguish and distress, and brought about a number of benefits including efficiencies, cost savings, and rationalisation.

The main benefits advanced by the applicants in relation to the merger between NZDG and Waikato Valley may be summarised as:

1. Reduction in costs,
2. Enhanced payouts, and
3. Increased investment in research and development programmes.

The extent to which these benefits have been achieved will be examined in turn.

Reduction In Costs

In relation to cost savings resulting from the merger with Waikato Valley, Mr O'Donnell maintained

Our own analyses have shown that the benefits were achieved. However, such analyses are reasonably subjective in that you are trying to compare actual outcomes with what those outcomes might have been if [the merger] had not proceeded.

The calculation of potential savings was also based on our view of the future at the time of the merger. The actual future was quite different from what we envisaged in some areas, and this had both positive and negative effects on our costs. It is very hard now to sort out exactly what impact various events including the merger had on our costs.

Indeed, Mr O'Donnell claimed that cost savings expected to flow from the merger were larger than estimated, as some anticipated costs did not eventuate, or were smaller than expected, and surplus assets or investments were sold for greater or lesser amounts than expected. Conversely, NZDG discovered that Waikato Valley had certain cost exposures of which they were unaware. Mr O'Donnell was not prepared to make available analyses prepared by NZDG, or elaborate further on cost savings. Thus, the researcher was unable to test the plausibility of NZDG's claims made at the time of the merger, that dairy industry costs would fall by 5 percent as a result of the merger.

Subsequent to obtaining authorisation from the High Court, NZDG rationalised the merged company's plant and equipment. For example, Waikato Valley's Head Office operation was sold, and the administration building at Morrinsville sold. NZDG's annual accounts also revealed that a number of Waikato Valley subsidiaries were sold off. As part of its proposal to merger, NZDG undertook to divest itself of Intermilk, in the event of gaining authorisation. NZDG also sold the assets and liabilities of: Morrinsville Dairy Subsidiary, a transport company; Waikato Valley's 50 percent interest in the joint venture livestock export company, New Zealand Agricultural Exports; Waikato Valley's interest in the joint venture research company, Tenon Developments, but retained the plant and equipment and rights to use the technology should it wish to do so; and Waikato Valley's equity interests in a number of farms.

Without the Waikato Valley and ACMP mergers, Mr O'Donnell claimed that other rationalisation programmes may not have been initiated, or may have occurred with a delay. For example, NZDG claimed that the new dairy foods factory at Takanini may not have been built, plant expansions at Te Rapa and Waitoa may have been delayed, and the Waharoa plant would probably still have been closed. Annual reports suggest that rationalisation has been an on-going process at NZDG throughout the last decade, and Mr O'Donnell indicated that plant closures were likely to continue in the future.

Enhanced Payouts

The success of NZDG's mergers with ACMP and Waikato Valley is evidenced by NZDG's payout to suppliers, according to Mr O'Donnell. Table 6.4 below presents a comparison of NZDG's payout to farmer suppliers (in terms of cents per kilo of milksolids) with the NZDB payout, and with other dairy companies' payouts, over the period 1992/93 to 1996/97. The table reveals that NZDG's payout above NZDB basic price has been consistently above the average (mean) payout of all dairy companies. Discussions with Mr O'Donnell and Nigel Mitchell, Manager of External Policy at the NZDB, revealed that there is a direct causal link between dairy processors' efficiency of operations and the extent to which they are able to pay above the NZDB's payout. This would seem plausible, given the standard cost model used by the NZDB to calculate its payout to dairy companies.

Given that industry participants generally accept that dairy companies' payout above the NZDB's payout is a reflection of superior efficiency, one is able to conclude that NZDG is more efficient, on average, than other dairy companies. A dairy company's payout is comparable to a corporate firm's stock market price, as it reveals firm profitability, efficiency, and performance. However, like accounting measures of profit, dairy companies are able to employ a number of accounting tricks in the short term to inflate payouts. Thus, a comparison over time is necessary.

Table 6.4 New Zealand Dairy Companies' Annual Payout to Suppliers 1992/93 - 1996/97

Company	1996/97	1995/96	1994/95	1993/94	1992/93
Northland	358.00	390.00	323.00	318.00	349.29
East Tamaki	318.00	397.00	350.00	345.00	375.68
NZDG	369.00	410.00	350.00	339.00	372.49
Tatua Co-op	376.37	418.16	354.38	348.95	381.89
Kiwi Co-op	367.00	408.00	340.00	339.00	375.98
Tasman Milk	328.00	390.00	320.00	311.00	336.72
Westland Co-op	358.00	393.00	329.00	320.00	356.62
Marlborough Cheese	342.13	370.00	309.91	296.83	340.24
Kaikoura Co-op	359.00	388.00	337.31	312.59	351.09
Alpine Dairy	342.70	362.10	327.34	311.17	334.65
Otago Co-op	370.00	400.00	331.00	313.15	358.88
Southland Dairy	329.00	360.10	317.00	298.41	328.97
NZDB	318.00	360.00	300.00	290.00	325.29
Average (weighted)	362.88	399.43	339.85	331.72	365.83
Average variance with NZDB advance	44.88	37.43	39.85	41.72	40.54
NZDG's variance with NZDB's basic price	51.00	50.00	50.00	49.00	47.20

Source: Nigel Mitchell, Manager of External Policy, New Zealand Dairy Board 1997.

Dairy companies' payout to suppliers depends crucially on how much the dairy processors retain to pay all other expenses, buy capital items, and for future use. This in turn is largely dependent on the dairy companies' efficiency of operations. A large processor is able to take advantage of economies of scale and use capacity more extensively than smaller processors. A processor using capacity fully is able to spread costs over greater volumes of milk, thereby lowering unit costs. Alternatively, a processor is able to pay more than other dairy companies by securing a niche market and demanding high prices for their product.

Applying the logic of Stigler's (1968) survivor test, one is able to compare changes in market share to assess the efficiency of a firm's size. Essentially, efficiently sized firms gain market share, while inefficiently sized firms lose market share. Table 6.5 below, which shows NZDG's market share of total production (measured as kilos of milksolids produced), reveals that in general, NZDG gained market share over the period 1988-1992, following the merger with ACMP, while market share declined after 1992, following the merger with Waikato Valley. This would imply that NZDG's merger with ACMP improved efficiency, while the merger with Waikato Valley did not.

Table 6.5 NZDG's Share of Total New Zealand Production 1988 - 1997

Year	NZDG's Share of Total New Zealand Production (%)
1988	34.06
1989	33.89
1990	34.18
1991	33.82
1992	44.22
1993	43.56
1994	42.43
1995	40.99
1996	41.27
1997	40.40

Source: Supplied by NZDG, produced by New Zealand Dairy Board 1997.

The evidence in this table should not be taken in isolation, as factors such as competition between dairy companies, strategic marketing, and relationships with supermarkets and other bulk sellers, are likely to have had a far greater influence on market share than the merger.

Greater Investment In Research And Development Programmes

In addition to efficiency improvements and rationalisation, NZDG, the dairy industry, and dairy consumers have benefited from improved productivity,⁸ more competition in domestic markets as a result of branding and franchising strategies to establish Anchor products throughout the country, and dynamic efficiency ensuing from NZDG's investment in technological advancements. As discussed in the section above, in relation to the ACMP merger, NZDG's branding and franchising arrangements are likely to have been more the result of strategic moves to gain power in negotiations with supermarkets, than the result of merger.

Investment in technological advancements such as the purchase of a major new wholemilk powder drier at Te Rapa, and the upgrade of two existing driers, a major new skim milk powder factory at Waitoa, a new cheese factory at Lichfield, building of a new cream products factory at Te Rapa, and co-generation facilities at Te Awamutu, would have been possible without the mergers, according to Mr O'Donnell, but would have been delayed for "quite a number of years." Given the intense competition between dairy companies for sales to the domestic market, it is likely that the advancements mentioned by Mr O'Donnell are likely to have been pursued with the same speed in the counterfactual as in reality.

By virtue of the commercially sensitive nature of disclosing research and development spending to third parties, and an inability to accurately calculate the spending on such items for the Group, Mr O'Donnell was not able to supply details of spending on research and development.

Discussion

The most substantial benefit of NZDG's merger with Waikato Valley has been cost savings realised as a result of rationalisation. The closure of Waikato Valley's Rockfield Road plant increased throughput in NZDG's existing facilities, thereby making more efficient use of resources, and allowing productive efficiency gains from economies of scale.

⁸ Mr O'Donnell supplied data on productivity improvements at NZDG. In 1993, 3,087 employees processed 294.58 million kilos of milksolids (which equates to 0.095 kilos per employee), and in 1997, 3126 employees processed 367.59 million kilos of milksolids (0.118 kilos per employee). An increase of 24 percent.

Most, if not all, of the benefits claimed to have been realised as a result of the merger would have been achieved without authorisation, since by the time authorisation was granted by the High Court, the competitive mechanism had effected the financial collapse of Waikato Valley. There would in fact, have been little difference between the achievements realised, and those which might reasonably have been expected in the counterfactual.

6.5. Conclusion

The New Zealand dairy industry is characterised by low on-the-farm costs and high manufacturing costs compared to other dairy processing countries, as a result of seasonal patterns, and thus, low plant utilisation rates during off-peak periods. Nearly 95 percent of dairy products are sold to overseas markets through the NZDB. The Dairy Board is cooperatively owned by dairy processors, which are in turn, owned by supplying dairy farmers.

Dairy companies compete rigorously for farmer suppliers, in an attempt to increase throughput and plant utilisation, thus, lowering costs. A poorly performing processor will not be able to retain milk suppliers in the medium term, as suppliers can transfer allegiance to a dairy company paying higher payouts. Low volumes of milk means high unit costs, which in turn means poor payouts. Eventually, the poorly performing dairy company fails. Merger or takeover facilitates this process of eradicating poorly performing dairy companies, and prevents farmers not able to transfer allegiance, from experiencing a period of low income and hardship.

NZDG's merger with ACMP was motivated by a need to reduce the cost of acquiring winter milk, in preparation for deregulation of the town milk industry. NZDG has indeed, lowered the cost of winter milk by implementing a Winter Milk Supply Scheme which pays suppliers a premium for milk supplied over the winter months. Cost savings expected to arise as a result of the scheme were however, overestimated and the ensuing benefits exaggerated. The premium required to attract winter milk suppliers was underestimated by NZDG.

By contrast, NZDG's merger with Waikato Valley was motivated by the potential for increased production, greater utilisation of facilities, lower processing costs, and increased exports to overseas markets. NZDG has successfully rationalised Waikato Valley's operations as planned, and increased payouts to shareholders of both companies.

Mr O'Donnell argued, that "we do not think [the counterfactual] would be much different. ACMP and Waikato Valley would both have eventually failed once their suppliers had transferred to us. Without the mergers, this would have taken longer and cost more and caused a lot of suffering to the farmers involved." Thus, the benefits ensuing from each merger relate to improved use and allocation of resources, and more rapid growth and technological advancement over the period between the implementation of rationalisation and other steps to effect cost savings and efficiency gains, and when these steps would have been taken in the counterfactual.

The principle difficulty encountered by the researcher in relation to these mergers, has been establishing a nexus between the merger and the benefits achieved. A multitude of factors other than merger have affected NZDG's operations, and the extent to which they have been able to achieve the benefits claimed. Competition for suppliers, competition from other dairy companies in domestic markets, increasing power of supermarkets, and competition on international markets are likely to have had a much larger impact on efficiencies and benefits than merger.

7. Natural Gas Industry

7.1. Introduction

Three gas company mergers have been the subject of authorisation applications to the Commission over the period 1988-1995. The first involved the establishment of a joint venture between the Natural Gas Corporation (NGC) and the Hamilton City Council (HCC), to set up Natural Gas Waikato Ltd (NGW). The intended ownership of the joint venture was 70 percent NGC, and 30 percent HCC.

The second gas industry authorisation involved the acquisition by NGC of 25.1 percent of the issued share capital of Wanganui Gas, the remaining 74.9 percent to be retained by the Wanganui District Council. Under the *Energy Companies Act 1992*, the Wanganui District Council intended to incorporate a company to undertake the purchasing, distribution, and selling of natural gas in the Wanganui area, previously undertaken by the Wanganui District Council. Authorisation was required in relation to the application because the Commission considered NGC's shareholding of 25.1 percent to be sufficient to give NGC a "real influence over the actions of Wanganui Gas", and thus, would strengthen NGC's dominance in the wholesale market.

The third gas industry authorisation involved the acquisition of 100 percent of the issued share capital of Progas Systems Ltd (Progas, now called Enerco (Central)) by Enerco New Zealand Ltd. (Enerco). In 1991 Progas had been transformed from a department of the Palmerston North City Council, to a limited liability company, wholly owned by the City Council.

The natural gas industry may be separated into a number of functional markets, namely, production, wholesale, transmission, distribution, and retailing. While the transmission and distribution functions possess characteristics of natural monopoly, the other functions are potentially competitive. The following sections explain in greater detail the background to the industry, the issues which arose in relation to each authorisation, and the survey results.

7.2. Industry Background

Presently, there are three major, and several minor, natural gas fields in New Zealand, all located in, or off the coast of Taranaki. The Maui off-shore field accounts for around 64 percent of New Zealand's estimated total expected gas reserves and 80 percent of gas production, as at December 1995, while the Kapuni, and the as yet undeveloped Kupe field, contain about 12 percent each (Ministry of Commerce, 1997a). The New Zealand Energy Data File, compiled by the Ministry of Commerce (1997b) revealed that approximately 33.3 percent of natural gas production is sold to Contact Energy, most of which is used in electricity generation, with the remainder being sold on the reticulated market to industrial and potentially, to commercial and residential users. A further 44.6 percent is used in the petrochemicals sector, and the remaining 22.1 percent is sold to industrial, commercial, or residential users, either direct from the field (in the case of Kiwi Dairy Company), or via gas utilities such as NGC, Enerco, Powerco, TransAlta, Wanganui Gas, and Pacific Energy. Of the 37 petajoules of consumer energy reticulated in 1995, approximately 68 percent was used in industry, 14 percent in the commercial sector, 14 percent in the residential sector, and 3 percent in transport (New Zealand Yearbook 1997, p. 480).

Essentially, natural gas is acquired by the wholesaler, either direct from the gas producer, or via contractual arrangements with Maui Gas Contracts Services and Kapuni Gas Contracts. The wholesaler then on-sells to the petrochemicals sector, the Electricity Corporation of New Zealand (ECNZ) - for electricity generation, to end users,⁹ or to gas utilities, via a transmission system owned and operated by NGC. The gas utilities then sell to industrial, commercial, and residential users.

The Commission defines the functions of wholesaling, distribution, and retailing of gas respectively as the sale of gas for on-sale; the transportation of gas from the relevant gate station on the high pressure transmission network to the end user; and sale of gas to the end user.

Gas transmission occurs only in the North Island, through 11,000 kilometers of high pressure gas transmission pipelines, and distribution through 6,000 kilometres of low pressure pipelines. Gas transmission is the transporting of gas throughout the North Island, while gas distribution is

⁹ For example, Contact Energy, a natural gas wholesaler, supplies gas direct to a urea plant, and Shell/Todd supplies Kiwi Dairy Company from the Kapuni gas field.

the delivery of gas within cities. In every gas industry case before the Commission thus far, the Commission has concluded that both the transmission and distribution functions are natural monopolies. While it would be technically possible to duplicate the transmission network, it is unlikely to be economically viable in the foreseeable future.

Prior to April 1, 1993, the gas industry was heavily regulated. Gas prices were controlled under the price control provisions of the *Commerce Act 1986*, the *Petroleum Act 1937* controlled access to gas pipelines, and the *Gas Act 1982* granted retailers exclusive franchise areas for the supply of natural gas.

Recent deregulation of the gas industry has been aimed at isolating the natural monopoly functions, the line businesses of transmission and distribution, from the potentially competitive functions, namely the wholesale and retail functions. On April 1, 1993, the *Gas Act 1992* came into force, which abolished the gas franchise system and eliminated price control on gas. Although the Government announced its intention to reform the gas industry in August 1988, legislative changes took some time to come into effect. For example, information disclosure requirements were not finalised and imposed upon industry participants until 1997.

The New Zealand Government has employed a light-handed approach to prevent anti-competitive behaviour in the gas industry. It is hoped that the information disclosure requirements, the threat of reintroducing price control, and the potential for litigation under the *Commerce Act 1986* will be sufficient to deter such behaviour.

There are presently six gas retailers in New Zealand, all operating in the North Island. They are; NGC (whose market share represents approximately 40 percent of total reticulated sector gas sales), Enerco (market share approximately 40 percent), Novagas, Powerco, TransAlta, Wanganui Gas (which is 25.1 percent owned by NGC), and Power New Zealand.

Prior to deregulation, competition amongst retailers was limited by exclusive franchises granted under the *Gas Act 1992*. Although regulatory barriers to competition have been eliminated, competition in retail markets has been slow to emerge due to long term contracts between NGC and its utility customers.

The threat of potential competition in retail markets acts as a constraint on the behaviour of gas utilities. Phil Harris, Accountant at Natural Gas Waikato asserted that there is a price ceiling, above which competition from other gas utilities and other energy forms such as coal or electricity, will emerge. Gas retailers are trying to keep prices high enough to earn a sufficient return on invested funds, while at the same time keeping prices low enough to make it uneconomic for new entrants to enter the market. The Commission and the Courts have taken the view that gas, electricity, and coal are imperfect substitutes at best. Hence, the amount of constraint one imposes on the other is limited.

In view of regulatory changes to encourage competition in retail markets, gas utilities have been surprisingly slow to encroach on other gas utilities' supply areas. However, both NGC and Enerco have indicated their intention to expand their traditional supply areas in the near future.

The 1980 contracts, which were 15 year, rolling term contracts between NGC and its gas utility customers, reflected the regulated industry structure which existed at the time of negotiation. When deregulation came into effect, the Commission recommended that the parties negotiate new contracts as soon as possible as they believed that anti-competitive provisions contained within the contracts would be found in breach of the *Commerce Act*, and were not appropriate in a deregulated market. Two elements of the contracts were of particular concern. Firstly, utilities were required to purchase all their gas from NGC. Secondly, NGC agreed not to compete in the franchised areas it supplied.

Negotiations for new contracts was a long, drawn out process, which began in 1993 and only ended on October 1, 1997, when the new "unbundled" contracts came into effect. Instead of one contract for delivered gas, the new contracts consist of two separate contracts, one for the purchase of gas - the commodity itself - and another for the transmission of gas. Hence, the term unbundled. These contracts facilitate the deregulation process by permitting competition for the wholesale of gas. Under the bundled contracts, this was not possible.

Competition in the wholesale market has been greater than in the retail market, and this is expected to intensify in the near future. Identifying which parties compete in the wholesale market is surprisingly difficult. The number of wholesalers of gas in New Zealand depends crucially on one's definition of what constitutes a wholesaler. If one considers only those parties involved in the sale of gas for on-sale, Martin Sharp, expert in transmission services at NGC,

identified five wholesalers: Contact Energy; the Electricity Corporation of New Zealand (ECNZ); Fletcher Challenge Ltd; NGC; and Shell / Todd. However, if one considers those wholesalers trading on the secondary market, that is, trading volumes of gas in excess of their own requirements, with other wholesalers, all the gas utilities, Pacific-Energy, ECNZ, and Methanex would need to be taken into account.

Contact Energy began operating as a State Owned Enterprise on February 1, 1996. Among the portfolio of assets purchased by Contact from the Electricity Corporation of New Zealand was ECNZ's Maui gas entitlements, amounting to 40 percent of Maui's total entitlements. Contact presents a very real threat to NGC in the wholesale market, as evidenced by Contact's contracts to supply one-third of Enerco's gas requirements, a smaller proportion of Powerco's requirements, and ECNZ. Contact has also acquired contracts to supply a number of major industrial users.

ECNZ, Fletcher Challenge, and Shell/Todd (using Novagas as its trading arm) are keen to establish themselves as major players on the wholesale gas market, and are actively seeking to build gas portfolios.

Naturally, wholesalers and retailers are targeting Auckland as the location most likely to offer the greatest margins, for three reasons. Firstly, Auckland is the largest geographical market. Secondly, many industrial and commercial businesses requiring large volumes of gas are located in Auckland. And thirdly, over a quarter of reticulated gas is consumed in the Auckland region.

In light of NGC's natural monopoly ownership of the transmission function, it is the primary wholesaler to most gas utilities, and it sells 40 percent of reticulated gas sales to retail markets, NGC is a significant player in the gas market. Contact Energy and Enerco are currently NGC's most formidable competitors in the wholesale and retail markets, respectively, although this may change in the near future.

Cases Before The Commerce Commission

7.3. Natural Gas Waikato Decision: determined 24 May 1988

The Commission authorised a joint venture between NGC and the Hamilton City Council (HCC) to set up Natural Gas Waikato (NGW), having concluded that benefits related to efficiency improvements outweighed the small detriment found to arise from a strengthening of dominance. The joint venture was to acquire the existing gas retailing businesses of NGC and HCC in the Waikato/Hamilton area. The intended ownership of the joint venture was 70 percent NGC, and 30 percent HCC, although, NGC purchased the HCC's remaining 30 percent in early 1997.

At the time of the decision, NGC was the only wholesaler of gas to the reticulated market.

Detriments

Because competition was not permitted under the regulatory regime, and 1980 contracts were in force which contained clauses that prevented competition between NGC and the utilities it supplied, the Commission's assessment of detriment focused on the potential for competition in wholesale and retail markets in the future.

Despite the absence of competition at all functional levels, and impending deregulation of the industry, the Commission concluded that the joint venture would foreclose the opportunity for a potential wholesaler to negotiate with HCC to supply gas to the Waikato franchised area, and eliminated the possibility of competition in a deregulated market between NGC and HCC for end users. In addition, the Commission believed that authorisation would reduce plant location options for new industries in the Waikato, where energy cost was considered a significant factor. Previously, a company opening a new plant in the Waikato would have had the option of using gas from two sources, and other energy forms, one of these options would be eliminated by the joint venture.

The Commission concluded that the detriments from strengthening of dominance were minimal.

Benefits

NGC claimed that several public benefits were expected to arise as a result of the agreement. Firstly, cost reductions amounting to \$1 million per annum were expected to result from a 22 percent reduction in distribution and maintenance expenses, and an estimated 39 percent reduction in overheads, compared to the counterfactual. Secondly, a doubling of reticulation in the Waikato within one year was claimed as a benefit to the public, as it would increase consumers' energy alternatives. Thirdly, NGC claimed that centralisation of safety procedures and clarification of responsibilities in respect of gas leaks and other potential emergencies, constituted a benefit to the public. Finally, NGC argued that it had a greater incentive and ability to increase sales by virtue of its concentration and significant interests in the gas industry. The Commission was not prepared to give weight to this last argument, except to recognise that unit costs would be smaller the more units sold if indeed, NGC were able to increase sales in the counterfactual. In the counterfactual, NGC's and HCC's operations were expected to remain separate.

In light of efficiency gains and reduced unit costs resulting from increased throughput, the Commission authorised the joint venture to set up NGW on the grounds that benefits outweighed detriment.

7.3.1. Survey results - Natural Gas Waikato decision

The main benefits advanced by the applicants in relation to the joint venture between NGC and HCC may be summarised as:

1. Reduction in costs,
2. Increased reticulation,
3. Increased sales, and
4. Centralisation of safety procedures.

The extent to which these benefits have been achieved are examined in turn.

Reduction In Costs

The joint venture between NGC and the HCC has been less successful than anticipated, according to Phil Harris, Accountant at NGW.

At the time of the determination, NGC expected cost savings in the order of \$1 million per annum, resulting from an estimated 22 percent reduction in distribution and maintenance expenses, and an estimated 39 percent reduction in overheads. Mr Harris claimed that these cost savings have not been realised for two reasons:

- 1. [The] joint venture was funded by 98 percent debt, leading to significant finance costs; and,*
- 2. Over-ambitious estimates of cost savings from the merger due to the inaccuracy of information relating to the running of the Hamilton City Council gas and electricity departments and the allocation of costs between these two areas.*

Mr Harris believed that there was a late change in the debt structure of the joint venture, from 60 percent debt and 40 percent equity, to 95 or 98 percent debt, in order to reduce NGC's tax expense. Within a short period of time NGW ran into financial difficulties and had to be "bailed out" by NGC. NGW was having severe cash flow problems and could not pay the 20 percent cost of debt. This excessively high rate of interest was likely to reflect a higher risk premium associated with high gearing. In October 1990, NGC restructured NGW, and provided debt at a much more market oriented rate. Mr Harris believed that without NGC's intervention, NGW would not have survived. Finally, in early 1997, NGC acquired HCC's 30 percent interest in NGW.

Table 7.1 below, presents information which reveals that NGW's operating costs have increased by 50 percent over the period 1990-1997, not reduced by 33 percent as anticipated. This rise in operating costs may be a reflection of an almost doubling of customer numbers. Additionally, an analysis of NGW's interest expense over the period shows that debt servicing costs have made up a significant portion of operating costs. Noting however, that this proportion declined from 74 percent to 36 percent over the period.

Table 7.1 NGW's Operating Costs 1990 - 1997

Year	Annual Operating Costs (\$000)	Number of Customers	Operating Costs per Customer (\$000)	Interest Expense (\$000)
1990	4287	17,586	244	3164
1991	4000			3235
1992	n/a			2023
1993	5156			1927
1994	5465			1828
1995	5790			2355
1996	6512			2535
1997	6431	25628	251	2345

Source: Supplied by Phil Harris, NGW.

Furthermore, cost savings were not achieved as three major engineering problems were uncovered during 1990, which had not been accounted for in public benefit estimates. Firstly, Mr Harris claimed that significant levels of corrosion were discovered; secondly, a considerable amount of pipe was found to be below specification for the pressure of gas; and finally, significant levels of low pressure areas were found. Approximately \$1.8 million was spent correcting these [unexpected] problems.

Indeed, the unreliability of the pipeline system was responsible for poor efficiency through the system, measured in UFG's (Unaccounted For Gas). UFG is the difference between what you buy and what you sell. Gas disappears through metering problems, leaks, and theft. The aim of the UFG standard is to measure the reliability of the pipeline and metering system. A low UFG measure means the pipeline is reliable. Hence, a high UFG measure means resources are being wasted, and unit costs are greater than they could be. In 1988/89, NGW's UFG rate was as high as 10 percent. By 1997, the UFG rate had fallen to 1 percent, within industry standards of plus or minus 2 percent.

Increased Reticulation

NGC claimed a number of other benefits stemming from cost reductions and NGC's involvement in NGW. Firstly, NGC claimed that the merged concern would double reticulation in the Waikato in the year following merger. This has not been achieved. Reticulation was increased over the period to 1993, but considerably less than was alleged to the Commission. Mr Harris claimed that Hamilton was already well reticulated. The only reticulation needed in the Waikato was in regional towns such as Morrinsville and Cambridge, which were not, and still are not, well reticulated. In any case, NGW was not in any financial position to undertake major

reticulation activity. “Indications are that only nominal reticulation activity [was] embarked upon over the period to 1993. Actual pipes laid during this period amounted to approximately 30 kilometers per annum, and approximately 1,000 connections per annum, amounting to approximately \$2 million per annum” (Mr Harris).

Increased Sales

Secondly, NGC argued that NGW would have greater incentive and ability to increase sales than in the counterfactual. Table 7.2 below reveals that total sales (measured in tetajoules) have increased by 38 percent over the period 1990-1997. Much of the increase in sales can be attributed to an increase in sales to industrial users, which have increased 58 percent over the period, and small increases in residential and commercial sales. No information was found in Commission files as to expected sales and sales expected in the counterfactual, therefore no comparison can be made.

Table 7.2 NGW’s Annual Sales Volume to Residential, Commercial, and Industrial Users (TJ) 1990 - 1997

Year	Residential	Commercial	Industrial	Total Sales
1990	473	525	1551	2549
1991	449	585	1685	2716
1992	516	617	1803	2936
1993	525	584	1756	2865
1994	494	480	2014	2988
1995	498	458	1939	2895
1996	529	511	2362	3402
1997	553	528	2443	3524

Source: Supplied by Mr Harris, NG Waikato.

Increase in sales may, in fact, be related to changing attitudes toward gas use, the fact that gas is now more readily available, or has been marketed better.

One factor behind the increase in sales to industrial users over the period, was the fall in price. Table 7.3 shows that the fall in price to industrial users was 6.1 percent, while the price to residential and commercial users increased 69 percent and 43 percent, respectively. The decline in price to industrial users is likely to be caused by deregulation, as this market is especially contestable. Large companies near boundary areas, or transmission pipelines, using large volumes of gas, are vulnerable to poaching by other utilities. Because the price of gas to industrial users is significantly less than residential and commercial users, margins are low.

However, the large volumes of gas demand by industrial users make supplying them an attractive market. Thus, competition, rather than the joint venture, is likely to be largely responsible for the reduction in price to industrial users.

The contestability of the market means that gas utilities, including NGW, are trying to find the price ceiling at which competition will not enter, but which maximises the margin between cost and revenue. Additionally, Mr Harris claims that prices to residential, commercial, and industrial users were not in tandem to begin with.

Table 7.3 NGW's Price of Gas to Residential, Commercial, and Industrial Users (GJ) 1990 - 1997.

Year	Residential (\$)	Commercial (\$)	Industrial (\$)
1990	9.34	7.11	5.93
1991	10.30	7.99	5.84
1992	11.80	8.40	5.64
1993	11.90	8.42	5.61
1994	12.55	9.31	5.69
1995	13.23	9.41	5.80
1996	14.74	9.72	5.61
1997	15.83	10.17	5.57

Source: Supplied by Mr Harris, NGW.

Centralisation Of Safety Procedures

The final benefit forwarded by NGC involved the centralisation of safety procedures and clarification of responsibilities in respect of gas leaks and fires. Mr Harris asserts that NGW has adopted NGC's policies and procedures relating to health and safety, and has a good safety record. It is unlikely that the benefit of centralisation of safety procedures has brought about a significant benefit to NGW, since safety procedures were considered satisfactory prior to merger.

Discussion

Any small chance of competition between NGC and other wholesalers for supply of gas to NGW has been eliminated by NGC's recent purchase of the remaining 30 percent interest in NGW. Additionally, although competition between NGC and NGW for retail supply in the Waikato was very unlikely, competition was still possible from other gas utilities. By virtue of NGC's market power, size of operations, and cost advantage, other gas utilities are less likely to compete for retail markets against NGW as a result of NGC's acquisition of the remaining 30 percent.

NGW has not been able to realise distribution and overhead cost savings as debt servicing costs were significantly higher than anticipated, HCC cost allocation models were inaccurate, and unexpected repair work was required. None of the ensuing benefits from efficiency gains have thus, eventuated. In the counterfactual, the same, or a similar solution, is likely to have occurred. The HCC would have eventually realised the extent of repair work required, and is likely to have sought the sale, or partial sale of its gas interests. Being a City Council department, financial resources are less likely to have been available. NGC or Enerco - by virtue of its location (Auckland) - were the most likely purchasers. Of course, in the counterfactual, the owners are unlikely to have experienced such high debt servicing costs.

No link of causation between increased sales and the joint venture can be established. Competition between retailers for industrial user contracts, improved service, and better marketing are likely to have had a more significant effect on NGW's sales than the joint venture.

7.4. Wanganui Gas Decision: determined 29 October 1992

The second gas industry authorisation involved the acquisition by NGC of 25.1 percent of Wanganui Gas. The Wanganui District Council proposed to bestow the assets held by its gas division, including the exclusive franchise, to Wanganui Gas for it to carry out the purchasing, distributing, and selling of natural gas in the Wanganui area, while retaining the remaining shares.

As legislative changes to reform the gas industry had been announced in August 1988, but did not take effect until March 31, 1993, the application was considered in the context of imminent deregulation.

At the time of the determination, there was no competition in the wholesale market, none in the retail market (for reasons explained in the industry background section above), and NGC enjoyed a natural monopoly over the transmission function.

Given NGC's considerable interests in the wholesale, transmission, and retail functions of gas supply, the Commission concluded that NGC already possessed a dominant position in the wholesale and transmission functions. In order to assess whether NGC would strengthen this

dominant position as a result of the acquisition, the Commission first had to establish whether NGC would acquire greater control or influence over the activities of Wanganui Gas, and thereby have an effect on competition. The Commission considered a number of factors including: the number of Directors NGC would appoint on the Board, NGC's shareholding in Wanganui Gas, NGC's position in the industry, Wanganui Gas's ability to access NGC's training, and technical and marketing resources, the relationship between NGC and Wanganui Gas, and NGC's pre-emptive rights (first right of refusal) should the Wanganui District Council ever choose to dispose of its interest in Wanganui Gas. The Commission concluded that NGC would acquire a real influence over the activities of Wanganui Gas.

In the counterfactual, some other investor, industry participant or not, was expected to purchase the 25.1 percent interest in Wanganui Gas.

Detriment

The Commission concluded that NGC's dominance in the wholesale market would be strengthened. Only a minimal strengthening of dominance was found in the wholesale market, with no strengthening in the transmission market. Given legislation which granted Wanganui Gas an exclusive license to supply the Wanganui area, the Commission found Wanganui Gas to be dominant in its franchise area. However, this dominance was not strengthened by the arrangement.

The only detriment expected to arise as a result of the arrangement was wholesale market foreclosure to Wanganui Gas. Any new wholesaler entering the deregulated wholesale market, would have one fewer utility as a potential customer, as NGC would almost certainly remain Wanganui Gas's sole wholesale supplier. The effect of NGC's increased dominance in the wholesale market in a deregulated industry was expected to be very small.

Benefits

The public benefits advanced by NGC included: greater efficiency; better access to NGC's technical expertise and resources, which was expected to bring enhanced service and greater energy choices for consumers; greater incentive and ability to increase sales; increased consideration payable and increased earnings potential for Wanganui Gas; and increased

profitability. NGC argued that it was an efficient business, and these efficiencies may be expected to flow through to any other interests of NGC. NGC also claimed that it would provide Wanganui Gas greater access to advanced technology, technical skill and marketing resources, that would not be available in the counterfactual. The advantages of having readier access to such resources may be reflected in greater efficiency of reticulation, resolution of technical issues more quickly, or obtaining finance at lower rates. The Commission accorded weight to those benefits related to enhanced efficiency as a result of the expertise and resources, marketing, and technical assistance NGC would bestow upon Wanganui Gas, flowing from the agreement. No weight was afforded other claims.

Having weighed the benefits arising from greater efficiency, against the competitive detriment, the Commission authorised the proposal.

7.4.1. Survey results - Wanganui Gas decision

The real motive behind the Wanganui District Council approaching NGC to purchase 25.1 percent of the issued share capital in Wanganui Gas was the fact that they could not finance the amalgamation with Westgas Corporation without NGC's funds. Westgas was originally set up by local authorities in the Rangitikei region, to supply Canterbury Malting Co. in Marton, and the surrounding regions, including Marton and Rangitikei. Prior to amalgamation the Rangitikei Borough Council sold its interest in Westgas to the Marton Borough Council.

The Wanganui District Council proposed to purchase Marton Borough Council's interest in Westgas and amalgamate it with its own existing gas division, and to transfer the assets and liabilities of the two businesses to Wanganui Gas, upon incorporation under the *Energy Companies Act 1992*. In order to carry out this proposal, the Wanganui District Council required additional funding. The amount paid by NGC for its interest in Wanganui Gas approximately equaled the amount required by the Wanganui District Council to purchase Westgas.

Given NGC's interests in wholesaling, transmitting, and retailing gas, it was considered an obvious choice. Trevor Goodwin, Chief Executive at Wanganui Gas, commented that the proposal was very much the result of relationships formed between the Mayor of Wanganui

District Council (who held, and still holds, the position of Chairman of the Gas Association of New Zealand), and NGC executives.

NGC has retained its 25.1 percent shareholding of Wanganui Gas, while the remaining interest is still held by Wanganui District Council. Mr Goodwin believes that NGC would “jump at the chance to acquire the Wanganui District Council’s interest,” but is not sure if and when that might become available. Chas Pointer, Mayor of the Wanganui District Council, was not willing to comment on this issue. He did say, however, that there would be enormous public opposition to the sale, and that the Council is satisfied with their return on Wanganui Gas. Much of the opposition to the sale would come from households, since residential gas prices had been kept low. If Wanganui Gas had been owned by a private company, these prices would be significantly greater than presently. This implies that the Council’s majority ownership of Wanganui Gas has led to the preservation of distorted prices, below market rates.

The amalgamation of Westgas and Wanganui Gas effectively removed Westgas as a competitor in the retail market. The arrangement between the Wanganui District Council and NGC also removed NGC as a competitor from the market, since it would not be in NGC’s interests to compete against Wanganui Gas in the retail market while it possessed an interest in Wanganui Gas.

The main benefits advanced by the applicants in relation to NGC’s acquisition of 25.1 percent of Wanganui Gas may be summarised as:

1. Greater access to technology and expertise,
2. Increased sales.

The extent to which these benefits have been achieved are examined in turn.

Greater Access To Technology And Expertise

NGC argued that their 25.1 percent interest in Wanganui Gas would permit Wanganui Gas greater access to NGC’s considerable technical resources and expertise. In the counterfactual, Wanganui Gas would, to some extent, duplicate resources committed to technological advancement, which under District Council ownership, would not be made available. Other benefits ensued from this.

Mr Goodwin and Mr Pointer do not agree over whether NGC's involvement in Wanganui Gas has brought about efficiency improvements, or whether they would have been realised in the counterfactual. Mr Goodwin asserted that in his opinion, NGC offered little more than any other shareholder. Wanganui Gas has paid market prices for NGC's services, just as it would have if another shareholder had acquired the 25.1 percent interest. He further commented that

NGC has provided contract services which have enabled Wanganui Gas to reduce costs. Would these contract services have been made available if NGC had not been a 25.1 percent shareholder? I think so. And if not, [then] Wanganui Gas would have [acquired] them from other sources.

Some cooperation between NGC and Wanganui Gas has been evident, for example in relation to the shared development of the ODV pipeline asset revaluation scheme (Mr Goodwin). In this case, Wanganui benefited from NGC's technical skills and services, but these were provided on contract. Details of contracts of service between NGC and Wanganui Gas were not made available to the researcher.

Mr Pointer believes that NGC's contribution has been more significant. He acknowledges that Wanganui Gas has had to pay market prices for NGC's technical advice, but alleges that NGC's two directors on Wanganui Gas's Board have assisted enormously with their wholesale and retail market knowledge. Additionally, research and development previously undertaken at an industry level is no longer available to gas utilities, as the industry has moved away from local body ownership toward corporate ownership. Wanganui Gas has been granted access to such information via informal discussions held with NGC executives, which would not have been available without NGC's interest.

In its application to the Commission, a number of other benefits were expected to flow from Wanganui Gas acquiring greater access to NGC's technical resources. Namely, Wanganui Gas was expected to improve its level of service, make more efficient use of existing reticulation, and attain cost savings as a result of improved efficiency.

Mr Goodwin claims that Wanganui Gas has improved its level of service, but was unable to comment on whether service has improved beyond that which might reasonably have been expected in the counterfactual. In any event, these improvements could be expected to result from corporatisation of Wanganui Gas, and deregulation of the market. Some examples of improved service provided by Mr Goodwin included: new installations completed quicker;

appliance repairs completed more efficiently; increased payment options; appliance sales section better trained to assist customers; and advice on efficiency improvements has been made available to customers, particularly industrial and commercial users.

Mr Goodwin asserted that Wanganui Gas does not utilise existing reticulation more efficiently as a result of the acquisition. Finally, he added that some cost savings have been achieved, through rationalisation of staff. However, the reduction in staff numbers is attributable to more efficient work practices rather than NGC's interest in Wanganui Gas. Moreover, cost reductions are a reflection of management's style rather than a result of NGC's involvement.

Increased Sales

NGC claimed Wanganui Gas would have greater incentive and ability to increase sales. Although no details were provided, Mr Goodwin said that Wanganui Gas had not increased sales volume over the period 1992-1997.

Discussion

The extent to which Wanganui Gas was expected to capture the benefits of NGC's 25.1 percent interest was overstated to the Commission. Wanganui Gas has benefited from NGC's technical expertise and resources, but no more so than in the counterfactual, as they were purchased at market rates. Ensuing benefits from enhanced service, more efficient utilisation of resources, increased sales, and cost savings, have either not been realised, or if they have eventuated, their realisation is not the result of NGC's involvement in Wanganui Gas.

7.5. Enerco Progas Decision: determined 22 December 1993

The third gas industry authorisation involved an application by Enerco to acquire Progas. Progas, formerly owned by the Palmerston North City Council was a limited liability company undertaking the businesses of distribution and retailing of natural gas in Palmerston North, Levin, Foxton, and Ashhurst.

At the time of the decision, the gas industry was in the process of adjusting to deregulation. The *Gas Act 1992* had come into force, abolishing the franchise system which had protected retailers

from competition. Also, the price control order on gas had expired, thus allowing competition between wholesalers and retailers on the basis of price. The 1980 gas supply contracts between NGC and gas utilities were still in effect. The Commission questioned the enforceability of the exclusivity clauses in the contracts under the *Commerce Act 1986*, and concluded that if it were profitable to do so, NGC would breach such provisions and attempt to compete against its utility customers. Moreover, the contracts were under renegotiation at the time, and were considered unlikely to remain in their present form in the deregulated market.

Despite progress towards open access to pipelines, the Commission believed that a new entrant to the wholesale market would face significant difficulties in acquiring gas from a source independent of NGC, and in negotiating favourable terms for the use of NGC's transmission system. At the time of the decision, the deregulatory process had not yet spurred competition in the wholesale market, and the Commission concluded that "a fully competitive wholesale market is unlikely in the next few years."

No competition in the retail market had eventuated either. Apart from sales made direct to end users by NGC, no retail customers were offered a choice of retail gas suppliers. That is, no utilities had moved beyond their previously franchised areas to compete for end users. The potential for competition in the longer term was very real, making retail markets contestable. A number of large customers using large volumes of gas, situated close to the transmission pipeline, held considerable power in price negotiations, as they were susceptible to by-pass. Large companies could threaten to source gas supply from a neighbouring utility, by connecting direct to a gate station on the pipeline, by-passing distribution. The volumes of gas required, may in some cases, make it profitable for competing retailers to negotiate for such contracts, even if it would involve laying pipe.

Consequently, although actual competition had not emerged in the wholesale or retail gas markets, and competition was not likely, even in the longer term, in the transmission and distribution line functions, the regulatory environment permitted such competition. In time, the Commission and industry participants agreed that competition would become intense.

Detriments

The Commission concluded that Enerco would strengthen an already dominant position in the retail market as a result of the acquisition. As the supplier to Wellington and East Coast regions (including Hawkes Bay), Enerco was considered to be well situated to enter the Progas area. The Commission also presumed that competition would be lessened by the acquisition of Progas in the retail market, as it would remove one competitor to Progas, namely, Enerco, and might hinder other retailers from entering Progas's previously franchised area. That is, Enerco's size of operations and considerable access to resources, were expected to discourage other retailers from competing with Enerco in Progas's area, or negotiating with large industrial users for their supply. Direct competition with Enerco could reasonably be expected to be more intense, than competition with a small retailer like Progas.

Benefits

Enerco outlined a number of public benefits they believed would arise from the acquisition, which together, were estimated to fall within the range of \$1.4-2.0 million. The benefits claimed to the Commission included: increased countervailing power in negotiations with NGC. The merged concern was expected to gain a stronger position in negotiations as a result of greater volumes of gas being purchased. This would allow Enerco to lower unit costs and transaction costs, as only one set of negotiations would be required. In addition, Enerco argued that it would be in a position to act as an industry watchdog. Progas would benefit from Enerco's lower cost of capital. Operational cost savings were expected as a result of the elimination of duplicated services. Bulk purchasing discounts in relation to appliance and equipment purchases and telecommunication were expected to be passed on to Progas, which were previously not available. Efficiency gains were expected as a result of proposed rationalisation of emergency engineering equipment. Enerco also proposed to rationalise staff. Benefits were expected in relation to complementarity of operations. Progas was expected to benefit from obtaining access to network analysis, and a gas leakage survey vehicle. Progas would be able to take advantage of Enerco's technical skills and marketing, especially in relation to cogeneration opportunities. Finally, Progas customers were expected to benefit from the introduction of Enerco's Evenflow Programme. Each customer on the Evenflow Programme was expected to save \$30 per annum.

In the counterfactual, the Palmerston North City Council was assumed to retain ownership of Progas.

Once again, the Commission authorised the merger on public benefit grounds.

7.5.1. Survey Results - Enerco Progas decision

The Commission concluded that Enerco's dominance in the retail market supplied by Progas would be strengthened by the acquisition. NGC, the most likely competitor to enter Progas's supply area, was less likely to challenge Enerco than a smaller competitor. Competition in Progas's supply area has not eventuated, nor has it taken place anywhere else in the country, including Auckland, the most contestable market, by virtue of its industrial and commercial concentration. Thus, no lessening of competition has yet eventuated, as a result of Enerco's acquisition of Progas.

The main benefits advanced by the applicants in relation to NGC's acquisition of 25.1 percent of Wanganui Gas may be summarised as:

1. Increased countervailing power in negotiations with NGC,
2. Lower cost of purchasing gas,
3. Lower cost of capital,
4. Operational cost savings,
5. Rationalisation of staff and equipment,
6. Greater access to Enerco's technical skills and marketing, and
7. Implementation of the Evenflow Programme,

The extent to which these benefits have been achieved are examined in turn.

Increased Countervailing Power

Graeme Higgs, Executive at Enerco, maintains that Enerco has been able to gain a stronger bargaining position in negotiations with NGC as a result of acquiring Progas's supply requirements. The acquisition of Progas increased Enerco's total supply requirements by approximately 13 percent, therefore, it is reasonable to conclude that Enerco's acquisition of Progas made a significant difference to Enerco's bargaining position.

Competition in the wholesale market for gas has also increased Enerco's buying power. Under the old 1980 contracts, Enerco was compelled to purchase all its gas requirements from NGC in

return for NGC's guarantee of not entering Enerco's supply areas. The contracts gave Enerco limited price negotiating flexibility. Enerco recently (October 1, 1997) signed a new contract of supply with NGC. It now purchases a third of its gas requirements from Contact Energy, and the remainder from NGC. Rivalry between NGC and Contact Energy for Enerco's supply contract significantly reduced the price at which Enerco purchases gas, according to Mr Higgs.

The introduction of competition in the wholesale market in recent years and the new contracts have had a considerable impact on Enerco's purchasing power. Indeed, it is likely that these factors have had a greater impact than the merger. Thus, it is difficult to establish a link between increased bargaining power, and the authorisation.

Mr Higgs maintained that Enerco continues to act as an industry watchdog, constraining NGC's market power to behave anti-competitively, by virtue of its buying power and interests in the retail market. Further, he alleged that other gas utilities look to Enerco to represent their interests in situations of conflict. In other words, there is an 'us and them' mentality between the gas utilities and NGC.

Lower Cost Of Purchasing Gas

Whatever the cause of Enerco's increased countervailing power, Mr Higgs claims that the cost of purchasing gas has fallen. In particular, he claims that gas distribution (purchasing) efficiencies have been realised. As mentioned previously however, competition in the wholesale market is likely to be largely responsible for this result. Details of the price at which Enerco purchases gas from wholesalers was not available to the researcher.

Lower Cost Of Capital

Furthermore, Mr Higgs asserted that Progas has benefited from Enerco's lower cost of capital, which has facilitated an accelerated program of restoration of gas pipelines in the Progas region, which the Palmerston North City Council could not have afforded in the counterfactual. A lower cost of capital was expected to reduce Progas's interest expense by approximately \$209,000. No details of interest savings was supplied.

Operational Cost Savings

Operational cost savings have been realised according to Mr Higgs, but he was unsure as to whether they were as large as anticipated (\$322,000). Specifically, Enerco has ceased using Palmerston North City Council computer billing and other services (\$130,000 per annum). These services are now provided by Enerco/Progas staff. The benefit of cost savings in relation to computer billing and other services is thus, the \$130,000 previously incurred by Progas, minus the cost of these services being provided by Enerco/Progas staff. Progas's consumables expense has been reduced by more than \$100,000 per annum, according to Mr Higgs, which would not have been possible in the counterfactual. Enerco has ceased duplication of advertising and promotions by Progas and now conducts nationwide campaigns (\$32,500 per annum). Duplication of consultancy and legal fees in negotiations with NGC has also ceased, since one set of negotiations is now required (\$30,000 per annum). Cost reductions have been achieved in relation to the resignation of Progas's director and cessation of servicing Pahiatua and Dannevirke from Palmerston North, instead of Hawkes Bay (\$68,000 and \$20,000 per annum). Finally, savings have been realised in relation to cessation of publication of a formal annual report for Progas (\$10,000 per annum, less the cost of publishing an informal report).

Progas has also benefited from Enerco's bulk purchase discounts in relation to appliance and equipment purchases, according to Mr Higgs. This was expected to save Progas approximately \$103,944 per annum. Enerco's bulk user discount on telecommunications has also been passed on to Progas. Telecommunications discounts were expected to reduce Progas's telecommunications expense by \$6,480 per annum. Finally, Progas now has access to a FIM leakage survey vehicle owned by Enerco, located in the Southern region (Wellington), in case of emergencies.

Although Enerco's annual reports were made available to the researcher, they were too aggregated to ascertain whether cost savings had in fact been realised as claimed.

Rationalisation Of Staff And Equipment

Rationalisation of staff was expected to be a major benefit of the acquisition. A number of positions were expected to be vacated as a result of the merger, as many functions could be

performed by Enerco's existing staff. At the time of the decision, benefits related to this were estimated to be in the order of \$259,000. This was subsequently more than tripled, to \$871,000. Table 7.4 below shows the number of staff positions which have been vacated compared to the number claimed at the time of the decision.

Table 7.4 Number of Staff Positions Vacated: Actual and Planned

Position	Number of Positions to be Vacated (Planned)	Number of Positions Vacated (Actual)
Senior Management	3	3
Accounting and Administration	7	2
Engineering	2	1
Technical	1	1
Domestic Reps	2	0
Warehouse	1	0

Source: Mr Higgs, Enerco.

Table 7.4 reveals fewer positions were vacated than anticipated at the time of the decision. Thus, cost savings are likely to be less than \$871,000 predicted, but more than the initial estimate of \$259,000. Mr Higgs asserted however, that no rationalisation of staff would have been possible in the counterfactual.

At the time of the decision, Enerco intended to dispose of Progas's emergency engineering equipment, as it was thought that only one set was needed for the lower North Island. Rationalisation has not occurred, as the second set of equipment has been kept (Mr Higgs).

In addition, Enerco intended to rationalise its operations by closing and relocating the Hastings showroom. While closure of the showroom has not occurred, it may be closed at some time in the near future.

Greater Access To Enerco's Technical Skills And Marketing

The main benefit to Progas resulting from the merger according to Mr Higgs, has been Progas's access to Enerco's technical skills and marketing resources. In the counterfactual, Progas would not have acquired such assistance, and would have had to hire industry experts to provide the necessary skills. Thus, Enerco claims that the merger eliminated duplication of technical skills and marketing resources.

In addition, Progas has benefited from having greater access to network analysis undertaken by Enerco at significantly lower cost, than in the counterfactual. No supporting evidence of these claims was given to the researcher.

Evenflow Programme

Finally, Enerco proposed to introduce the Evenflow programme to the Progas supply area. The programme has been implemented in Wellington since April 1993. Evenflow allows customers to pay for their gas by direct debit in eleven equalised estimated accounts, and one reconciling account, at the end of the year. Enerco claimed the programme offered each customer a saving of \$30 per annum. Mr Higgs said that the Evenflow programme had not been implemented in the Progas supply area as planned, since other factors took precedence.

Discussion

Some of the benefits anticipated to flow from the acquisition have been impeded by a number of factors according to Mr Higgs. For example, the transition period from a regulated to deregulated industry has not been smooth, and has required major internal adjustments, to prepare for competition in the retail market. Secondly, considerable time and resources have been expended in negotiating the new supply contracts with NGC. Overall however, Mr Higgs believes that the acquisition of Progas has been more successful than anticipated, as synergies have been achieved which have substantially reduced costs.

Enerco has increased market power in negotiations with NGC, and hence, has successfully lowered the price at which it purchases gas. However, the entry of new wholesalers, and ensuing competition, and new contracts for supply of gas to utilities, has significantly influenced this result.

No conclusive evidence was provided by Enerco to support claims of realisation of benefits, which reduced the reliability of such claims. The researcher does, however, believe that cost savings have, at least to some extent, been achieved as a result of rationalisation and complementarity of operations, since it is in Enerco's interests to ensure Progas is as efficient and profitable as possible.

Rationalisation of staff has not been as comprehensive as anticipated, nevertheless, when compared to the counterfactual, significant cost savings have been achieved. Additionally, Enerco has not rationalised plant and equipment as predicted.

Significant benefits ensuing from Progas gaining greater access to Enerco's technical skills and marketing are likely to have been realised. In the counterfactual, Progas would have had to purchase these resources at market rates from Enerco or another industry participant.

Finally, the evenflow programme has not been implemented in the Progas supply area, therefore cost savings of \$480,000 have not been realised.

7.6. Conclusion

Recent deregulation of the gas industry, aimed at isolating the natural monopoly functions, namely, transmission and distribution of gas, from the potentially competitive functions; namely, the wholesale and retail of gas, has brought about major changes for industry participants. Competition in the wholesale market, and potential competition in the retail market, provided the impetus for a number of utilities to merge, in order to strengthen market position.

A lack of evidential data to support claims of efficiency gains and other benefits severely impeded the researcher's ability to draw valid conclusions from assertions. Based on information that was made available, and discussions with industry participants, benefits accruing from the Waikato Gas and Wanganui Gas decisions have, in the main, not been realised. Any cost savings that have eventuated are likely to have been the result of increased competition, corporatisation, and proficient management.

The joint venture between NGC and the HCC has been less successful than anticipated because the applicants grossly overestimated cost savings, as a result of employing inaccurate information, and implementing an unworkable funding arrangement. Any efficiencies gained were dissipated by debt servicing costs. NGW also discovered major restoration work was required to repair decrepit pipes, to bring the pipeline up to industry standards, which further reduced NGW's ability to take advantage of expected benefits.

Wanganui Gas has benefited from NGC's considerable technical expertise and resources, although much of this has been acquired at market rates. Other benefits claimed at the time of the decision have either not been achieved, or are not attributable to NGC's interest.

Enerco's acquisition of Progas has been more successful than the preceding two gas mergers. In the main, cost savings have been realised and rationalisation programmes were implemented. Informational difficulties prevented an assessment as to whether the resultant benefits were as large as anticipated.

8. Telecommunications Industry

8.1. Introduction

Despite the pace with which deregulation and emergence of competition has been achieved, this process has not been smooth, with industry participants “locked in a vigorous battle for market share in this expanding and lucrative industry” (Ahdar, 1995, p. 77). The forum for this battle has been the Court room rather than regulatory agencies, and has at times involved intense political lobbying to Government.

Essentially, a cellphone user may operate a mobile phone without regard to location, using a system of cell transmission sites, interlinked by microwave links, cables, or fiber-optic systems to transmit and receive data. Cellular services were first introduced in New Zealand by Telecom in 1987. Since that time, spectacular growth has occurred. Over 500,000 cellular phone users have purchased, and currently use cellular technology. Cellular users now have the option of two networks, Telecom and BellSouth, employing digital AMPS and GSM digital, respectively.

The application for authorisation involved the acquisition of the management rights for the cellular frequency spectrum AMPS-A (Advanced Mobile Phone System, band A) by Telecom New Zealand Ltd (Telecom). The Crown called for tenders for 25 year exclusive management rights to three frequency bands, AMPS-A, TACS-A, and TACS-B, suitable for cellular services. Telecom already owned exclusive management rights to AMPS-B. One further cellular frequency, TACS-C, was not offered for sale. The successful tenderers for TACS-A and TACS-B were BellSouth Corporation (BellSouth) and Telecom Mobile Radio, a subsidiary of Telecom, respectively. The Commission granted clearance for the acquisition of TACS-B by Telecom Mobile Radio (CC, 1990c), but declined Telecom’s application to purchase the AMPS-A band. The decision was upheld in the High Court (HC, 1991c), but overturned in the Court of Appeal (CoA, 1992). The Court of Appeal concluded that the Commission had given insufficient weight to intense competition which Telecom was likely to face from BellSouth, and had set the standard of dominance too low. Upon receiving authorisation to acquire AMPS-A, Telecom sold TACS-B to Telstra.

Like those industries discussed in previous chapters, the telecommunications industry has undergone a period of transformation from regulation to deregulation, and from Government ownership to corporatisation, and finally, to privatisation. In addition, rapidly changing technology has dramatically affected the pace of change and evolution of the industry. The following sections provide a summary of the telecommunications industry, outlining developments since authorisation, and the issues which arose in relation to the Commission's decision. Finally, a summary of the results of the survey are presented. The complexity of the industry, and the issues involved in the application, warrant particular attention.

8.2. Industry Background

"New Zealand has forged a pioneering path in the worldwide trend toward deregulation in telecommunications" Ahdar (1995, p. 77). Deregulation of the telecommunications industry in New Zealand has brought about dramatic changes in recent years, including the development of competition in markets previously monopolised by Telecom.

In 1987, the operations of the New Zealand Post Office were split into three autonomous State Owned Enterprises. That is, telecommunications (Telecom), postal (New Zealand Post), and banking services (Postbank) were corporatised under State ownership and given commercial objectives. Three years later, Telecom was sold to a consortium of Fay Richwhite and Company Ltd., Freightways Holdings Ltd., Bell Atlantic International Inc., and American Information Technologies Corp., for a total price of \$4.25 billion.

The *Telecommunications Act 1987*, provided for competition in customer premises equipment, and an amendment introduced the following year, allowed any person meeting certain requirements to supply telecommunications services from April 1, 1989. Finally, the *Telecommunications (Disclosure) Regulations 1990* provided for the transparent disclosure of information relating to interconnection services and prices by Telecom, and prevented Telecom from using its monopoly power to disadvantage competitors by imposing unfavourable terms of access. Telecom owns and operates the national line network, called the Public Switched Telephone Network (PSTN), which connects all telecommunications users. It includes the physical connection and the local loop between each telephone and the local telephone exchange. Telecom's ownership of the PSTN effectively grants it a natural monopoly over the transmission

of information from point to point through radio waves, or wires. Replication of the PSTN is very unlikely as it would be tremendously expensive and uneconomic. It is imperative for a new entrant to obtain access to the PSTN on favourable terms.

The regulations were introduced in an attempt to separate the natural monopoly functions from potentially competitive ones. The regulations are representative of the 'light-handed, self-regulating' approach adopted in New Zealand. Essentially, the *Commerce Act 1986* is being relied upon to detect and prevent anti-competitive behaviour in the industry. BellSouth (1997b) claims that application of the *Commerce Act* and regulations has been virtually non-existent. They are highly critical of the light-handed approach, which they believe has permitted abuses of market power by Telecom. "Although the regulatory environment is admirably 'light-handed,' it has been applied to a playing field which was very uneven from the start" (BellSouth, 1997b, p. 4)

Further, they assert that Government has ignored "the uniquely high level of disquiet, conflict, and legal activity in the telecommunications industry" which is symptomatic of a more fundamental problem, namely, that the regulatory environment is not working (BellSouth, 1997b, p.3).

An inquiry into the telecommunications industry by the Commission (CC, 1992c, paragraph 437), presented a pessimistic view of the *Commerce Act's* ability to regulate the market. "The Commission's conclusion is a simple one. The disclosure regulations are of virtually no assistance in removing obstacles to the development of competition in telecommunications. The *Commerce Act* may be some help - but of a protracted, expensive, and uncertain kind, and with definite limitations on its scope."

BellSouth (1997b) agrees that the *Disclosure Regulations* are ineffectual. There is no transparency. Competitors have no idea of the real cost, or even the nominal fee, charged by Telecom's line network division to other parts of Telecom that use the network. In relation to the *Commerce Act*, the Commission concluded that it was not designed to cater for natural monopoly industries such as telecommunications.

The Commission's investigation (CC, 1992c) was motivated by a concern that competition in the telecommunications industry had been slow to develop since deregulation. The Commission

concluded that in the absence of competition, Telecom had become the de facto regulator of the industry. By virtue of Telecom's ownership or control of the important aspects of the market, it was the sole regulator of the market.

Following deregulation, competition has emerged in the industry from several sources. Clear Communications Ltd. (Clear) was launched in May 1991 to compete with Telecom on the national and international toll, leased circuit, and local network service markets. Negotiations between Telecom and Clear over the terms and conditions under which Clear was able to connect to the PSTN were expensive and litigious.

Since Clear's entry into the market, competition in the long distance and international service markets has increased substantially, and is presently quite intense. Clear claims tolls charges have dropped by 50 percent since it entered the market (BellSouth, 1997b). In addition, Clear's market share has grown to around 20 percent (BellSouth, 1997b). Other competitors in this market include Telstra and Global One.

In 1990, the Crown offered for sale three frequency bands, AMPS-A, TACS-A, and TACS-B, suitable for cellular service networks. Prior to the sale, Telecom was the only cellular service operator. In 1987, Telecom began operating this service on the AMPS-B frequency band, using analogue technology. The tendering of frequency bands provided the opportunity for new cellular service networks to be established, and for competition to appear in New Zealand's rapidly growing cellular market.

At the same time as Telecom won the bids for AMPS-A and TACS-B, BellSouth purchased the management rights to the TACS-A frequency band. BellSouth entered the cellular services market in July 1993, in competition with Telecom. BellSouth operates on Global System for Mobile Communication (GSM Digital) technology, while Telecom offers both analogue and digital technology (since December 1992). The third cellular frequency, TACS-B was purchased by Telstra (an Australian telecommunications company) in 1993, but has yet to offer a cellular service on this frequency. TACS-C, is still Government owned.

Telecom boasts 95 percent population coverage, while BellSouth provides coverage to 91 percent of New Zealand's population. BellSouth's market share of total cellphone users is around 13 percent, or 70,000 customers.

A cellphone user may visit one of many dealers selling cellphones nationwide, or one of the four Telecom Approved Service Providers (TASPS) to purchase a handset and connect to the Telecom or BellSouth networks. Most dealers offer a wide range of cellular packages and connect customers to either the Telecom or BellSouth network, depending on customer requirements. Naturally, the TASPS only connect customers to the Telecom network. The role of the TASPS and other dealers is to carry out the sales and billing functions on behalf of Telecom.

Case Before The Commerce Commission

8.3. Telecom AMPS Decision: determined 17 October 1990

The authorisation application before the Commission involved the successful tender by Telecom for the 20 year management rights to the radio frequency spectrum, AMPS-A. At the same time, Telecom won the tender for TACS-B, however, AMPS-A was Telecom's preferred frequency. Telecom already possessed similar rights and usage of AMPS-B, on which it operated an analogue cellular service. The application was declined by the Commission on public benefit grounds. The application was also declined on appeal to the High Court (HC, 1991c), but overturned by the Court of Appeal (CoA, 1992).

In its application to the Commission (CC, 1990b), Telecom claimed that ownership of the management rights to AMPS-A was necessary to "cater for expanding demand," and to "maintain [the] quality of [its] existing service." Without AMPS-A, Telecom claimed that quality would deteriorate, and management of traffic would become more difficult as more users connected to the cellular network. Telecom claimed subscribers would experience a reduction in quality as a result of too many users on the same frequency, and would be forced to cell split, involving installation of a large number of new transmitters, at substantial cost. Cell splitting is not, however, a completely satisfactory solution to the congestion problem because users often experience inter-cell interference. Moreover, the expenditure would largely be wasted once digital technology was adopted in approximately two years time.

Additionally, Telecom argued that AMPS-A would facilitate the orderly introduction of digital cellular technology by Telecom, and was necessary to retain its competitive advantage in the

provision of cellular services, especially once digital technology became available. Without AMPS-A, Telecom claimed it would be locked into outdated technology, and the transition from analogue to digital would be difficult. Digital technology was expected to provide superior quality and greater security than analogue technology. Also, digital technology is cheaper to operate.

Detriments

The acquisition of AMPS-A by Telecom was expected to have anti-competitive consequences, which the Commission concluded outweighed benefits. BellSouth was not expected to enter the market for cellphone services until late 1992, when GSM digital technology became available to the New Zealand market. In fact, BellSouth did not enter until July 1993. Consequently, Telecom enjoyed a period of time, two and a half years, where it possessed a monopoly over cellular services, but knew that a formidable competitor would enter the market in late 1992, with digital technology. This knowledge permitted Telecom to prepare for BellSouth's arrival by strengthening its customer base, aggressively marketing the Telecom network, encouraging the purchase of handsets compatible with AMPS frequencies, and developing digital technology to compete with BellSouth.

Widespread adoption of AMPS compatible handsets was important because handsets were designed for use on either AMPS or TACS frequencies. Cellphone users utilising an AMPS frequency handset cannot transfer to another cellular network utilising a TACS frequency, without purchasing a new handset. In anticipation of BellSouth's entry, Telecom offered various marketing ploys, such as giving away free handsets with each new connection, to encourage greater use of AMPS compatible cellphones. Cellphone users already connected to the Telecom network were unlikely to transfer to BellSouth, as it would involve purchasing a new handset. Thus, acquisition of AMPS-A, in addition to AMPS-B, would prevent low cost switchover of Telecom's current subscribers to a competing network.

It seems a little paradoxical that Telecom was granted clearance to acquire TACS-B, but not AMPS-A. If Telecom were to compete on TACS-B, essentially the same detriments would have resulted, except that cellphone users already connected to a digital network could switch networks with greater ease. Analogue users would still have had to purchase a new handset to obtain digital technology. Conversely, many of the benefits realised as a result of Telecom

owning adjacent bands would not have been available if Telecom operated on TACS-B. Thus, it was more efficient to grant Telecom AMPS-A, not TACS-B.

The growth of cellphone usage could not be forecasted with any certainty. The Commission sought guidance from the rate at which other countries had embraced cellphone use, and the rapid growth rate of cellphone ownership in New Zealand since 1987. At the end of July 1990, Telecom, the only cellular network provider, had approximately 37,000 subscribers, which represented an average of eleven handsets per thousand population. The lowest forecast was in the order of fifty handsets per thousand population by the year 2000, with an upper bound of one-hundred-and-fifty to three-hundred handsets per thousand population.

In light of Telecom's ownership of the PSTN, and the fact that Telecom was, at the time of the decision, the only cellular service provider, the Commission concluded that Telecom already possessed a dominant position in the market for cellular services. In order to assess whether this position would be strengthened as a result of the acquisition, the Commission's investigation centred around the potential for competition in the cellular services market, restrictive contracts between Telecom and the TASPS, availability of transmission sites, and the ability of new entrants to acquire access to the PSTN.

Firstly, Telecom's ownership of AMPS-A, in addition to its ownership of AMPS-B, reduced a new entrant's ability to enter the cellular services market, as each requires access to, or ownership of a frequency band on which it may operate. An example will help illustrate this point. If, for example, one hundred frequency bands were offered for sale, and Telecom already owned one and purchased another, the effect on potential competition would be minimal, as a new entrant would have the opportunity to purchase one of many others. In this case, however, only three frequency bands were offered for sale, one of which was purchased by BellSouth, and the other two by Telecom. Although once Telecom was granted authorisation by the Court of Appeal to acquire AMPS-A, it undertook to sell TACS-B. Because few frequency bands were offered for sale, a new entrant's ability to enter the market was reduced from three available frequency bands, to two (TACS-A and TACS-B or AMPS-A, depending on which band Telecom retained). The Commission noted that while only one other country in the world, Hong Kong, has more than two cellular competitors, cellular service prices in Hong Kong were significantly lower than in other cellular markets.

Secondly, the Commission was concerned that contracts between Telecom and the TASPS, restricted the ability of the TASP to provide retailing services for a network in competition with Telecom. However, the parent of a TASP could set up another subsidiary to provide retailing services for another network. A new entrant would need to establish new service providers (either new dealers or subsidiaries of TASPS) throughout the country or region in which they hoped to compete, to connect customers to their network. The cost of such an exercise would be considerable.

Thirdly, a new entrant would need to acquire sites on which to place transmission and receiving equipment. This process was expected to take at least six to twelve months, and would require significant financial resources. Telecom indicated that co-location of sites with a competitor was prohibited as a matter of policy.

Finally, Telecom's ownership of the PSTN was crucial to the Commission's determination of dominance. The likelihood of entry and ability of a new entrant to successfully compete in the cellular services market depended crucially on their ability to gain access to the PSTN on favourable terms. The Commission believed that information disclosure regulations which govern the terms and conditions under which another cellular service provider interconnects with the PSTN, were insufficient to constrain Telecom's power to impose disadvantageous terms on new entrants.

Having regard to these factors, the Commission concluded that Telecom would strengthen a dominant position in the market for cellular services (voice telephony (mobile)). In order to assess the effect of the strengthening on potential competition - since no competition existed in the cellular services market - the Commission assumed a counterfactual situation in which another competitor acquired AMPS-A, and provided cellular services in competition to Telecom and BellSouth. Potential competition was found to diminish as a result of a reduction in the number of parties potentially able to enter the market, foreclosure of a frequency band, and lost opportunities for price savings resulting from rigorous price competition. Correspondingly, the lack of effective competition in the market was expected to give rise to inefficiencies and thus, any gains would dissipate.

Benefits

Telecom advanced four public benefits expected to flow from the acquisition. They were: efficiency gains from a single operator using both AMPS bands, as compared with separate operators on each band; the avoidance of additional costs; a higher tender price than if another bidder acquired the frequency band; and an increase in tax revenue paid to the Government as Telecom expected to earn greater profits as a result of the acquisition. These will be examined in turn.

Efficiency gains were expected to result from improved traffic management. The net present value of this benefit was estimated at \$38.4 million. Telecom claimed that utilising both AMPS frequency bands was more efficient than two networks competing on AMPS-A and AMPS-B. Telecom claimed it could double capacity through acquiring AMPS-A, and avoid duplication of many of the costs that would be incurred in the counterfactual. Efficiency gains from improved traffic management were estimated at 21 percent for analogue AMPS, and 10 percent for digital AMPS. Ownership of both AMPS-A and AMPS-B was also expected to facilitate the efficient introduction of digital technology. Without the additional spectrum, Telecom claimed that quality would deteriorate as digital was introduced in regions nearing capacity.

Telecom maintained that ownership of the whole band (AMPS-A and B) would avoid additional costs related to cell-splitting, which would be necessary in the counterfactual. Without AMPS-A, capacity limitations would necessitate splitting 'cells.' Cellular telephony operates through a system of cells, each covering a specific geographic area. Each cell has a capacity limit, depending on whether it is operating under analogue or digital technology. Essentially, in urban areas of high density, such as Auckland, Telecom would have to split cells to accommodate more users. Cell splitting deteriorates quality of reception and increases the incidence of disconnections. Finally, cell-splitting involves the installation of new transmitters at substantial cost.

Telecom could use its existing infrastructure to manage additional traffic, thereby spreading overhead costs over greater traffic volumes and thus, lowering costs, while a new competitor would have to duplicate its network structure, including purchasing transmitter sites. This benefit was estimated to have a net present value of \$35.5 million.

It is reasonable to assume that in the counterfactual a new entrant would wait until digital technology became available in 1992, rather than enter using out-dated analogue technology. Thus, Telecom claimed that AMPS-A would be unused from the time of the decision (July 1990) until digital technology became available. Telecom claimed that if were granted authorisation, AMPS-A would be used efficiently during the interim period, and this constituted a benefit.

Two final public benefits claimed by Telecom were afforded no weight by the Commission. Under the tendering process for the sale of the three frequency bands, the highest bidder paid the second highest bidder's price. In relation to AMPS-A, Telecom was the highest bidder at a bid price of \$101,200,000, but paid the second highest bid price of \$11,158,800. In the counterfactual, the second highest bidder would have paid the third highest bidder's price. The difference between the second and third highest bidder's price was \$10 million. Telecom claimed the \$10 million represented a benefit to the Government as a result of Telecom's ownership. In addition, because the tender price affects the price payable by Telecom for AMPS-B, there could have been a further \$5 million dollar loss to the Government. The Commission concluded that the price paid for the frequency was irrelevant, since consideration payable is believed to equal its value, otherwise the transaction would not take place.

Finally, Telecom claimed that efficiency gains and cost reductions expected to result from the acquisition would increase profits and taxation expense payable to the Government. This was not accepted as a benefit to the public by the Commission.

The Commission declined to grant authorisation for Telecom to acquire AMPS-A on the grounds that the detriment expected to arise from Telecom's strengthening of dominance in the cellular services (voice telephony (mobile)) market outweighed the public benefits flowing from the acquisition. In light of New Zealander's small shareholding in Telecom, the Commission concluded that New Zealand was not expected to benefit greatly from efficiency gains and cost savings expected to result from the acquisition. Conversely, detriments identified were likely to affect a large portion of New Zealanders, by an appreciable amount, over a period of some years. In addition, the Commission did not expect efficiencies and cost savings to benefit the New Zealand public to any more than a minimal extent. Thus, the Commission's evaluation was largely based on distributional issues, which would not now be accepted by the Commission.

The High Court (HC, 1991c) dismissed Telecom's appeal for the acquisition of AMPS-A, although their reasoning differed a little. It concluded that the Commission had set too high a standard of probability for its assessment of likely strengthening of dominance. Further, they rejected the Commission's discounting of benefits on account of the small proportion of New Zealand ownership, but agreed with the Commission that benefits should be discounted by the likelihood of enhanced propensity for internal inefficiency by Telecom as a result of the strengthening of dominance.

The Court of Appeal (CoA, 1992) reversed the decision of the lower Court. Two of the five judges did not agree with the Commission's finding of strengthening of dominance, considering that the dominance standard observed by the Commission and the High Court was set too low. However, all agreed that benefits expected to accrue from the acquisition warranted authorisation. The Court of Appeal was in a better position to make a judgment as to the future state of competition in the cellular services market because two years had elapsed since the Commission declined to grant authorisation. BellSouth was poised to enter the market, and had acquired interconnection to the PSTN.

8.3.1. Survey Results - Telecom AMPS decision

Telecom's acquisition of AMPS-A has been more successful than anticipated according to Andrew Webster, Solicitor, at Telecom. "Because the infrastructure costs have been minimised through the use of AMPS-A, in addition to the incumbency in AMPS-B, Telecom has been able to maintain continued price reductions which, when coupled with higher than expected demand, has led to substantial coverage being provided in terms of both geographic area and intensity of coverage in the urban areas."

Telecom introduced digital technology in December 1992 as planned, while BellSouth was not able to introduce GSM technology until July 1993, seven months later than envisaged. Mr Webster stated that "digital AMPS was introduced early in New Zealand by Telecom because there was doubt about the availability of AMPS-A. If we had known we had secured AMPS-A, it is likely that the introduction of digital AMPS would have been delayed by 12-18 months."

If Telecom operated in a competitive market at the time of the decision, rivalry with competing networks would have necessitated the early introduction of digital technology. Because Telecom

was the only cellular services provider, it was in a position to defer its introduction. Such behaviour is characteristic of dominant firms, or those operating in a market with less than effective competition. If Telecom had deferred the introduction of digital technology, dynamic efficiencies would have dissipated.

One critical factor in the Commission's assessment of competition was Telecom's ownership of the PSTN. Access to the PSTN on favourable terms was essential to the success of a new entrant to the market. Ahdar (1995) noted that BellSouth had announced its dissatisfaction with aspects of its November 1993 interconnection agreement with Telecom.

BellSouth made the following comments in relation to the ease with which it acquired access to the PSTN (BellSouth, 1997b, pp. 7,8).

Despite its claim not to place any barriers in the way of interconnection, Telecom played hard ball right from the start when setting up interconnection agreements with Clear, and later BellSouth, Telstra, and others. The rate at which it wanted to charge for calls to connect in to or out of the Telecom network from these networks was often more than normal businesses would pay to make calls using Telecom. In fact, New Zealand's (i.e. Telecom's) interconnection rates have consistently been among the highest in the OECD.

Further, BellSouth claims that recent negotiations for interconnection have been bogged down with long delays and counter-proposals (Bellouth, 1997b). These comments indicate that the Commission was right to be concerned with regard to Telecom's ownership of the PSTN and the ability of new entrants to obtain access on favourable terms.

Uncertainty as to the future of the cellular services market created significant difficulties for the Commission and the applicants with regard to competitive detriment and benefit. Cellular services had been available in New Zealand for only three years at the time of the decision, and so there were countless unknowns. One such unknown was the rate of growth of the demand for cellphones in New Zealand. Estimates of anticipated growth ranged from fifty handsets per thousand population, to between one hundred-and-fifty and three hundred handsets per thousand population by the year 2000. According to Mr Webster, these forecasts were vastly understated. Table 8.1 below, shows the density of cellphone use in 1997 to be one hundred and fifty-nine handsets per thousand population. BellSouth was not prepared to supply data related to the number of subscribers connected to its network over the period, and Telecom did not have New Zealand figures available. Thus, the number of subscribers in the Table 8.1 below relates only to

Telecom subscribers, while density of cellphone use relates to all users connected to any network.

Table 8.1 Density of Cellphone Use in New Zealand and Number of Subscriber Connected to the Telecom Cellular Network 1990 - 1997.

Year End	Density of Cellphone Use (number of handsets per 1000 population)	Number of Subscribers Connected to Telecom
1990	14.6	
1991	19.4	54,000
1992	26.5	72,000
1993	40.4	100,000
1994	64.0	144,000
1995	101	229,000
1996	128	340,000
1997	159	423,000

Source: Telecom Annual Reports, 1990 - 1997, supplied by Mr Webster.

Table 8.1 reveals that the number of cellphone subscribers connected to the Telecom network has grown by 683 percent over the period 1991-1997. This is substantially greater than growth rate predictions used by Bollard (1990), on behalf of Telecom, in his assessment of public benefits arising from Telecom's acquisition of AMPS-A. Bollard (1990) estimated the net present value of benefits to the public ensuing from Telecom's ownership of AMPS-A to be in excess of \$67 million. These estimates were based on the assumption that there would be 300,000 cellphone subscribers in New Zealand by the year 2000. Table 8.1 shows that there are over 420,000 subscribers connected to Telecom alone, and this is expected to grow before the year 2000. The rapid rate of growth of cellphone use reflects the extremely dynamic nature of the industry and the market.

Because the public benefits estimated were based on underestimated growth rates, Bollard's (1990) estimates of public benefits ensuing from Telecom's acquisition of AMPS-A are also underestimated. It means also, that forecasts of the counterfactual were incorrect, since these were also based on market growth of 300,000 users by the year 2000.

The market shares of Telecom and BellSouth are also significantly different to those predicted at the time of the decision. Bollard (1990) predicted that Telecom would retain 60 percent of the market, while BellSouth would acquire 40 percent. Telecom's market share of all cellphone users is around 87 percent, while BellSouth controls the remaining 13 percent. Thus, BellSouth has not gained market share in New Zealand as anticipated. BellSouth did not provide an explanation for

their inability to gain market share, however, their response to the question was to provide a report (BellSouth, 1997b) outlining the difficulties they had experienced with Telecom since entering the New Zealand market. This would imply that BellSouth's poorer than expected performance is directly correlated to Telecom's behaviour in the cellular services market. If so, the detriment from lessening of competition was underestimated.

The main benefits accepted by the Commission in relation to Telecom's acquisition of AMPS-A may be summarised as:

1. Improved traffic management,
2. Avoidance of additional costs

The extent to which these benefits have been achieved are examined in turn.

Improved Traffic Management

Mr Webster claimed that economies of scope have been acquired by Telecom in relation to efficiency of spectrum management. Efficiency of spectrum management is measured using billable minutes per month, per voice channel. If the available spectrum is limited, the network is arranged using many 'small' sites, whereas, if the available spectrum is larger, fewer sites are used with a larger number of channels. According to Mr Webster, greater spectrum allocation allows up to 22 percent more traffic per channel. That is, each frequency is more heavily used. Telecom's "network currently carries 6,000 billable minutes per month, per voice channel. This compares to some of the larger North American markets of 4,000 to 5,000 billable minutes." Mr Webster's comparison with North American markets must be viewed in light of the geographic size of the market, and the number of users. Thus, the comparison may not be appropriate.

Mr Webster asserted that improvements to spectrum management would not have been achieved to the same extent without the acquisition of AMPS-A:

1. *Because of the need to use more sites, each with a smaller group of channels, in a less efficient traffic group;*
2. *Because of the need to introduce digital cellular services, we would have had to further reduce the size of the channel blocks (we had to do this anyway, but started with a larger block size); and,*
3. *We have also been able to introduce CDPD - a new cellular data service, in the same block of spectrum. This service could not have been introduced within a single AMPS band without significant service degradation.*

Although Telecom claimed spectrum management has improved as a result of the acquisition, in its application to the Commission, Bollard (1990) stated that in the counterfactual, even greater spectrum management would have been required. "Two networks operating in the AMPS bands [would] require a level of spectrum management which is unnecessary if both blocks are used by one operator alone." Thus, one could assume that spectrum management would have been more efficient in the counterfactual, by virtue of Telecom having less spectrum available.

Furthermore, one must question Telecom's necessity for additional spectrum given that careful planning and cell splitting in other countries has resulted in higher usage and less spectrum.

Avoidance Of Additional Costs

Telecom claimed that its ownership of AMPS-A would avoid additional costs that would not be required in the counterfactual. Namely, costs of cell-splitting would not be incurred because Telecom would be able to use its existing infrastructure. In the counterfactual, cell-splitting would be necessary to accommodate additional users in urban areas where congestion problems are most likely. A competitor would need to duplicate transmitting sites and other associated exchanges and interconnecting networks. Ownership of AMPS-A by Telecom would require an additional investment of around \$40 million, while a new entrant's investment would be around \$100 million. The net present value of this benefit was estimated to be \$35.5 million.

Market growth has necessitated investment by Telecom in transmitter sites, but this investment would have been substantially larger if a competitor had acquired AMPS-A. Mr Webster estimated that expenditure on cell-splitting in the counterfactual would have been \$200 million more over the period 1990-1997. This may be compared to Bollard's (1990) estimate of (npv) \$35.5 million.

Table 8.2 below shows the number of transmitter sites owned by Telecom and expenditure by Telecom on cell-splitting over the period 1990-1997. By comparison, BellSouth's network had 370 transmission sites at the end of 1997 (BellSouth, 1997b).

Table 8.2 Number of Transmitter Sites Owned by Telecom and Expenditure by Telecom on Cell-Splitting over the period 1990-1997

Year	Number of Transmitter Sites	Expenditure on Cell-Splitting (\$)
1990	67	25
1991	130	45
1992	159	25
1993	189	25
1994	227	25
1995	338	50
1996	440	50
1997	520	50

Source: Andrew Webster, Telecom. Note that figures quoted for expenditure on cell-splitting are rough estimates.

Table 8.2 reveals that investment in cell-splitting has been significantly greater than anticipated at the time of the decision, as a result of market growth. Assuming a third competitor would have had to invest as extensively as BellSouth and Telecom, the avoidance of cell-splitting costs were grossly underestimated.

Other Benefits

In addition to the avoidance of duplication of transmitter sites, Telecom's ownership of AMPS-A was expected to avoid a drop in the level of service and quality during the period of migration from analogue to digital technology, thereby freeing up resources for use elsewhere. Telecom has no specific measure of network quality, however, it has introduced a number of new services as a result of efficiency gains. Mr Webster claimed a number of other benefits have been passed on to consumers, including: a larger range of calling plans; additional features; a reduction in handset costs; greater coverage at the same per minute and access charges; the introduction of dual mode technology, allowing the user the best of analogue and digital technology; and reduced airtime charges.

Moreover, he asserted that cost savings have been passed on to cellphone subscribers connected to the Telecom network. Data contained in Table 8.3 below supports this contention. A comparison of average monthly access charges in 1990 and 1997 reveals a decline of 41 percent. Similarly, average monthly airtime charges have declined 38 percent.

Table 8.3 A Comparison of Average Monthly Access Charges And Average Monthly Airtime Charges in 1990 and 1997.

Year	Average Monthly Access Charge	Average Monthly Airtime Charge (cents per minute)
1990	\$65.00	69c
1997	\$38.50	43c

Source: Supplied by Mr Webster, Telecom, 1997.

These cost savings and additional benefits which Telecom claims to have been passed on to consumers must be viewed in light of what might reasonably have been expected to occur if the application had been declined, given information currently available. It is likely that competition in the counterfactual may have been significantly more intense. If so, consumer prices may have been lower than cellphone users currently pay. In addition, incentives to develop new technology and enhance quality and service would have been considerably greater. BellSouth (1997b, p. 7) asserts that “New Zealand telephony prices consistently rank among the highest in the OECD, and productivity and customer satisfaction levels for Telecom have plateaued and in some areas, even dropped, over the past few years.”

The Hong Kong experience would support the contention that greater competition brings about lower prices. Cellular service prices in Hong Kong, where there are more than two competing networks, are much lower than other countries. At the time of the decision, the Commission concluded that price competition between three parties was likely to be more rigorous than two competitors, since cooperation is more probable the fewer the number of industry participants. Application of the Hong Kong experience to New Zealand would seem inappropriate given the size of the New Zealand market compared to Hong Kong, and the considerable infrastructure costs required to set up a new network. It is unlikely that New Zealand’s demand for cellular services could profitably sustain more than two competing networks. It is worth noting that Telstra could potentially enter the cellular services market given its ownership of the TACS-B frequency band, but has chosen not to.

8.4. Conclusions

Deregulation in the telecommunications market and the emergence of competition over the past decade, has brought about a period of rapid change and has seen the transformation of Telecom

from part of a Government trading department to a State Owned Enterprise, and finally to a private company. Competition from Clear Communications, BellSouth, and others, has brought about significant internal changes, including rationalisation and restructuring, in order to make Telecom more efficient and responsive in the face of competition.

Telecom claimed that it needed to acquire the AMPS-A frequency to retain its competitive advantage in the cellular services market following the entry of BellSouth, and introduction of digital technology. Authorisation for the acquisition was not granted by the Commission, nor was Telecom successful in the High Court. The Court of Appeal concluded that “quite intense competition” in the cellular services market would soon develop. Accordingly, the acquisition was permitted.

The level of competition in the cellular services market envisaged by the Court of Appeal took longer than expected to materialise, and has not been as intense as anticipated. BellSouth has not gained the level of market share predicted, and BellSouth’s coverage is not as extensive as Telecom’s. Comments by BellSouth representatives and statements to the press, indicate that BellSouth has experienced some difficulty in relation to Telecom’s ownership of the PSTN and incumbency in the market. This is likely to be a contributing factor in BellSouth’s poorer than expected performance.

BellSouth’s claims of anti-competitive behaviour by Telecom tend to suggest that detriments anticipated by the Commission, such as: no downward pressure on price, no stimulus for innovation, limited growth, and limited consumer choice, have eventuated as a result of Telecom’s strengthening of dominance. Although Telecom claims that it has kept prices low, introduced digital technology, and countless other new services, these benefits may have been greater in the counterfactual.

Cost savings and efficiencies expected to flow from the acquisition have been achieved, and have been larger than expected, since growth in the market for cellular services has been far greater than anticipated. However, it is impossible to say whether these would have been even greater in the counterfactual, stimulated by competition from a third party.

A causal link between efficiency gains and other cost savings, and the acquisition of AMPS-A is not clear. Competition from BellSouth in cellular services is likely to have had a significant

impact on these factors. Other internal and external factors may have also had a considerable effect on Telecom's achievements.

9. Summary and Conclusions

The aim of this research is to examine the practicality of the public benefit test to authorise anti-competitive business acquisitions and trade practices in New Zealand, and to establish whether those applicants granted authorisation successfully achieved the public benefits claimed, compared to what might reasonably have been expected had authorisation been declined. The public benefit test is a procedure implicit in the *Commerce Act 1986* to authorise business acquisitions and restrictive trade practices which breach anti-competitive thresholds, where the Commission is satisfied that the benefits flowing from the acquisition or trade practice outweigh the detriments resulting from reduced competition.

The primary motive for conducting a study such as this, is the need to check whether Government and regulatory authorities are making every endeavour to ensure that the laws they promote and enforce are effective. That is, laws must achieve the goals for which they were designed. In this study, the role of the Commission is to monitor and enforce the conditions and terms set out in the *Commerce Act 1986*, which are designed to promote competition while having regard to economic efficiency, and to prevent abuses of market power. The consequences of erroneous decisions by the Commission, or of an inappropriate competition policy, are potentially large. This study is therefore performing an unfulfilled obligation of the Government and its affiliated bodies, to be accountable for their actions.

The approach adopted is a comparison of the expected benefits and detriments flowing from a number of authorised acquisitions and restrictive trade practices, put forward by the parties and accepted by the Commission, at the time of the Commission's determination, with actual achievements. In addition, the research attempts to compare actual results with those likely to have been achieved in the counterfactual, as the formation of the counterfactual is a critical step in the original analysis of benefits and detriments by the Commission.

The case study approach is the most appropriate investigation method given the unique circumstances surrounding each authorisation. It permits an in-depth analysis of a wide range of factors particular to each case, and to the industry setting, and allows the researcher to custom surveys to suit individual cases. Moreover, authorisations are uncommon, and informational difficulties are rife in such studies. Hence, other investigation methods had to be disregarded.

Questionnaires and informal interviews with company representatives are the primary source of information in this research.

Nine authorisations, involving four industries: meat processing, dairy processing, natural gas, and telecommunications, formed the basis of the study. These satisfied a set of criteria developed to identify those authorisations determined under the 1986 Act, and before 1996, whose benefits could be assessed in hindsight.

Efficiency effects resulting from merger are paramount in the authorisation process. A business acquisition or restrictive trade practice which reduces competition leads to a poorer allocation of resources, as the absence of competition permits the firm to increase price and lower quantity and quality without suffering any loss of profitability. The acquisition or trade practice may, however, also bring about productive and dynamic efficiency gains not possible without authorisation. The public benefit test seeks to weigh these opposing efficiency effects.

The Williamson merger tradeoff model (Williamson, 1968, 1977) provides the framework within which to identify and balance efficiency gains and losses from merger and restrictive trade practices. The model's implications provide valuable insight into the implications of individual cases and competition policy. Severe operational difficulties limit application of the model to antitrust cases, and prevent its use in this study.

A number of conclusions may be drawn from the research. Firstly, many of the respondents held, that the competitive mechanism would have brought about the same result as that which has occurred, but would have caused greater distress to the firms involved, suppliers, customers, and the industry. That is, in the main, the acquisition or restrictive trade practice was not responsible for the realisation of efficiency gains and other benefits, but rather, it facilitated their actualisation and advanced the pace at which they were achieved.

If the competitive mechanism would eventually have brought about the same outcome as that which has eventuated, one must question whether the authorisation process is really required at all in these cases. Ignoring for the present, the Telecom AMPS-A decision (CC, 1990b) - which the Commission did not authorise - it appears that none of the mergers or restrictive trade practices have significantly lessened competition, or led to the use of market power to the detriment of competitors, customers, suppliers, or other industries. Thus, in hindsight, these

mergers or restrictive trade practices did not require the application of the public benefit test. The implication of this is that the anti-competitive threshold set out in the *Commerce Act* seems to be too low. This refutes Greer's (1988) argument in relation to business acquisitions, that New Zealand's standard for determining dominance is too lenient.

As a consequence of the anti-competitive standard being too low, some potentially beneficial mergers and restrictive trade practices may be declined by the Commission, unnecessarily. The cost to society of not allowing potentially efficiency enhancing mergers or practices is potentially enormous, since efficiency gains significantly affect economic growth. Certainly, if the anti-competitive threshold applied by the Commission is too low, then some policy adjustment is required to rectify this problem. In fact, the High Court and the Court of Appeal have repeatedly criticised the Commission for applying too low a standard of dominance in relation to merger applications. In addition, a more lenient anti-competitive policy would reduce the amount of resources required by the Commission, since ordinarily, clearances are less expensive than authorisations.

The present standard of dominance is however, not far short of pure monopoly. According to Bollard *et al* (1997), the actual standard applied by the Commission is 70 percent market share, plus high entry barriers. With no public benefit test applied to authorisations above this threshold, the potential for anti-competitive behaviour is real, and the costs to society enormous. Especially for instance which applications which offer little or no prospect of efficiency benefits. Further research as to the appropriate threshold for dominance is required.

Providing that merger or restrictive trade practice merely speeds up the realisation of efficiency gains and other benefits, and that competition has not been significantly lessened in those authorisations granted by the Commission, the role of the Commission ought to be limited to facilitating the smooth adjustment of markets, rather than interfering in this process, and hindering the natural transition process. It appears that each of the applications were attempts by industry participants to restore equilibrium in the market, in response to some form of market failure, which was caused in most cases by regulation. In relation to the two meat industry cases, the processors were attempting to remove excess capacity caused by structural problems in the market. In ACMP NZDG case, NZDG was trying to align distorted town and manufacturing milk prices. Each of the other applications for merger were motivated by a need to prepare for competition in the deregulated market.

It is now appropriate to reconsider the behaviour of Telecom in the cellular services market following authorisation to acquire AMPS-A in the Court of Appeal (CoA, 1992). All competitors in the telecommunications market have protested against Telecom's hostile conduct to prevent and hinder their performance. BellSouth alluded to these problems in its 1997 Report (1997b). These detriments must be weighed against considerable benefits which have also flowed from Telecom's ownership of the AMPS-A band. In particular, benefits ensuing from economies of scale and scope were grossly underestimated at the time of the decision. Of importance to this authorisation is the counterfactual. Given Telstra's non-entry into the cellular services market, despite cellular frequency, one may conclude that a third competitor would not have entered in competition to BellSouth and Telecom. This is plausible, given New Zealand's market size.

Secondly, the research reveals that it is very difficult, if not impossible, to establish a causal link between the efficiency gains and other benefits realised, and the merger or restrictive trade practice. All of the industries examined in this research, have experienced a period of rapid change over the period of investigation. A number of internal and external factors have significantly influenced the operations of each of the companies granted authorisation. Deregulation has been the single most important, and consequential of these changes. In every case, competition between rivals has been the most important influence on the extent to which efficiency gains and other benefits have been realised, more important than the authorisation itself.

Thirdly, the research shows that the multitude of factors which affect a firm's ability to achieve efficiency gains and other benefits claimed, considerably reduces the Commission's ability to accurately predict which mergers or restrictive trade practices will be successful, and which will not. The poor ability of the public benefit test to predict the future brings into question its usefulness as a major competition policy tool.

For example, the cost savings and benefits expected to flow from the authorisation of the Whakatu/Advanced closures (CC, 1987b) were overestimated by the applicants, as they underestimated the decline in stock numbers, and overstated the industry's willingness and ability to reduce capacity. The benefits claimed to the Commission in relation to the joint venture to set up Natural Gas Waikato (CC, 1988b) were also grossly overestimated by the applicants. Cost savings expected to result from the joint venture were not realised, because inaccurate information was used, and debt servicing costs were significantly higher than expected. At the

other end of the range is Telecom's acquisition of AMPS-A frequency band, although this was not authorised by the Commission (CC, 1990b), on the grounds that detriments outweighed benefits, efficiency gains and cost savings were underestimated by the applicants. Forecasts of market growth, upon which benefits were estimated, were considerably larger than anticipated. All of the cases not singled out, fell somewhere on the continuum between these two extremes. Some of the benefits were achieved, while some were not.

Although the Commission has tended to take an overly pessimistic view of companies' behaviour post-authorisation, the evidence in this research appears to suggest that the Commission has had a better record with respect to predicting the extent to which the merger or restrictive trade practice will lessen competition, than predicting the achievement of benefits. Indeed, the Commission assumed correctly that new entrants to the telecommunications industry would have significant difficulty in obtaining interconnection to the PSTN on favourable terms.

This research reveals that most of the detriments anticipated by the Commission to arise as a result of the merger or restrictive trade practice, did not eventuate. In the case of the merger between NZDG and Waikato Valley, the Commission underestimated the market's ability to restore competitive equilibrium in the deregulated environment. Competition in the domestic market, the increase in countervailing power of supermarkets, and the cooperative structure of the company has prevented the use of market power by the merged entity. With the benefit of hindsight, the Commission is likely to have authorised the application.

Indeed, competition was largely responsible for the inability of firms to exert market power, as rivalry emerged between industry participants, and in many cases, new entry intensified rivalry. Thus, the Commission was reluctant to put faith in deregulation to bring about the emergence of competition, and in competition, to regulate the market.

Additionally, the Commission pronounced its unwillingness to rely on the *Commerce Act* and other legislation aimed at self-regulating the market, to prevent and deter anti-competitive behaviour, in its investigation into the telecommunications industry (CC, 1992c). If the Commission is disinclined to put faith in these statutes, then New Zealanders cannot be expected to either.

Information asymmetries plague the Commission's evaluation of benefits, since the applicants possess information not available to the Commission. The parties to merger also have available information as to their true intentions. They have an incentive to behave opportunistically by providing information selectively to the Commission. The Commission tries to offset this asymmetry by obtaining information from other sources, including competitors.

The information asymmetry problem is not as evident in relation to the Commission's evaluation of detriments. The Commission's enhanced ability to predict somewhat more accurately, the extent and likelihood of detriment arising as a result of authorisation would suggest that this ought to be the focus of the Commission. Presently the Commission attempts also to forecast the magnitude and probability of benefits, based on potentially biased information, and an inability to provide concrete evidence either in support or refutation of claims, since any prediction of the future is subjective.

A tremendous amount of resources are used by the Commission annually to conduct their duties required under the Act. Each application for clearance or authorisation demands staff time and resources to investigate all the relevant issues. Perhaps the promotion of competition - the stated aim of the Act - would be more effectively achieved by devoting these resources to ensuring open and easy access to markets, as this would limit the ability of companies to take advantage of market power. Further research would help identify the role of antitrust authorities in relation to this task. For example, resources could be committed to providing greater information disclosure, so as to ensure firms behave competitively, or to monitoring and enforcement.

In addition to the Commission's resources, the parties to an application spend a great deal of time and effort preparing submissions and lobbying the Commission and other political avenues, to obtain support for their application. The registration fee paid to the Commission for an application for authorisation is in the order of \$20,000 (CC, 1992b), while consultants' fees may well be in excess of \$350,000 (CC, 1991), and this does not take into account employees' time and effort.

In consideration of the poor predictability of the public benefit test, a number of alternatives have been posed. Brodley (1996) suggested a two-stage approach which essentially applies a public benefit test at the time of authorisation, and an ex-post inquiry three to five years after authorisation, to assess the extent to which efficiency gains and other benefits were achieved.

The two-stage approach would require considerable resources to conduct an ex-post assessment, but, given the rarity of authorisations in New Zealand, this may be an unavoidable problem. A number of other problems arise in relation to the two-stage approach. Namely, all the difficulties experienced with applying the public benefit test ex-ante would arise in the ex-post review also. Moreover, antitrust authorities would face a dilemma over what action to take in cases where efficiency gains and other benefits have not been achieved. Restoring competition in the market is unlikely to be a satisfactory alternative, yet the threat of intervention in the event of failure, must be genuine for companies to make an honest attempt at achieving gains.

What is essentially missing from New Zealand's competition policy is the incentive for companies granted authorisation to ensure efficiency gains and other benefits are achieved, in the absence of effective competition. The two-stage approach would provide this impetus, as the threat of intervention in the event of failure is likely to be sufficient to encourage the implementation of programmes to effect the realisation of benefits. Additional research to identify measures which would provide the incentive for companies granted authorisation to take steps to achieve efficiency gains and other benefits claimed, would be most advantageous, and would may offer solutions to the primary weakness of the public benefit test.

Other alternatives suggested are not appropriate for New Zealand as they involve adopting a competition policy closer to the competition goal espoused by SCP proponents. As mentioned in previous chapters, New Zealand's small economy favours an efficiency objective as gains from economies of scale are likely to be large. This research also reveals that market power effects have, in most cases, not eventuated.

Having discussed the major conclusions of the research, it is necessary to consider the strengths and weaknesses of the methodology used. Firstly the case study approach was accepted as the most appropriate investigation procedure because it permits flexibility. The advantage of being able to customise questionnaires and interviews to suit each case was also its major disadvantage, as uniformity was compromised and bias introduced.

Secondly, informational difficulties played a major role in the choice of investigation method adopted, and the validity of conclusions drawn. Of the 27 companies approached, 10 applicants to authorisation declined to participate in the study, thereby introducing bias. An asymmetry may have been included in the results since companies are likely to be more willing to participate

when the gains have been achieved, and less willing when they have not. In addition, industry participants that did participate may have supplied information which supported their claims of benefits being achieved, or not achieved. Industry participants not party to applications for authorisation were approached to verify statements by company representatives surveyed, however, much of the data supplied by the companies often could not be verified. In addition, given the commercially sensitive nature of the information requested, few were willing to disclose such information to third parties.

While financial information supplied some indication of efficiency gains and other benefits, annual accounts are generally presented for the whole entity rather than the product or service division for which authorisation was granted. Thus, gains, or lack of them may be disguised. Many of the companies questioned produce a number of goods and services, and operate in a several markets, in New Zealand, and overseas. It is very difficult to independently measure efficiency gains and losses in multi-product firms as the interrelations between different departments and subsidiaries is often unclear. The operations of town milk at NZDG, and cellular services at Telecom, are examples of relatively small divisions within larger companies, where it is difficult for an outsider to evaluate performance. Only those with a great deal of information about the company would be able to identify well performing and poorly performing divisions within the entity.

Furthermore, many of the problems associated with application of the tradeoff model were also experienced by the researcher. The causal link between the merger or restrictive trade practice and the achievement of benefits was not always clear, as a number of other internal and external factors were also involved. Moreover, in many cases, the counterfactual was no better known ex-post than it was prior to merger. Thus, even where a causal link was able to be identified, one is unable to compare the extent to which efficiency gains and other benefits have been achieved, and the timing of such gains, with those that would have been achieved in the counterfactual.

Finally, in the case of business acquisitions, the public benefit test is applied only to those arrangements believed to create or strengthen a position of dominance in a market. Thus, many companies granted authorisation by the Commission already possess pre-existing market power. This may have significantly distorted price and quantity effects post-merger, and complicates ex-post assessment, since one cannot discern whether market power effects or merger is responsible for efficiency gains and other benefits.

In conclusion, further research to establish the appropriate role for the Commission in competition policy, in particular, in relation to the public benefit test, would be most useful. As more authorisations are granted by the Commission, more exhaustive research into the extent to which merger or trade practices lead to the realisation of efficiency gains and other benefits will be possible. Specifically, a study comparing cost data of companies granted authorisation in New Zealand under the 1986 Act would provide more conclusive evidence of the extent to which companies have succeeded in achieving benefits claimed. Even a case study approach which takes an in-depth analysis of costs before and after authorisation to support or refute claims of efficiency gains, cost reductions, and other benefits would make a valuable contribution to the evidence. Availability of information, and the number of authorisations granted, limits the application of these types of study at present.

10. Appendices

10.1. Appendix I: Authorisations Determined By The Commerce

Commission Under The 1986 Act, Through To December 31, 1996.

Decision number	Date determined	Applicants	Authorised / Declined	RTP / BA	Accompanying notes
199	07.05.87	NZ Forest Products/UEB Industries	Declined	BA	
201	12.05.87	Goodman Fielder/Wattie	Declined	BA	
205	22.07.87	Weddel, Waitaki, Richmonds	Authorised	RTP	
206	29.07.87	NZ Veg Growers	Declined		Collective Pricing Agreement
208	21.08.87	AMCO/NZ Forest Products	Declined	BA	
213	05.11.87	FCL	Declined	BA	
215	22.03.88	Brierley/Petroleum Corp	Declined	BA	
216	26.04.88	NZDG/ACMP	Authorised	BA	
217	24.05.88	NGC/HCC	Authorised	BA	
221	15.09.88	NZ Kiwifruit Growers	Authorised	RTP	Collective Pricing Agreement
223	15.12.88	Life Underwriters	Declined	RTP	
224	24.02.89	Tasman Forestry	Declined	BA	
225	04.04.89	Fisher & Paykel	Declined	RTP	
227	21.03.89	Elders NZFP	Declined	BA	
228	05.04.89	Carter Holt	Declined	BA	
231	10.05.89	NZ Stock Exchange		RTP	Check this: D/A
232	10.05.89	NZ Stock Exchange		RTP	Check this
233	16.06.89	Petroleum Corp/ NZ Synthetic Fuels/NZ Liquid Fuels	Declined	BA	
238	13.09.89	Kiwifruit Growers	Declined	RTP	Revokation of 221
242	14.12.89	Speedway Control	Declined	RTP	
247	03.05.90	South Pacific Tyres	Declined		Check this
254	17.10.90	Telecom AMPS-A	Declined	BA	Appealed to the High Court-upheld, authorised by the Court of Appeal
263	14.03.91	NZ Grape Growers	Declined	RTP	
264	23.05.91	NZDG/Waikato Valley	Declined	BA	Appealed to the High Court and subsequently authorised

Decision number	Date determined	Applicants	Authorised / Declined	RTP / BA	Accompanying notes
265	24.05.91	Hoyts/Pacer	Declined	BA	
267	09.04.92	Kiwi/Moa-Nui	Authorised	BA	
269	29.10.92	NGC/Wanganui DC	Authorised	BA	
270	22.11.93	NGC/Enerco	Declined	BA	
271	21.12.93	Sydney Futures Exchange	Authorised	RTP	
272	22.12.93	Enerco/Progas	Authorised	BA	
273	02.02.95	Weddel Closures	Authorised	RTP	
274	31.07.95	Sydney Futures Exchange	Authorised	RTP	
275	01.08.95	Midland Health	Declined	RTP	Later granted clearance
277	30.01.96	Electricity Corp/Contact	Declined	RTP	
278	03.04.96	Air NZ/Ansett	Declined	BA	
279	21.06.96	Ravensdown	Declined	BA	
281	17.12.96	NZ Rugby Football	Authorised	RTP	

10.2. Appendix II: Sample Questionnaire : Completed By Telecom Corporation of New Zealand

Public benefits

The public benefits claimed in Commerce Commission Decision Number 254 (acquisition of AMPS-A frequency band), were:

1. Economies of scope gained through improved spectrum management (estimated net present value (NPV) of cost savings attributable to this benefit \$38m)
2. Economies of scale (estimated net present value (NPV) of cost savings attributable to this benefit \$36m)
3. Improved returns to shareholders (estimated net present value (NPV) attributable to this benefit \$27m)
4. Tender price paid to Government greater if Telecom purchases AMPS-A (estimated net present value (NPV) attributable to this benefit \$15m)
5. Increased tax revenue paid to Government if Telecom purchases AMPS-A (estimated net present value (NPV) attributable to this benefit \$10m)
6. Dynamic efficiencies (incalculable benefit)

1. Do you accept this as a fair summary of the benefits claimed at the time of the decision?
Yes / No _____

Do you have any further comments about the Commission's evaluation?

3. Has the actual outcome been more or less successful than anticipated?
More successful / Less successful _____

4. Please explain why the actual outcome has been more or less successful than anticipated.

In any cases where the information desired is held in annual reports or other documentation provided, feel free to refer me to the appropriate document rather than filling in the information manually.

The Counterfactual

5. What would have happened to the AMPS-A band and the cellphone industry if the acquisition had not been authorised?

Ownership	
Operation	
Competition in the market	
Market share	
Costs	
Sales	
Profitability	
Role of Telecom	

Economies of Scope

In submissions to the Commerce Commission, Telecom claimed that acquisition of AMPS-A would improve efficiency of spectrum management by 21 – 25% for analogue and 10% for digital.

6. How does Telecom measure efficiency of spectrum management?

7. Has Telecom improved spectrum management?

Yes / No _____

8. If yes, how has Telecom improved spectrum management?

9. Would improvements in spectrum management have been achieved to the same extent if Telecom had not acquired AMPS-A?

Yes / No _____

Why / Why not?

15. What problems / delays, if any, would Telecom have experienced in the introduction of digital AMPS if the acquisition of AMPS-A had not been authorised?

16. Telecom's market share of analogue and digital (dual mode) subscribers in New Zealand over the period 1990 - 1997 has been equal to:

Year	Market share of analogue subscribers	Market share of digital subscribers
1990	%	%
1991	%	%
1992	%	%
1993	%	%
1994	%	%
1995	%	%
1996	%	%
1997	%	%

17. Would Telecom's market share of total cellphone users have been significantly different if the acquisition had not been authorised?

Yes / No _____
How so?

18. How many cellphone users subscribed to the Telecom network 1990 - 1997? What proportion of those used digital (dual mode)?

Year	Number of subscribers	Proportion using digital
1990		%
1991		%
1992		%
1993		%
1994		%
1995		%
1996		%
1997		%
Projected 1998		%
Projected 1999		%
Projected 2000		%

19. Would the number of cellphone users connected to the Telecom network and the number using digital (dual mode) have been significantly different if the acquisition had not been authorised?
 Yes / No _____

How so?

20. The density of cellphone users in New Zealand (connected to any network) is equal to:

Year	Density of cellphone users (number of handsets per thousand population)
1990	_____ Handsets per 1000 population
1991	_____ Handsets per 1000 population
1992	_____ Handsets per 1000 population
1993	_____ Handsets per 1000 population
1994	_____ Handsets per 1000 population
1995	_____ Handsets per 1000 population
1996	_____ Handsets per 1000 population
1997	_____ Handsets per 1000 population
Projected 1998	_____ Handsets per 1000 population
1999	_____ Handsets per 1000 population
2000	_____ Handsets per 1000 population

21. What proportion of Telecom's market share do the four Telecom Approved Service Providers hold?

Year	Telecom	Motorola	Cellnet	Ericsson
1990				
1991				
1992				
1993				
1994				
1995				
1996				
1997				

22. How many new connections were made to the Telecom network (less disconnections) each year over the period 1990 – 1997?

Year	Analogue – new connections (per annum)	Digital – new connections (per annum)
1990		
1991		
1992		
1993		
1994		
1995		
1996		
1997		

Economies of Scale

23. For each year, 1990 – 1997, how many cell sites did Telecom have?

Year	Number of cell sites
1990	
1991	
1992	
1993	
1994	
1995	
1996	
1997	

24. What proportion of the cell sites mentioned in the table above, operate **at full capacity** during peak periods and off-peak?

Year	Cell sites operating at capacity during peak periods	Cell sites operating at capacity off peak
1990	%	%
1991	%	%
1992	%	%
1993	%	%
1994	%	%
1995	%	%
1996	%	%
1997	%	%

25. Has Telecom invested in cell splitting over the period 1990 - 1997?

Yes / No _____

26. Telecom's expenditure on cell splitting over the period 1990 - 1997 has been equal to:

Year	Expenditure by Telecom on cell splitting
1990	\$
1991	\$
1992	\$
1993	\$
1994	\$
1995	\$
1996	\$
1997	\$

27. Would expenditure on cell splitting have been larger or smaller if Telecom had not acquired AMPS-A?

Larger / Smaller _____

28. Please estimate Telecom's expenditure on cell splitting that would have been necessary if it had not acquired AMPS-A.

Year	Expenditure by Telecom on cell splitting – without acquisition of AMPS-A
1990	\$
1991	\$
1992	\$
1993	\$
1994	\$
1995	\$
1996	\$
1997	\$

In a submission to the Commerce Commission, Telecom claimed it would be cheaper to set up AMPS-A as an add-on to AMPS-B, than to set up a stand-alone operation.

29. With the benefit of hindsight, please estimate the difference in costs between setting up AMPS-A as an add-on operation and another company setting up a stand-alone operation.

\$ _____

Please explain how this figure was derived.

Improved Returns for Shareholders

30. Has Telecom improved returns to shareholders?

Yes / No _____

If yes, to what extent can improved returns to shareholders be attributed to the acquisition of AMPS-A? Please explain.

31. Telecom's earnings per share and share price on balance date 1990 - 1997 has been equal to:

Year	Earnings per share	Share price
1990	\$	\$
1991	\$	\$
1992	\$	\$
1993	\$	\$
1994	\$	\$
1995	\$	\$
1996	\$	\$
1997	\$	\$

Dynamic Efficiencies

37. Did analogue users experience disruptions while introducing digital?

Yes / No _____

38. To what extent did the acquisition of AMPS-A minimise disruptions while introducing digital?

39. How much has Telecom spent on research and development and new technology over the period 1990 – 1997?

Year	Research and development	Technology
1990	\$ _____	\$ _____
1991	\$ _____	\$ _____
1992	\$ _____	\$ _____
1993	\$ _____	\$ _____
1994	\$ _____	\$ _____
1995	\$ _____	\$ _____
1996	\$ _____	\$ _____
1997	\$ _____	\$ _____

Financial Information

40. Annual sales by Telecom over the period 1990 – 1997 have been equal to:

Year	Telecom Sales
1990	\$ _____
1991	\$ _____
1992	\$ _____
1993	\$ _____
1994	\$ _____
1995	\$ _____
1996	\$ _____
1997	\$ _____

41. Telecom's net profit after tax (before minorities) over the period 1990 - 1997 has been equal to:

Net profit 1990 \$ _____

Net profit 1991 \$ _____

Net profit 1992 \$ _____

Net profit 1993 \$ _____

Net profit 1994 \$ _____

Net profit 1995 \$ _____

Net profit 1996 \$ _____

Net profit 1997 \$ _____

11. Bibliography

- Ahdar, R. J. (1986). "Mergers Upon Socio-Political Grounds." *New Zealand Universities Law Review*, 12(1), 49-65.
- Ahdar, R. J. (1995). "Battles in New Zealand's Deregulated Telecommunications Industry." *Australian Business Law Review*, 23, 77-116.
- BellSouth (1997a). *Background*. Auckland: BellSouth.
- BellSouth (1997b). *The New Zealand Telecommunications Industry - The Whole Story*. Auckland: BellSouth.
- Bollard, A. E. (1990). *Acquisition of AMPS-A Cellular Band By Telecom Corporation of New Zealand: An Assessment of Public Benefits*. Wellington: NZIER.
- Bollard, A. E. (1994). "The Role of Antitrust in a Small Open Economy: The Commerce Act in New Zealand." *Review of Industrial Organisation*, 9, 671-694.
- Bollard, A. E., Pickford, M., & Strong, N. (1997). *Dominance and Business Acquisitions: Interpreting the Judges, Testing the Economists, and Modeling the Regulators*. Unpublished paper. Wellington: Commerce Commission.
- Bork, R. H. (1978). *The Antitrust Paradox: A Policy at War With Itself*. New York: Basic Books.
- Bork, R. H., & Bowman, W. S. J. (1965). "The Goals of Antitrust: A Dialogue on Policy." *Columbia Law Review*, 65(3), 363-376.
- Boston Consulting Group. (1994). *Meat Industry Review - Securing a Profitable Future for the New Zealand Meat Export Industry: A Document for Discussion*. Auckland: Boston Consulting Group.

- Brodley, J. F. (1987). "The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress." *New York University Law Review*, 62, 1020-1052.
- Brodley, J. F. (1996). "Proof of Efficiencies in Mergers and Joint Ventures." *Antitrust Law Journal*, 64, 575-611.
- Brunt, M. (1986). "The Use of Economic Evidence in Antitrust Litigation: Australia." *Australian Business Law Review*, 14, 261-308.
- Bureau of Industry Economics. (1990). *Mergers and Acquisitions*. Canberra: Australian Government Publishing Service.
- Business Round Table. (1988). *Antitrust in New Zealand: The Case for Reform*. Wellington: Business Round Table.
- Casey, B. (1997) *Instability in the New Zealand Meat Processing Industry: An Economic Analysis*. MCM, Lincoln.
- Casey, B., Martin, S., & Zwart, T. (1997). *Instability in the New Zealand Meat Processing Industry: An Economic Analysis*. Paper presented to the New Zealand Agricultural and Resource Economics Society, Blenheim.
- Caves, R. E. (1989). "Mergers, Takeovers, and Economic Efficiency." *International Journal of Industrial Organisation*, 7, 67-93.
- Clark, J. M. (1940). "Toward a Concept of Workable Competition." *American Economic Review*, 30, 241-256.
- Comanor, W. S., & Leibenstein, H. (1969). "Allocative Efficiency, X-Efficiency, and the Measurement of Welfare Losses." *Economica*, 36, 304-309.
- Commerce Commission. (1987a). *Decision No. 201A: Goodman Fielder/Wattie Industries*. Wellington: Commerce Commission.

Commerce Commission. (1987b). *Decision No. 205: Weddel Crown Corporation Ltd./Waitaki International Ltd./W. Richmond Ltd.* Wellington: Commerce Commission.

Commerce Commission. (1987c). *Decision No. 206: New Zealand Vegetable Growers Federation Inc., and Others.* Wellington: Commerce Commission.

Commerce Commission. (1988a). *Decision No. 216: The New Zealand Cooperative Dairy Company Ltd./Auckland Cooperative Milk Producers Ltd.* Wellington: Commerce Commission.

Commerce Commission. (1988b). *Decision No. 217: Natural Gas Waikato Ltd./Hamilton City Council/Huntly Borough Council.* Wellington: Commerce Commission.

Commerce Commission. (1988c). *Decision No. 221: New Zealand Kiwifruit Exporters Association (Inc.).* Wellington: Commerce Commission.

Commerce Commission. (1989a). *Decision No. 231: New Zealand Stock Exchange.* Wellington: Commerce Commission.

Commerce Commission. (1989b). *Decision No. 232: New Zealand Stock Exchange.* Wellington: Commerce Commission.

Commerce Commission. (1989c). *Decision No. 238: Amendment or Revocation to Decision Number 221.* Wellington: Commerce Commission.

Commerce Commission. (1990a). *Decision No. 248: Broadcast Communications/The Crown.* Wellington: Commerce Commission.

Commerce Commission. (1990b). *Decision No. 254: Telecom Corporation of New Zealand Ltd./The Crown.* Wellington: Commerce Commission.

Commerce Commission. (1990c). *Decision No. 256: Telecom Mobile Radio Ltd./The Crown.* Wellington: Commerce Commission.

- Commerce Commission. (1991). *Decision No. 264: New Zealand Cooperative Dairy Co. Ltd./Waikato Valley Cooperative Dairies Ltd.* Wellington: Commerce Commission.
- Commerce Commission. (1992a). *Decision No. 267: Kiwi Cooperative Dairies Ltd./Moa-Nui Cooperative Dairies Ltd.* Wellington: Commerce Commission.
- Commerce Commission. (1992b). *Decision No. 269: Natural Gas Corporation of New Zealand Ltd./Wanganui District Council.* Wellington: Commerce Commission.
- Commerce Commission. (1992c). *Telecommunications Industry Inquiry Report.* Wellington: Commerce Commission.
- Commerce Commission. (1993a). *Analysis of Public Benefits.* Wellington: Commerce Commission.
- Commerce Commission. (1993b). *Decision No. 271: Sydney Futures Exchange Ltd./Sydney Futures Exchange Clearing House Pty. Ltd./New Zealand Futures and Options Exchange Ltd.* Wellington: Commerce Commission.
- Commerce Commission. (1993c). *Decision No. 272: Enerco New Zealand Ltd./Progas Systems Ltd.* Wellington: Commerce Commission.
- Commerce Commission. (1994a). *Draft Determination to 273: Consortium of Meat Processing Companies.* Wellington: Commerce Commission.
- Commerce Commission. (1994b). *Guidelines to the Analysis of Public Benefits and Detriments in the Context of the Commerce Act.* Wellington: Commerce Commission.
- Commerce Commission. (1995a). *Decision No. 273: Consortium of Meat Processing Companies.* Wellington: Commerce Commission.
- Commerce Commission. (1995b). *Decision No. 274: Sydney Futures Exchange Ltd./Sydney Futures Exchange and Options Exchange Ltd./New Zealand Futures and Options Exchange Ltd.* Wellington: Commerce Commission.

- Commerce Commission. (1996). *Business Acquisition Guidelines, 1996*. Wellington: Commerce Commission.
- Court of Appeal. (1992). "Telecom Corporation v Commerce Commission." *NZLR*, 3, 429-449.
- Court of Appeal. (1993). "Clear Communications Ltd. v Telecom Corporation of New Zealand Ltd." *NZBLC*, 4, 103,340-103,364.
- Court of Appeal. (1996). *Port Nelson v Commerce Commission*. C.A 169/95.
- Cowling, K., & Mueller, D. C. (1978). "The Social Costs of Monopoly Power." *The Economic Journal*, 88, 727-748.
- Cowling, K., Stoneman, P., Cubbin, J., Cable, J., Hall, G., Domberger, S., & Dutton, P. (1980). *Mergers and Economic Performance*. Cambridge: Cambridge University Press.
- Cubbin, J. S. (1988). *Market Structure and Performance: The Empirical Research*. New York: Harwood.
- Dahdough, T. N., & Mongoven, J. F. (1996). "The Shape of Things to Come: Innovation Market Analysis in Merger Cases." *Antitrust Law Journal*, 64(2), 405-441.
- Davison, R. (1995). *A Decade of Change and Development* (Paper No. G2089). Wellington: New Zealand Meat and Wool Board's Economic Service.
- Department of Statistics. (1997). *New Zealand Yearbook 1997, 1985*. Wellington: Department of Statistics.
- Deprano, M. E., & Nugent, J. B. (1969). "Economies as an Antitrust Defense: Comment." *American Economic Review*, 59, 947-953.
- Dixit, A. (1980). "The Role of Investment in Entry-Deterrence." *Economic Journal*, 90, 95-106.
- Ernst, & Young (1994). *Submission to the Commerce Commission on Behalf of the Consortium of Meat Companies*. Wellington: Ernst, & Young.

Ernst, & Young (1995). *Cooperative Theory and Performance*. Wellington: Ernst & Young.

European Merger Regulations. (December 1989).

Fisher, A. A., & Lande, R. H. (1983). "Efficiency Considerations in Merger Enforcement." *California Law Review*, 71, 1582-1694.

Geroski, P. A. (1990). "Innovation, Technological Opportunity, and Market Structure." *Oxford Economic Papers*, 42(3), 586-602.

Greer, D. F. (1988). "Contestability in Competition Policy: Replacement, Supplement, or Impediment?" In A. E. Bollard (Ed.), *The Influence of American Economics on New Zealand Thinking and Policy* (pp. 39-68). Wellington: NZIER.

Greer, D. F. (1989). *Efficiency and Competition: Alternative, Complementary or Conflicting Objectives*. Research Monologue, 47. Wellington: NZIER.

Griffin, J. P., & Sharp, L. T. (1996). "Efficiency Issues in Competition Analysis in Australia, the European Union, and the United States." *Antitrust Law Journal*, 64(3), 649-682.

Grimes, A. (1994). *Instability in the New Zealand Meat Processing Industry: An Economic Analysis*. Auckland: National Bank of New Zealand.

Hartman, R. S. (1996). "The Efficiency Effects of Electricity Utility Mergers." *Energy Law Journal*, 17, (401, 413-415).

High Court. (1991a). *Clear Communications Ltd v Telecom Corporation of New Zealand Ltd*. Wellington: High Court.

High Court. (1991b). *The New Zealand Cooperative Dairy Company Ltd. and Anor v Commerce Commission*. Auckland: High Court.

High Court. (1991c). *Telecom Corporation of New Zealand v Commerce Commission*. Napier: High Court.

- Khemani, R. S. (1991). *Merger Policy in Small vs. Large Economies*. Halifax, N.S: The Institute for Research on Public Policy.
- Leibenstein, H. (1966). "Allocative Efficiency vs. X-Efficiency." *American Economic Review*, 56, 392-415.
- Markovits, R. S. (1979). "Monopolistic Competition, Second Best, and The Antitrust Paradox: A Review Article." *Michigan Law Review*, 77, 567-640.
- Maughan, C. W. (1994). "Economics and the Law." *New Zealand Law Journal*, 114, 110-113.
- Maughan, C. W. (1996a). "Meat, Competition, and Efficiency - An Economist Looks at Commerce Commission Decision Number 273." *New Zealand Business Law Quarterly*, 2, 216-236.
- Maughan, C. W. (Ed.). (1996b). *The New Zealand Red Meat Industry*. In A. E. Bollard & M. Pickford (Eds.), *The Structure of New Zealand Industry*. Palmerston North: Dunmore Press.
- McWilliams, A. (1994). *The New Zealand Meat Processing Industry: An Analysis*. A Paper Prepared for the Boston Consulting Group.
- Meeks, G. (1977). *Disappointing Marriage: A Study of the Gains from Merger*. Cambridge: Cambridge University Press.
- Ministry of Commerce Energy Modeling and Statistics Unit. (1997a). *New Zealand Energy Data File*. Wellington: Ministry of Commerce.
- Ministry of Commerce Energy Modeling and Statistics Unit. (1997b). *New Zealand: Energy Outlook, February 1997*. Wellington: Ministry of Commerce.
- Mueller, D. C. (1980). *The Determinants and Effects of Mergers: An International Comparison*. Cambridge: Oelgeschlager, Gunn, & Hain.

Mueller, D. C. (1985). "Mergers and Market Share." *The Review of Economics and Statistics*, 67, 259-267.

Newbould (1970). *Management and Merger Activity*. Liverpool: Guthestead, 370.

New Zealand Dairy Board. (1997). *Annual Report*. Wellington: New Zealand Dairy Board.

New Zealand Dairy Group. (1981, 1982, 1983, 1984, 1985, 1986, 1987, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997). *Annual Report*. Hamilton: New Zealand Dairy Group.

New Zealand Meat and Wool Board's Economic Service. (1995). *Annual Report*. Wellington: New Zealand Meat and Wool Board's Economic Service.

New Zealand Meat Industry Association. (1995). *Annual Report*. Wellington: New Zealand Meat Industry Association.

Pappas, Carter, Evans, & Koop (1985). *Cost-Competitiveness in Export Meat Processing*. Wellington: Meat Industry Council.

Pappas, Carter, Evans, & Koop (1991). *Submission to the Commerce Commission in Relation to New Zealand Dairy Group's Application for Merger With Waikato Valley*. Wellington: Boston Consulting Group.

Pautler, P. A., & O'Quinn, R. P. (1993). "Recent Empirical Evidence on Mergers and Acquisitions." *The Antitrust Bulletin* (Winter, 1993), 741-781.

Permon, R., Ma, Y., & McGilvray, J. (1996). *Natural Resource And Environmental Economics*. New York: Longman.

Pickford, M. (1993). "The Evaluation of Public Benefit and Detriment Under the Commerce Act 1986." *New Zealand Economic Papers*, 209-231.

Pickford, M. (1995a). *Comments on the Draft Determination and Related Papers in the Meat Industry Case*. Unpublished paper. Wellington: Commerce Commission.

- Pickford, M. (1995b). *The Economics of Markets: A New Zealand Perspective*. Palmerston North: Dunmore Press.
- Pickford, M. (1997a). *Comments On "Pieces of String: Quantification and the Commerce Act" by Stephen Gale*. Unpublished paper. Wellington: Commerce Commission.
- Pickford, M. (1997b). *The Evaluation of Public Benefit and Detriment Under the Commerce Act*. Wellington: Commerce Commission.
- Privy Council. (1994). "Telecom Corporation of New Zealand Ltd. v Clear Communications Ltd." *NZLR*, 1995(1), 385-410.
- Queensland Cooperative Milling Association Ltd. v Defiance Holdings Ltd. (1976), *Australian Trade Practices Report*, (CCH) 1, 17,223-17270.
- Ravenscraft, D. J., & Scherer, F. M. (1987). *Mergers, Sell-offs, and Economic Efficiency: Foresight vs. Hindsight*. Washington D.C: Brookings Institute.
- Roberts, G. L., & Salop, S. C. (1996). "Efficiencies in Dynamic Merger Analysis: A Summary." *World Competition Law and Economics Review*, 19(4), 5-17.
- Sanderson, M. (1997). "Efficiency Analysis in Canadian Merger Cases." *Antitrust Law Journal*, 65, 623-639.
- Scherer, F. M., & Ross, D. (1990). *Industrial Market Structure and Economic Performance*. Boston: Houghton Mifflin Co.
- Smillie, J. (1996). "Formalism, Fairness, and Efficiency: Civil Adjudication in New Zealand." *New Zealand Law Review*, Part II, 254-274.
- Smith, A. (1776). *The Wealth of Nations*. New York: Random House.
- Solow, R. (1957). "Technical Change and the Aggregate Production Function." *Review of Economics and Statistics*, 39, 312.

Southpac Corporation Ltd. (1994). *The Existence and Extent of an Industry Problem in the New Zealand Export Meat Processing and Marketing Industry*. Auckland: Southpac Corporation.

Stigler, G. J. (1968). *The Organisation of Industry*. Chicago: Longman.

US Department of Justice and Federal Trade Commission, (1992), *Horizontal Merger Guidelines*.

Williamson, O. E. (1968). "Economies as an Antitrust Defense: The Welfare Tradeoffs." *The American Economic Review*, 58, 18-36.

Williamson, O. E. (1977). "Economies as an Antitrust Defense Revisited." *University of Pennsylvania Law Review*, 125(4), 699-736.

Yeabsley, J. (1994). *Closure of Weddel Corporation by a Consortium of Meat Processing Companies: An Analysis of the Public Benefits*. Wellington: NZIER.