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Issues in Oil Sector Deregulation

Peter Clough with Alan Bollard
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by

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ISSUES IN OIL SECTOR DEREGULATION

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SUMMARY OF ISSUES IN OIL SECTOR DEREGULATION

On the 9 May 1988 government removed the main industry-specific regulations relating to the distribution of motor spirits (petrol) in New Zealand. This report is the outcome of research commissioned by the Ministry of Energy, aimed at outlining the structure of petrol distribution in New Zealand immediately prior to deregulation, and identifying key areas to monitor after the removal of controls. The study, which entailed a literature search of theoretical and empirical evidence relating to oil product distribution and discussions with interested parties in the industry in New Zealand, adopted the procedure (common in industrial economics) of examining separately industry structure, conduct and performance.

The principal characteristics of the regulated petrol distribution industry prior to May 1988 were:

- i) supply control, through licensing of retailers and wholesalers and mutual agreements amongst wholesalers to support the Marsden Point refinery;
- ii) price and margin control, designed to ensure both a "fair" price to consumers and a "fair" level of income for those in the industry;
- iii) separation of wholesale and retail business through a restriction of wholesaler "interests or estates" in retail outlets.

The aim of deregulation was, by removing these controls, to introduce more competition into the sector and supply petrol to consumers at lower prices. Since 40 percent of the regulated retail price per litre comprised government taxes and levies (some of which exceed the original purpose for which they were collected), it is likely that government has the capacity to effect a greater reduction in price in the short term than will be realised by any changes in industry structure and performance brought about by deregulation. However, in economic terms a lowering of taxes merely represents a transfer payment from the taxpayer to petrol consumers, and it is not comparable to the real reductions in resource cost of supply and distribution which can be achieved through competition.

New Zealand has relatively low priced petrol in comparison with most OECD countries, although higher than USA, Canada and Australia. But the margin between the landed price of refined petrol and the pump price in New Zealand is one of the largest in the OECD, and it increased over the ten years to 1987. Without access to detailed accounts from operations in these other countries, the reasons for this are not clear.

Objections to deregulation are based on the contention that New Zealand is too small a market to fully capture the benefits of unregulated competition. Objectors argue that removal of price control would lead to price instability, higher risks for operators and a greater rate of business failure in the industry. Oil wholesalers could acquire retail outlets which, through transfer pricing, financial strength and tacit preferential treatment would gain a competitive advantage over independent retailers. In the longer term, this would restrict the number of operators in the market and reduce competition at the retail level. In support of this argument a number of overseas cases are cited which suggest that competition amongst the major companies is most intense during periods when they are threatened by new entrants to the industry, but the small and dispersed nature of the New Zealand market and the advantage of existing infrastructure held by the incumbent wholesalers suggests that new entrants would face considerable disadvantage in setting up in competition.

With respect to industry structure, the controls over prices and margins allowed the four existing wholesalers to operate in a state of "competitive oligopoly", under which they had an incentive for improving their performance relative to the industry average, but were not allowed to use such performance gains in vigorous price competition. Licensing of wholesalers was a deterrent (but not an absolute ban) to new operators who may have wanted to come in and contest the market and there were substantial areas of common interest amongst the existing wholesalers (such as refinery support, coastal shipping) which could disadvantage new entrants in becoming established in the market.

At the retail level the issuing of licences which were not terminable resulted in a proliferation of outlets, precisely the result the licensing system was intended to avoid. There is widespread agreement within

the industry that deregulation will accelerate the rationalisation of retail outlets which is already taking place, but disagreement as to whether the deregulated environment will result in greater incidence of restrictive trade practices and anti-competitive behaviour.

Other changes which are expected to occur include:

- a) intensified competition and sporadic price wars in the major urban areas;
- b) regional wholesale price differentials reflecting variations in transport costs;
- c) volume concentration of retail sales through larger outlets;
- d) diversified use of outlet sites with expanded accessory and grocery stores;
- e) relocation of outlets from restricted inner city sites to sites with lower land value;
- f) wholesaler acquisition and franchising of strategic sites, to secure market shares;
- g) continued niche markets for smaller suburban and rural outlets.

Even though the New Zealand market may be too small to approximate to perfect competition, the threat of potential new operators willing to enter the market to exploit profit opportunities should constrain existing operators from extracting super-normal profits. However, there appear to be significant barriers to entry into the wholesale market, particularly with respect to acquisition of storage facilities and retail outlets, which indicate that entry and exit into the oil distribution market is not costless. The markets for diesel and fuel oil, which with a much higher proportion of sales sold in bulk to commercial customers are less reliant on a network of retail outlets, appear to be much more "contestable" than the market for petrol.

The chief obstacle which prospective new entrants face is securing sufficient market penetration to make imports of refined product economic. A new entrant's operating costs are unlikely to differ much from those of existing wholesalers, but the new operator would face considerably higher risk in achieving market penetration, particularly since the lead time in installing facilities would give existing wholesalers sufficient warning to anticipate its impending

entry. Such risk would be considerably reduced if new entrants were to have access to existing storage facilities (such as those at Marsden Point and Wiri) on a common carrier basis.

The cost and delay involved in establishing new petrol outlets may also restrict entry into retailing, although multiple outlet chains would have advantages over the traditional independent operator. Securing sufficient retail outlets could act as a barrier for new entrants into wholesaling. Moves by the oil companies since deregulation to secure retail outlets through purchase and long term supply agreements restrict the possibilities open to new entrants of acquiring existing sites, as well as fending off competition from the other existing wholesalers.

Evidence from overseas concerning the relationship between petrol prices and the divorcement of retail and wholesale interests is inconclusive. The issue of divorcement hinges on a shift in negotiating power between retailers and suppliers if the latter are able to acquire their own retail outlets. Prior to deregulation retailers responded by forming multiple groupings and buying co-operatives in order to exert some countervailing power, but since deregulation an oil company has acquired the largest of such groups and entered a long term supply agreement with another. In general the removal of divorcement appears unlikely to lessen competition significantly, but in some particular locations oil company acquisition may exclude the possibility of new wholesalers obtaining retail outlets except with considerable lead-in time.

After the removal of industry controls the principal regulations affecting petrol distribution will be the town and country planning provisions (regarding land use and facility siting) and the 1986 Commerce Act (regarding trade practices and anti-competitive behaviour). The town planning legislation is itself currently under review, but at this stage its broad approach of permitted use zoning determined by local territorial authorities seems unlikely to change.

The Commerce Act has jurisdiction over a range of trade practices which may affect the level of competition in the market: mergers and takeovers, pricing arrangements, collusion between retailers and wholesalers, and supply conditions. The legality under the Act of many practices which have emerged in oil distribution in other

countries has yet to be tested in cases brought before the Commerce Commission. Apart from the uncertainty of outcomes at present, the reliance of the Commission on having complaints brought to it, the delay entailed by its deliberations and the difficulty of obtaining full disclosure of evidence gives rise to some concern over the Act's ability to achieve its intended object of promoting competitive market behaviour.

Ultimately attitudes to oil sector deregulation depend on individuals' judgements of the likelihood of long term competition emerging in a market with four major suppliers and a fragmented retail sector. Competition between the wholesalers prior to deregulation occurred in areas other than prices - competition for sites, brand awareness, service packages and so on. But on their own admission oil companies have not aggressively pursued actions which would provoke retaliatory measures (e.g. with respect to securing outlets). The market shares of the four wholesalers have remained relatively stable for some years.

In conclusion, it appears that competition and the realistic threat of new entrants at the wholesale level are the most important ingredients for the success of a deregulated oil sector. The dispersed nature of the New Zealand market, its distinct regional concentrations and the availability of suitable storage facilities suggest that the level of competition will be uneven across the country. The few months since deregulation have witnessed a small decline in retail prices for petrol in the main centres, much activity by wholesalers to secure their retail outlets, and the sale to an oil company of the country's largest independent chain of retail outlets, previously seen as a potential new wholesaler. Evidently something has changed in the industry's perception of the oil market to produce this flurry of activity, but it is an open question at this stage whether this is a one-off adjustment to changed conditions or part of a continuous process of vigorous competition.

While the Ministry of Energy has no regulatory role in the deregulated oil industry, a number of factors could be usefully monitored during the transitional period. These include:

- i) the movement of prices and margins relative to some international reference point;

- ii) the emergence of regional price disparities within New Zealand;
- iii) the pattern of adjustments in the retail outlet network;
- iv) the frequency and nature of complaints brought before the Commerce Commission;
- v) the geographic coverage of existing wholesalers and their market shares.

1 INTRODUCTION

1.1 Objectives

On 9 May 1988 Government removed most of its controls on motor spirits (petrol) distribution, bringing to an end fifty years of regulating an industry which hitherto had been regarded far too important to be left to market forces. Prior to this step the Ministry of Energy contracted the New Zealand Institute of Economic Research to undertake a review of the industry on the eve of deregulation and identify aspects likely to change.

The aims of the study were to provide:

- a) an outline of the current structure of petrol wholesaling and retailing;
- b) predictions of the impact of deregulation; and
- c) identification of key areas in need of monitoring.

The following comments result from a survey of literature on the subject of deregulation and from discussions with representatives of the oil industry, petrol retailers, consumer and motorists organisations in New Zealand. Some general comments are presented before sorting the issues into a structure-conduct-performance framework.

1.2 General Observations

Regulation of the petrol wholesaling and retailing sectors in New Zealand has taken effect in three main areas. These are supply control, price control and divorcement through licensing of retailers and wholesalers.

Supply control has taken the form of licensing of wholesalers, and a number of non-statutory mutual agreements between the government and wholesalers (the refinery support letters). These have resulted in most of the petrol sold in New Zealand being sourced from the Marsden Point refinery. Questions of the "extra cost" to the country imposed by this control need to be seen against the perspective of the post-refinery add-ons: the cost of petrol supply from the refinery prior to deregulation was around 28 cents out of a retail

price of 92 cents per litre, which included allowance to make up for past under-recovery by the oil wholesalers. Approximately 44 cents of the difference comprised government tax and duties, which partly explains the high price of gasoline in New Zealand compared with prices in Australia, Canada and the USA (see Figures 1.1 and 1.2). Although New Zealand slipped from having the fourth lowest to the seventh lowest prices in the 21 members of the OECD over the period 1978 to 1987, both the overall price level and the proportion absorbed by taxes in New Zealand are still lower than in most European countries (IEA 1988).

Price control, and in particular the use of industry-wide averages for setting margins at the various stages of distribution, gives some incentive to individual oil companies to improve their efficiency relative to the industry average, since by so doing they simultaneously increase their own profits and depress those of their rivals. But since such efficiency improvements feed into the subsequent calculation of industry averages and there is little scope for price competition, such a system limits the ability of participants to capture the full advantages of their cost savings and deadens the incentive towards competition. It has also contributed to a cost-plus mentality in the industry, since the only justification for price increases in the government review process has been the existence of cost increases. However, it has had an advantage in providing relative certainty for planning purposes.

The divorcement of the wholesale and retail sectors was a specific aim of the Motor Spirits Distribution Act (1953). It was achieved by the licensing of wholesalers and retailers and the prohibition (with some exceptions) of wholesalers from obtaining retail licences. Since licences were site specific and interminable, and since possession of a licence created an economic rent for the owner of a site, licensing had the effect of limiting site changes, resulting in what is widely regarded as an ossified network of retail outlets, overpumped with low individual throughput by international standards. The average petrol throughput per retail outlet in New Zealand in 1986 was around 700,000 litres, about half the average throughput in Britain and less than a third of the US average.

Deregulation is aimed at removing most of these controls. The ending of supply control is complicated by the fact that many of the

Components of NZ Retail price

Figure 1.1

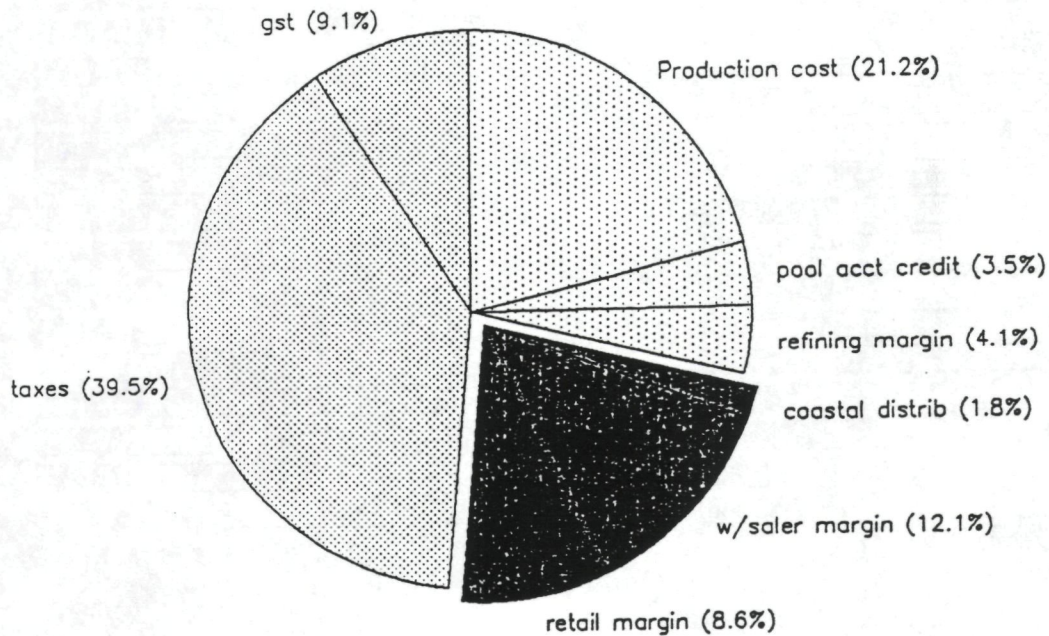
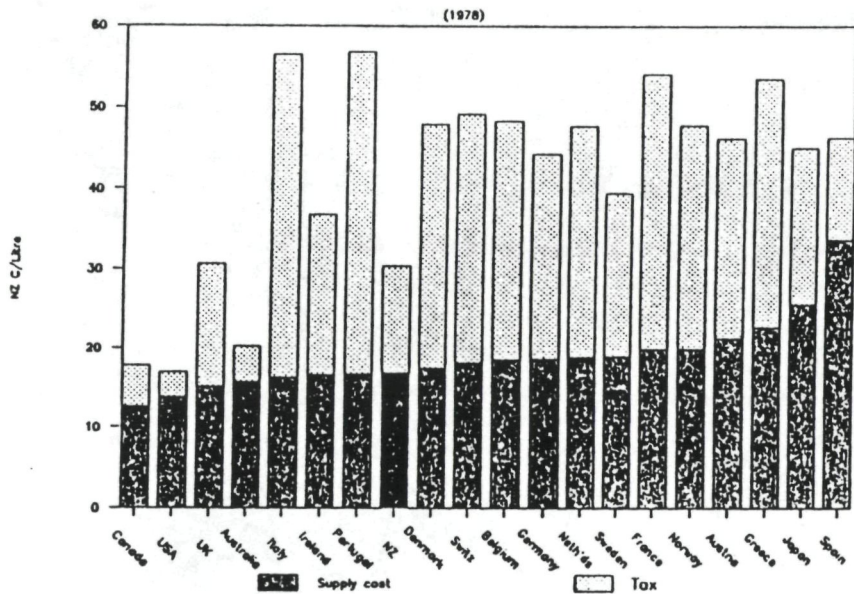
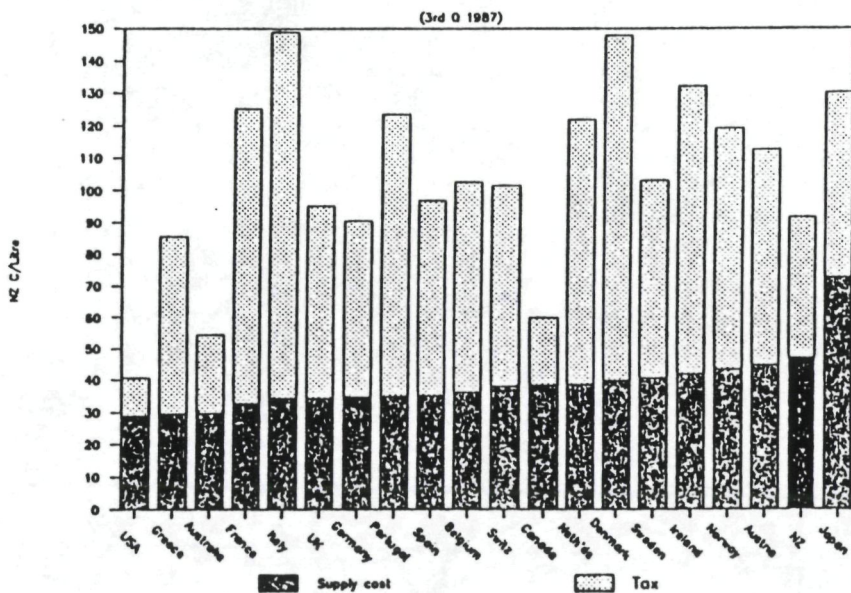


Figure 1.2

COMPARATIVE PETROL PRICES



COMPARATIVE PETROL PRICES



current arrangements are not specifically included in the legislation revoked: the existing wholesalers have a mutual agreement (not a statutory requirement) to use the Marsden Point refinery to its maximum feasible level, and to co-operate over the coastal shipping system. A sensitive question is whether new entrants would be required to join this agreement, since if the new entrants only operated over a limited area they would no doubt object to sharing some of the costs of distributing nationwide. If the new entrants could by-pass the agreement and import refined product directly, they could gain some price advantage over the incumbent oil companies.

For this study it has been assumed that the bulk of petrol supplies will continue to be sourced through the Marsden Point Refinery. In April 1988 a protection package was agreed between government and the New Zealand Refinery Company (NZRC) to enable it to continue to "compete" with imported supplies. Under this package a \$25 million annual bounty will be paid to the operators of the Marsden Point refinery for the first three years after removal of restrictions on petroleum product imports.

Two possibilities were the imposition of an import quota or the use of a tariff on imported supplies. Both these measures are superficially similar in that they would raise the price of refined petrol to a level at which the refinery could compete: in the case of the tariff by creating a reference price level, and in the case of the quota by restricting supply. However, the tariff would give rise to revenue which accrues to government, whereas a quota would imply a monopoly profit which accrues to the quota holders - unless some system of auctioning quota rights was used by government to recover some of this monopoly profit from the holders. A tariff (other than one designed to exclude all exports) is also easier to administer and, since it does not preclude the possibility of imports above a fixed limit, likely to exert more competitive pressure on the refinery than a fixed quota on imported refined product.

With a bounty or deficiency payment, refined products have free entry into the market and the government pays the refinery the deficit between its running costs and the revenue obtained from local sales. By itself such an option could become costly if the bounty were allowed to expand unchecked. However, it has the advantage

of not significantly affecting domestic prices. It is also a transparent option, with costs forming an explicit drain on government funds, compared to both the quota and tariff option in which costs are hidden to some extent in the prices paid by consumers and the resulting shift in consumption.

To the extent that protection raises the retail price of petrol there will be some contraction in consumption due to a movement up the demand curve. However, petrol demand appears to be relatively inelastic (i.e. a price increase of a given percentage would result in a smaller percentage contraction in quantity consumed), one recent estimate suggesting a price elasticity of -0.26 (Baas et al., 1982). Although such a move would result in some deadweight loss in net welfare, the main impact of such induced price increases is the diversion of revenue from producers to government. In such circumstances reduction of retail price through small changes in the supply component can produce greater improvements in welfare than the removal of a larger component of taxation, the latter representing a transfer payment contained within the economy.

1.3 Objections to Deregulation

With the passing of the Petroleum Sector Reform Act 1988, the principal effects on oil wholesaling have been:

- a) removal of controls on prices, margins and returns on assets;
- b) the availability of imported refined product which circumvents current refinery agreements;
- c) the cessation of licensing opening the way for new entrants into wholesaling.

The principal changes brought to petrol retailing have been:

- d) the end of prohibition on wholesaler involvement in retailing;
- e) the end of control over retail prices and margins.

Each of these effects has wider implications for the motor spirits distribution industry within New Zealand.

Objections to deregulation are based on the following suppositions. Removal of price control would open the way to price wars at both the wholesale and retail level, resulting in price instability. Removal

of licensing control would allow wholesalers to acquire retail operations which, due to wholesalers' financial strength and the opportunities for transfer pricing between stages in the distribution chain, could gain a competitive advantage over independent retailers. In the long term these changes would result in reduction in the number of independent retailers and concentration of business in the wholesaler-owned outlets, allowing collusion between wholesalers at some future date to increase the retail price of petrol. Objectors also note that there will be regional differentials in pricing, which could adversely affect availability of petrol in some areas.

The rationale behind the objections is that oil companies have a history of collusion and price fixing, going back to the Achnacarry Agreement in 1929. It is also claimed that the high level of sunk costs required for a potential new entrant into the industry means that the wholesale petrol sector is non-contestable. Support for the scenario of wholesaler domination of the market is drawn from several overseas countries, including a study from the American state of Maryland which purports to show that retail prices of gasoline are lower due to divorce; and price wars in parts of Australia, widespread discounting in the United Kingdom and a case study of the Canadian oil industry which suggest that the oil majors only price competitively when threatened by independents aggressively seeking to expand their market share.

Support for deregulation has come from the major oil companies and the government's own aim of reduced control as a means of achieving improved competition and efficiency. Objections have come principally from the retailers through the Motor Trades' Association, the Consumers' Institute and the Automobile Association. The MTA has advocated deregulation in a different form to the current Petroleum Sector Reform Bill, stating its view that wholesaler contestability requires:

- a) imports of refined products to permit competition with NZRC;
- b) possible refinery closure, consistent with government's position towards inefficient industries;
- c) free access to imports by independent retailers who would feel intimidated if reliant on supplies from NZRC.

- d) permission for Australian independent wholesalers to set up importing operations.
- e) retention of divorcement between wholesale and retail operations.

The basis for this position is the conviction that the Bill in its current form would reduce stability in the petrol market, destroy employment and the livelihood of its members, reduce the level of service and the number and coverage of retail outlets, and effectively pass control to overseas-owned oil companies.

The Consumers' Institute position is founded on the expectation of long term price increases, but differs from the MTA in that it requires protection for NZRC so that the government's substantial investment in the refinery should continue to earn some return at least until the expansion debt is paid off, on the grounds that most petrol consumers in New Zealand are also taxpayers. The AA's opposition to the current reforms is also based on the expected changes in the petrol price, and on the effects on cost and availability of joint-products from the refinery, particularly bitumen for road sealing.

These issues, and others, are now examined within a structure-conduct-performance framework. This is a method which has been widely used in industrial economics for analysing markets by examining individual components of a sector (Bain 1968). Market structure consists of the relatively stable features of the market environment (seller concentration, sector infrastructure) which influence the rivalry between buyers and sellers operating in a given market. Market conduct refers to the firm's patterns of behaviour in adapting or adjusting to the market, including reacting to rival firm's actions with respect to pricing, product and sales promotion policies. Market performance refers to an appraisal of the economic results of an industry's behaviour in terms of its contribution to overall efficiency, advancement and equity. The direction of causation is usually assumed to run from structure, through conduct to performance, but in some cases the opposite direction of causation is plausible as well.

This study also considers the questions of competition and contestability within the motor spirits distribution sector. The theory of contestable markets asserts that in the absence of barriers to costless entry and exit of the market by firms, the threat of potential entrants willing to enter the market to exploit profit opportunities constrains the behaviour of firms already in the market (Baumol 1983). There are a number of restrictive assumptions which make perfect contestability in a market as elusive as perfect competition. Prospective entrants must be able to act on the assumption that there will be no pre-emptive action by incumbents such as price changes; they must be able to instantly replicate all attributes of the existing operators (e.g. scale, technology, brand awareness etc) so that they face no significant lags or costs in the entry process; and it is essential that both entry and exit are costless and unimpeded. However, despite these reservations, it is possible to identify elements of contestability in a market which give pointers to its likely performance. The conclusions of the theory vary markedly from the traditional interpretation of market structures and performance, since even a market with few suppliers, if contestable, can result in behaviour equivalent to that under perfect competition.

2 OIL INDUSTRY STRUCTURE

2.1 Wholesale level

2.1.1 General organisation

The distribution of petrol in New Zealand, outlined in Figure 2.1, has not changed with deregulation. Most petrol originates from the Marsden Point refinery, gathering feedstocks from both within New Zealand and overseas, including crude oil and condensate and synthetic gasoline from Motunui which is blended with product refined from these feedstocks. After refining, products are distributed by coastal tanker to 11 ports, where consignments are off-loaded to coastal depots. From these depots petrol is transported to inland consumers or, in some cases, inland depots. Recent changes include the completion of the Refinery to Auckland Pipeline (RAP) linking Marsden Point with the Wiri terminal; the direct distribution to South Auckland and King Country districts from Wiri, rather than via the depot at Mount Maunganui; the closure of some inland depots; and the tendency to service customers directly from coastal depots via road tanker, now that there is no obligation to use rail. Because of the increased handling implied by distribution by rail, it is only a viable mode of transport over large distances from port. The only significant use of rail in petrol distribution at present is in the servicing of the West Coast of the South Island.

The wholesaling of motor spirits is currently divided between four firms operating five brand names. The approximate national market shares of the wholesaling firms are:

BP/Europa	32%
Mobil	28%
Shell	24%
Caltex	16%

These shares have been relatively stable for a number of years. In addition, there are further brands of motor vehicle lubricants - Agipp, Castrol and Duckhams - whose retail sales are almost entirely limited to petrol retail outlets at present. There have been no

changes to the wholesaling scene since BP acquired full ownership of Europa in 1977; and Mobil converted the operations of its subsidiary, Atlantic Union Oil, to the Mobil brand in 1982.

The four oil companies together hold 69 percent of the shares in the New Zealand Refining Company, but their original investment was recovered within a few years of the opening of the Marsden Point refinery. They also have a number of mutual arrangements and understandings, outlined in the refinery support letters but not specified in any legislation, to undertake to use the refinery to the maximum extent physically possible, and to co-operate over coastal shipping. About 11 percent of the shares in NZRC are held by Petrocorp, and a further 20 percent comprise public shareholding.

From 1973 to 1988 the oil wholesalers operated in a state of "competitive oligopoly", with prices and margins set on an industry-wide basis. Under such conditions each company has an incentive to hold down its costs, since they can not be passed on to customers in full unless other firms face the same increases. However, since margin and price control also prevents individual firms from using cost savings for competing on price, the incentive to overall efficiency (as distinct from firm efficiency) is blunted compared to what it would be under unfettered competition.

Coastal distribution has been operated on a co-operative basis, with the total cost of distribution to all ports being allocated to the wholesale companies in proportion to their offtake from the Marsden Point refinery. This has meant that all the wholesalers have faced the same average unit cost of petrol landed in each of the coastal depots, regardless of actual distance from Marsden Point. Inland distribution has been organised by each of the individual companies operating independent of, and in competition with, each other. Coastal shipping and other wholesaler costs are recorded in a pool account, from which wholesalers can recover an average margin per unit sold.

The regulation of the market enabled the margins on price controlled products to be set at such a level to enable the wholesalers to recover costs incurred plus a return of 13 percent (before tax and interest payable) on the industry average of assets employed in the marketing of automotive fuels, lubricants, solvents and bitument to

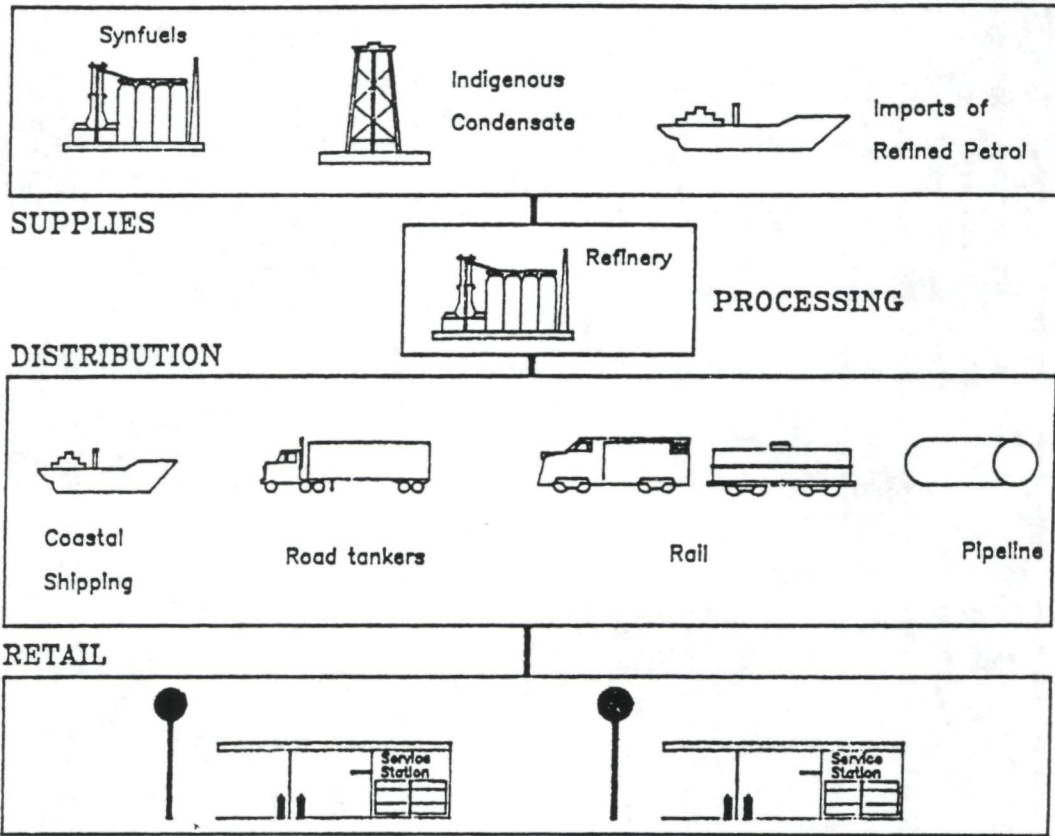
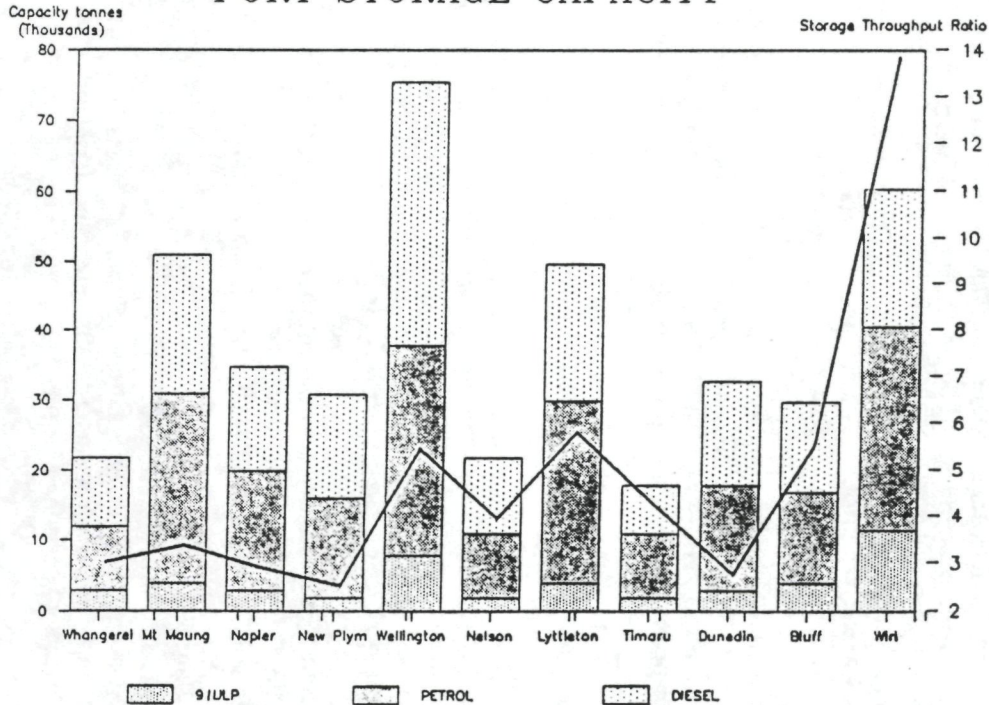


Figure 2.1

PORT STORAGE CAPACITY



Note: Throughput ratio is annual throughput divided by storage capacity at each port.

Figure 2.2

retailers and bulk purchasers. Individual companies could earn a return either above or below the industry average. Sales of motor spirits to retailers form approximately 40 percent of the total turnover of the oil company wholesalers, the balance comprising sales to industrial, commercial and other users.

Petrol is only one of several products obtained from the refinery so the allocation of joint costs between products in the regulated market uses the following procedure. The total calendar year cost for all refinery output is calculated as the sum of

- F.o.b. (benchmark) price of crude and feedstocks
- Total ocean freight cost for refinery inputs
- Total refinery fee (a fixed toll rate per unit input)
- Total cost of coastal distribution (refinery to all ports)

The total calendar year cost per product into main ports is obtained by multiplying the volume of each product by its import parity price, summing the results and then allocating the all refinery output cost to each product in proportion to its share of total import parity cost.

The quotient obtained from dividing the calendar year cost per product by the volume produced is the **refinery release price** per product per year. In the case of diesel and petrol, however, the total calendar year cost is added to the cost of imports of refined product in that year to yield the **consolidated cost** for petrol and diesel. This consolidated cost is then used to derive unit and total costs of each product at main ports on the basis of volume.

The authorised wholesale price to the retailer is the sum of

- cost of product at main ports
- authorised wholesaler margin (storage, distribution and profit)
- local authority tax
- duty (petrol only) and GST.

A record is kept of all licensed wholesalers' costs of storage, distribution and return on assets for the purpose of periodic review of the authorised wholesaler margin.

Since the actual costs in this process are not known until after the end of the calendar year, notional costs are used to set authorised

prices and margins in the year ahead. The difference between the actual and notional costs is entered as a debit or a credit in pool accounts kept specifically for this purpose. A separate pool account is maintained for each product and annual debits (under-recovery) or credits (over-recovery) are carried forward and allowed for in the following year's price and margin review.

The principal record in the pool account is of:

(Actual refinery release price minus notional cost) times volume delivered

which appears in the pool account as a debit if positive and credit when negative. But since the pool account balance alters the following year's cost of product at main ports, the pool account is also used for making adjustments further down the distribution chain. The discount offered to bulk consumers would result in wholesalers recovering more than the authorised margin, so bulk discounts are credited to the pool account. And if there was a retrospective increase in the wholesaler margin, a sum equal to the increase times volume to which it applied, would be debited to the pool account.

Such a system results in short term fluctuations between actual and notional costs being evened out, but also means that a lag in price adjustment to long term cost increases results in wholesalers extending credit to consumers. The opposite is true in the case of sustained cost decreases.

2.1.2 Wholesale infrastructure

The automotive fuel distribution infrastructure in New Zealand as it was in 1985 is illustrated in the accompanying Figure 2.2. Total storage at each port consists of a number of separate depots or tank farms owned by the different wholesalers. All four wholesalers are represented at most ports, except Whangarei and Bluff, which have no Shell depots; and Timaru, which has no Mobil or Caltex depots. In addition, the New Zealand Refining Company owns all tanks at Wiri, has tanks at the refinery and controls the flow of white products through the refinery-Auckland pipeline. At all depots, wholesalers lease storage space from their competitors when their

requirements exceed their existing capacity, and in some cases may exchange product through an arrangement known as "borrow and loan".

The country is widely regarded as having excess storage capacity for its current and likely future needs. This view is supported by the wide variation in stock turnover at the various depots. The storage throughput ratio (i.e. the ratio of total throughput to total capacity) shows the utilisation of existing capacity to be far greater at Wiri than at any of the coastal depots. This is partly to be explained by the scheduling problems imposed by supply by ship compared with supply by pipeline, but even amongst the coastal depots there is a wide discrepancy in utilisation between Wellington and Lyttleton and some of the smaller centres.

In coastal distribution there is a trade-off between the lower unit costs of handling and transport and the higher storage costs which result from larger and fewer tanker drops per sailing. A draught restriction at Nelson and Dunedin prevents these ports from accepting tankers of 20,000 tonnes or more fully laden. The current coastal tankers have a capacity of 25,000 to 31,000 tonnes.

Since 1985 there has been some restructuring of storage capacity, with decommissioning and transferral of some tanks to other product lines. Premium and diesel storage in 1987 was at much the same level nationwide, but regular storage capacity had been reduced to slightly under half its former level. Sales of regular petrol peaked at around 12 percent of total petrol sales in 1983, but by 1987 its share of the petrol market had dropped to around 5 percent.

2.1.3 Future changes in oil wholesaling

The question of structural changes in wholesale distribution is one of the most difficult to address. At present, all the major oil companies have nationwide distribution, and none of the companies have indicated any intention of reducing their coverage. All companies face the same costs in distributing to the main ports, since the total cost of coastal shipping and the refinery-Auckland pipeline is shared between the companies in proportion to their offtake from the refinery. This means the oil companies have two areas of potential

savings under the current system: in the cost of feedstocks they process through the refinery, and the inland distribution of petrol and other refined products.

There was an exchange of assets between Mobil and BP in Western Australia and Queensland, each company acquiring the assets of its competitor in the state where it was strongest. This resulted in a degree of rationalisation and overall reduction in cost of supply in these areas. However, those in the industry suggest that New Zealand is too small to offer much benefit to wholesalers from such an exchange and it is unlikely to happen.

Uncertainty surrounds the role of a future new entrant into the wholesaling scene. A new wholesaler is likely to require secure outlets before starting operations in New Zealand. If the new entrant were not to rely on supplies from Marsden Point, it would face relatively high average unit costs to import refined product unless its tanker offtake is large. This in turn implies an extensive network of retail outlets and substantial storage at the import point. Without arriving at some co-operative agreement with the incumbent wholesalers (e.g. leasing storage capacity) it would appear that the new entrant could face substantial capital costs in setting up infrastructure which may form a significant barrier to entry (see Section 5).

A new entrant would probably concentrate on the main centres and face reduced inland distribution costs relative to the incumbent firms because of its more restricted range of operation. This in turn would place pressure on the incumbents to be price competitive in the main centres, and remove regional cross-subsidy from their distribution charges. If the new entrant were to avoid sharing in the coastal distribution costs, the co-operative cost-equalisation system would probably break down, since the incumbents would not want their landed costs in Auckland inflated by a subsidy on more distant freight. The costs of coastal shipping would probably be charged out according to volume and distance, which would have variable impacts on wholesalers: e.g. Caltex have a lower proportion of outlets in the Auckland region than their competitors.

The difference in cost between shipping from Marsden Point to Auckland and to Invercargill has been estimated at between 1-1.5

cents per litre, which compares with the current coastal shipping allowance of 1.7 cents per litre (MoE). Removing the volume transported through the RAP at 0.3 cents per litre implies an average shipping cost of 2.66 cents per litre, costs to individual ports ranging from around 1 cent (Mt Maunganui) to over 4 cents for South Island ports (see Section 4). However, this difference is likely to be obscured by multiple drop trips, and by economies of scale in handling at some ports, so the eventual coastal charge differential is likely to reflect the size of the port rather than distance from refinery alone. Even if the refinery were to close, most refined product imports could still enter the country via Marsden Point, since its wharfage and storage capacity makes it more amenable to large tankers.

The difference in cost between imported refined products landed in the North Island and product landed in the South Island is estimated to be around 0.25 cents per litre. With multiple drops and variations in harbour dues and wharf labour this difference would probably be higher. However, some in the industry doubt the feasibility of supplying the South Island in the absence of national distribution through the coastal tanker fleet. The South Island market is too small and dispersed to be attractive to a jobbing agent, and to service it entirely from imported refined product would require a combination of small tankers, small drops and higher storage capacity than exists at present. The disbanding of the coastal tanker fleet would also require the individual oil companies to make their own arrangements for supplying the South Island, quite possibly duplicating each others' operations. So it is probable that some form of co-operative coastal shipping operation will continue, albeit with a different charging system, and perhaps reduction from 3 to 2 white product tankers.

Handling charges at each of the main ports are likely to become more apparent with the removal of price control, which may lead to some adjustment in the hinterlands serviced by each port. For instance, if the coastal shipping charge and handling charge to Napier were substantially lower than the corresponding charges to Wellington, supplies in the Manawatu, a region equidistant between these two ports, could be sourced at a lower cost from Napier rather than Wellington as at present.

2.2 Retail level

2.2.1 Current organisation

Prior to deregulation, petrol retailing was undertaken by licensed retailers who were independent of the major wholesalers. Licences were issued by the Motor Spirits Licensing Authority, whose decisions have been based on a number of criteria concerning the need for outlets in particular localities. Once issued, a licence could not be revoked without some infringement of its conditions being proved. Contested revocation orders, and unsuccessful applications, could be brought before the Motor Spirits Licensing Appeals Authority.

The separation of retail and wholesale interests was a statutory requirement of the Motor Spirits Distribution Act 1953. It arose because of a significant shift in the early 1950s away from multiple brand retail outlets to single brand outlets, or "solus trading". Single branding led to oil companies seeking outlets for their exclusive use as a means of protecting their market shares. At the time the government had a majority shareholding in British Petroleum New Zealand Limited (BPNZ), a relative newcomer to the market, operating since 1946, which had experienced some difficulty in obtaining pump space at multi-brand outlets. BPNZ was active in acquiring sites to build up its market presence, but this prompted calls for an agreement on stabilising market shares and halting site acquisition which were later influential in the divorce provisions of the 1953 Act.

Divorcement, along with the structure of the MSLA and the MSLAA was abolished with the passing of the Petroleum Sector Reform Act. There has been no restriction on individuals owning more than one petrol station or licence. The Census of Distribution indicates a difference between the number of establishments (outlets) and the number of enterprises (businesses) in petrol retailing. There is also a discrepancy between the Census and the MSLA records, although this is largely due to the Census recording only outlets whose primary function is the selling of petrol. Industry sources suggest that multiple site businesses are currently rather small; the Top Group with 22 outlets, and the Australian Solo group with 9 outlets,

are exceptionally large by current standards.

A legacy of the period before the 1953 Act, and of the loopholes which were subsequently found in it, is that there are a number of outlets with oil company connections. A number of "tabled interests" by wholesalers in retailing were disclosed to the Commission of Inquiry into Motor Spirits Distribution (1976): BP owned and operated 13 sites, Mobil 3, Shell 1 and Caltex an undisclosed number. The Commission recommended that each company be allowed to operate one outlet in each Island for the purpose of staff training, and in addition noted that oil companies and the Todd family (formerly shareholders in Europa) have interests in the land on which a number of outlets are built.

2.2.2 Retail infrastructure

In 1986, the last survey of retail establishments by the Motor Spirits Licensing Authority indicated there were 2814 petrol retailing licences nationwide, 1834 in the North Island and 980 in the South Island. Of that total 58 percent had annual petrol sales of less than 500,000 litres, 28 percent had sales between 500,000 and 1,500,000 litres, and 14 percent had sales in excess of 1,500,000 litres. The small outlet category accounted for 15 percent of national petrol sales, the medium category for 37.4 percent, and the large category for 47.6 percent (Figure 2. 3). In comparison, the Commission of Inquiry in 1976 estimated 23 percent of total sales were made through small outlets, 50 percent through medium outlets and 27 percent through large outlets. The number of outlets dropped from 4,131 in 1976 to 2,814 in 1986, so there is already an established move towards fewer and larger retail outlets.

There are some marked variations in the distribution of outlets by size between rural, provincial urban and metropolitan areas. The smallest size category is predominantly rural, whereas the largest size categories are predominantly located in the metropolitan centres of Auckland, Wellington, Christchurch and Dunedin (Figure 2.4). There are also major differences between individual regions, some predominantly rural regions having a preponderance of small outlets. Northland, for instance, has 70 percent of its outlets in the small category; East Cape has 76 percent; Aorangi has 79 percent; and

Clutha-Central Otago has 80 percent. It is significant that many of the regions with a high proportion of small outlets will also face considerable delivery cost increases if wholesalers cease cross-subsidising distribution.

2.2.3 Likely changes in retail structure

There is a widespread agreement on all sides of the deregulation debate that one result will be a reduction in number and increase in size of petrol retail establishments. The oil companies make no secret that they will seek to secure market share through acquisition of retail outlets, but they also claim to be constrained in the extent of their likely acquisitions.

The main limitations on the companies' involvement in retailing will be:

- a) the cost of retail investment and the returns obtained;
- b) their lack of comparative advantage over independents under a range of conditions;
- c) the strategic advantage of non-wholesaler companies in purchasing prime sites prior to deregulation.

This latter limitation was removed with the end of the prohibition on wholesaler involvement in retail businesses. To some extent oil companies have been able to circumvent this limitation by a number of means, including securing long term supply contracts with retailers and first options to purchase in the event of retailers wishing to sell.

Given these limitations, acquisition strategies of all four oil companies are broadly similar. They will be concerned with securing economies of scale and scope in their operations, with most interest in sites on arterial routes with high volume, and on the potential for multiple use of sites. They will seek "volume concentration", the acquisition of sites whose proportion of national throughput exceeds their proportion of national pump capacity (i.e. have above average throughput).

Figure 2.3

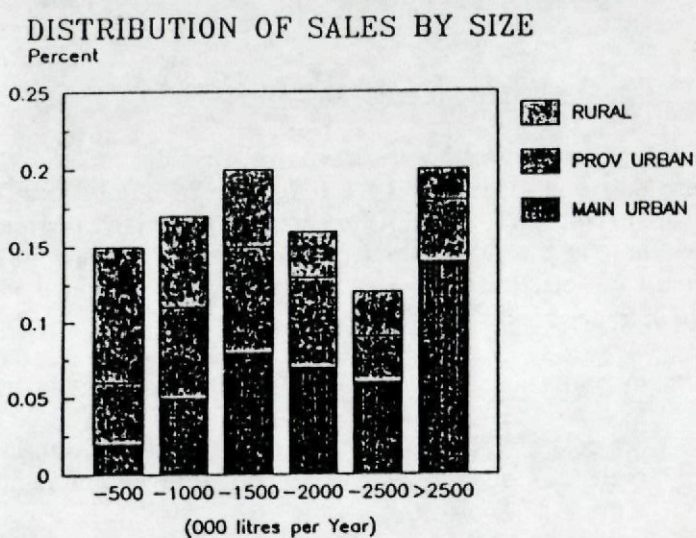
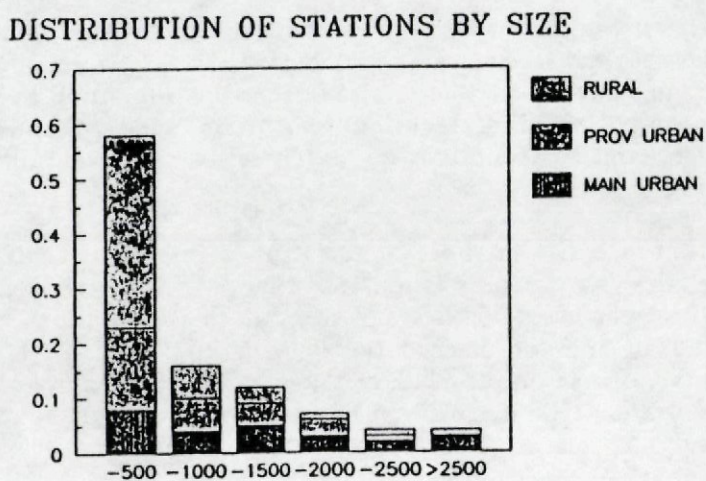


Figure 2.4



The means used to secure outlets will vary. Those sites which have a good current record and potential for expansion are prime candidates for direct acquisition by the wholesalers; those with a good current record but little potential for expansion are likely to be offered franchise rights, with some wholesaler support for retailer improvements; and those with currently small sales and no potential are likely to receive supply contracts. Expansion in this context refers primarily to throughput, but this also implies room to physically extend and/or realign the layout of an outlet. Many inner city sites would therefore not qualify for acquisition on these criteria, because a small site precludes rapid traffic flow past the pumps and enlarging such sites involves high cost in land purchase and planning delays.

As long as the oil company earns enough from an outlet to cover its costs of servicing that outlet (e.g. delivery costs, maintenance of pumps and tanks) and the outlet continues to contribute to its market share, supply is unlikely to be withdrawn. It appears that retail outlet closures to date have shown no pattern to suggest any particular type of station more vulnerable than any other, and that most closures are caused by failure of the retail operation rather than withdrawal of wholesaler's supply (see Section 6).

The evidence from overseas suggests that wholesaler acquisition will not be total, and there appears little incentive for oil companies to acquire petrol stations if they can secure market presence in less costly ways. In the USA oil companies have a proprietary interest in around 30 percent of outlets. Few of these are company-run businesses, the preferred form being some franchise or lease arrangement, under which the retailer retains some independence in terms of setting prices, opening hours and range of services (Barron and Umbeck 1984).

In Britain wholesaler ownership of retail outlets increased from 28 percent to 42 percent over the period 1964-1979, during which time the total number of outlets dropped by a third. New entrants directed a higher proportion of their sales through their own outlets than the six most established companies. Amongst the new entrants there was a marked difference in behaviour between the integrated oil companies (i.e. those with an interest in refining, wholesaling and retailing), which acquired significant numbers of sites in the 1960s

and 1970s; and the non-refining wholesalers, who relied on their own sites for a relatively smaller proportion of their total sales (Shaw and Simpson 1985). Some of the non-refining wholesalers preferred to minimise their capital requirements and retain flexibility by using 3-5 year supply contracts to secure their retail outlets.

In Australia, partial divorcement is now in place under a Federal law passed in 1983 requiring oil companies to divest 50 percent of their company-owned retail outlets. Following the 1979 oil price shock oil consumption contracted and Australia was left with excess refinery capacity which led to fierce price competition by both wholesalers and retailers. The major companies shifted their emphasis away from market share maintenance to improving profits and returns from capital, through site acquisitions, rationalisation and a retreat from some remote rural districts. Allegations of transfer pricing and unfair trading practices by oil companies towards their independent retailers caused sufficient concern amongst officials at both Commonwealth level and in some states to have prompted the partial retreat to divorcement (Scott 1986).

2.2.3 Regional impact

The regional implications of this structural change differ from the common portrayal of struggling rural and prosperous urban areas. For a number of reasons competition between sites is likely to be most intense in the urban areas:

- a) new entrants are likely to concentrate on main centres;
- b) high opportunity cost of land will cause a shift from inner city sites;
- c) cramped sites will encourage relocation of suburban outlets;
- d) existing or new sites on main routes will be more desirable.

In rural areas petrol is often a small share of a mixed business, associated with grocery retailing, workshops and other services. Customer loyalty is often strong, due in part to remoteness from competing outlets, and petrol retailing businesses are expected to be able to pass on petrol price differentials. An AGB McNair survey of petrol outlets in (mostly) rural areas lends support to this suggestion with results indicating that:

- a) most consumers usually use one or a small number of stations;
- b) the breakdown suggested loyalty was stronger in more rural areas;
- c) proximity to home was the main reason for choice of usual outlet;
- d) price reductions were not much incentive for going greater distances to obtain petrol.

Of the survey respondents using the smallest outlets, 40 per cent would have more than 20 minutes drive to the next nearest station while 42 per cent would be willing to drive 10 minutes to save \$3 on a tankful (approximately 8 per cent of the price of a tank). By way of illustration (using average rather than the more strictly relevant marginal costs), the Ministry of Transport in 1987 estimated running costs (including fuel, oil, tyres, repairs, maintenance and depreciation) for a petrol car in the 1600 - 2000cc category at 29.28 cents per kilometre. If the vehicle were to travel at an average of 60 kilometres per hour it would cover 10 kilometres in 10 minutes, incurring costs of \$2.92 which would virtually negate the price saving.

These results are not complete, but they imply that although remote retailers may pass on the wholesalers' delivery costs to customers, the incremental price difference between one outlet and its nearest competitor would unlikely be sufficient to divert many customers between the outlets. Other factors operating in the rural areas, such as lower land rents, rates, labour costs etc. mean that the wholesalers' up-country differential is unlikely to be translated directly into the retail price, and these factors could be more important for outlets' viability than petrol price.

Similar influences apply to some suburban stations. Those for which petrol sales are only a small proportion of total revenue, which offer specialist services or convenience grocery supplies, or which have a strategic location relative to their suburb, will be in a good position to survive. Staff from one wholesaler commented that the experience of stations in Europe is that demand at some suburban outlets displays very little price elasticity or cross-price elasticity with neighbouring outlets, presumably due to consumer "loyalty" to the

package of services offered. Stations at risk from increased competition in urban areas will be:

- a) those primarily dependent on petrol sales;
- b) those occupying sites with high value for other uses;
- c) those whose sites physically deter increased throughput and other attempts to enhance business.

In Britain, the deliberate withdrawal of Shell and Esso from low volume outlets in the 1970s led to the emergence of non-refining wholesalers (e.g. Ultramar, Pace, Anglo) specifically targetting the rural and suburban markets. In Australia also major oil companies withdrew from some remote rural areas, leaving a gap which independent wholesalers filled. While the New Zealand case may not be strictly analogous, due to the dispersion of the rural population and the availability of supplies, the British and Australian experience suggests it is feasible for two distinct markets to co-exist with markedly different price structures, and for low overhead independents to survive in low volume markets.

3 OIL INDUSTRY BEHAVIOUR

3.1 Inputs

3.1.1 Wholesale level

Some consideration of inputs at wholesale level is given in the discussion of barriers to entry in Section 5. All the existing oil companies currently claim that there are no significant areas of further efficiency gain to be realised in wholesale storage and distribution of petrol. They also suggest that they have under-recovered from the petrol pool account in recent years, and therefore look forward to deregulation as an opportunity to rectify this situation.

Recent changes to inputs at wholesale level have included rationalisation of storage facilities at ports and inland depots; and restructuring of the road tanker fleet whereby owner-drivers own most tractor units, and the companies own only the trailers. Companies have been reluctant to divulge details of their operations. Moreover, as multiple-product companies some of the overhead allocation between products is obscure. However, there is clearly an implicit expectation that vertical integration into retailing will improve utilisation of inputs into petrol distribution as a whole, as well as securing market outlets for each companies' products.

The arguments used by oil companies in defence of wholesaler integration hinge on their perceived need to protect their market position. Apart from securing outlets, the companies suggest that the maintenance of their market shares requires redevelopment of retail outlets (e.g. redesign of forecourts, changes in pump and tank configuration) which are beyond the financial capabilities of individual retailers. Separation of the retail and wholesale interests in some cases does not provide sufficient protection of the wholesalers' investment in facilities. Ownership of retail businesses provides the incentive for investment required by the wholesalers, as well as providing opportunities for cost savings and greater control over the image and quality of the service provided by outlets.

3.1.2 Retail level

The main changes in inputs are likely to be of labour and land. Labour in retailing is likely to be reduced due both to a change from mechanical to general retailing staff, and the shift to self-service. In pursuit of improved returns from the site and the image of convenience to customers, many outlets are likely to operate long hours, resulting in shift working. This will be a less costly proposition if the staff are not required to be trained mechanics, which at one stage was a necessary condition for the granting of a retail licence.

According to the MTA's financial survey of service stations, wages made up around 60 per cent of total expenses net of supply costs for the average outlet surveyed (annual petrol sales of 1.6 million litres). Almost a third of the wages bill was attributable to the proprietors' salary, but this proportion has fallen compared with earlier years. The installation of self-service pumps at larger outlets is estimated by one oil company to offer potential reductions of up to 60 percent of full time staff and 50 percent of part time staff.

With respect to land use it is likely that deregulation and increased competition in urban areas will increase the awareness of opportunity cost of sites with a high land value. The relocation of stations from inner city sites to larger, but less valuable, arterial route sites, and the development of multiple retailing, might be expected to reduce the land component in the capital structure of petrol retail enterprises.

The Commission of Inquiry in 1976 found that 72 percent of retail businesses held freehold title to their sites, and 28 percent had a leasehold interest (including sites leased from wholesalers). The proportion of freehold interests was progressively greater the smaller the annual throughput of the outlet; and leasehold was significantly higher in certain areas, notably in Auckland, Wellington, Northland and the Bay of Plenty. With increasing concentration of sales through high-volume outlets, it is likely that the significance of leasehold in retail businesses has increased and will continue to increase after deregulation.

A feature of current petrol retailing in New Zealand is that pumps and tanks are owned by the oil companies, who also take responsibility for their maintenance. If retailers sought to acquire ownership of equipment to remove any influence which may be exerted by wholesalers, the interest charge (at 20 percent) on new equipment would amount to approximately 2.5 cents per litre on an annual throughput of 500,000 litres and 1.7 cents per litre on a throughput of 1.5 million litres.

3.2 Outputs

3.2.1 Product range

If most of the restructuring of retail outlets occurs in the urban rather than the rural areas, there may be little real change in the availability of supplies throughout the country. The effect of restructuring will be to remove outlets in areas which are currently overpumped. There will be some localised reduction in availability through relocations, e.g. through increased driving times from home to outlet, but to the extent that the opening of new outlets takes advantage of improved site layout and design (e.g. by a configuration of pumps which allows all to be used at the same time) consumers will benefit from a shorter turnaround time.

All of the current wholesalers are committed to continuing to supply unleaded 91 octane petrol, for strategic reasons. Although it is a slow mover, it also accounts for a small volume and represents a small reduction in wholesalers' profits. Some contraction in regular grade storage capacity at coastal depots has already taken place. Individual retailers are more likely to feel pressured into removing this fuel from their product line, since up to a quarter of pumps and tanks at retail outlets may be dedicated to its use, so there may be some loss of availability in smaller outlets. CNG/LPG are slow fillers and tend to clog up the free flow of vehicles through petrol stations, so they are likely to be removed from the main forecourt area of new and refurbished stations, or dropped completely from small stations with limited space.

The product range of stations chasing increased sales is likely to expand as the selling operation takes on more of a retail than a

workshop emphasis, as is already occurring at some outlets. The search for improved returns per site is likely to see an increase in multiple retailing, with accessories, groceries and other convenience goods being increasingly available from forecourt shops. On most of the larger stations this is likely to be arranged on a franchise basis, since the station operators are not likely to have comparative advantage in high volume retailing and the cost of acquiring sites may deter the freeholders' involvement in further developments. In this respect the oil companies and independent multiple-outlet groups have advantages over small independent retailers, because of their interest in prime site locations; because they will be able to offer a potential franchisee a range of sites to operate on; and because they may be able to undertake group purchasing and promotion.

Diversification of retail outlets into general stores with strong brand association is already apparent in such developments as Shell Supershops, BP Superstores and Oasis stores on Europa sites. In most cases it is expected that the store will remain an adjunct to petrol retailing, rather than the other way around. Few of the retail grocery outlets in this country have sufficient volume to be able to justify using petrol as a loss leader, in contrast to the hypermarkets in France which now account for 20 per cent of petrol sales.

Some uncertainty surrounds the attitude of wholesaler-owned retail outlets towards products of competing suppliers, such as the independent brands of lubricating oil. If these brands were dropped by a particular outlet it would be difficult to establish whether this was for commercial or other reasons. A related question is that of full-line forcing in supply contracts, which is discussed in Section 5.

3.2.2 Product differentiation

Non-price competition has been a feature of petrol retailing under regulation. All the oil companies suggested an increased emphasis on non-price competition would follow deregulation; advertising aimed at differentiating their products; the use of fuel additives; staff service training; giveaways with purchases; the use of distinctive packages at their outlets. The need to present a uniform image would also support the use of company wide franchise agreements

with other service operators. In the run-up to deregulation all the major companies advertised extensively: BP/Europa promoting brand image, the others stressing product additives such as Caltex Techron, Mobil Max additive and Shell's Spark-aider.

This is in contrast to the experience in Britain over the 1960s and 1970s, where the emergence of cut-price independent wholesalers, along with a uniform system of grading, largely eliminated product differentiation. After 1969 expenditure on petrol advertising by the major companies fell in both money and real terms, and promotional schemes involving gifts, trading stamps and contests declined in the late 1970s to be replaced by direct price competition at wholesale and retail level by both the independents and the major companies. This homogenisation of consumer perception of petrol has been attributed as being both a result of competition and a factor in keeping the market open to new entrants (Shaw & Simpson 1985).

If deregulation gives retailers and wholesalers freedom to set prices, it is more likely that, contrary to the wholesalers' stated expectations, attention would be diverted away from non-price to price competition. Although wholesalers may not perceive it as in their interests to become involved in long-term price reduction and may try to use non-price competition instead, it will not be easy to establish brand-loyalty based on product differentiation. Their ability to use additives or introduce new grades of petrol as a means of differentiating their product from others in the market will be constrained to some extent by the standards set for product specifications. The Commission of Inquiry (1976) placed product quality low on the list of factors influencing consumers' purchasing of petrol, and noted that only in one instance (Caltex Boron) had the introduction of a new brand led to a significant increase in a company's market share.

Self-service outlets are expected to become more prominent, with the reduced labour requirement being used to offer reduced prices to customers. Self-service is already being widely used, but does not appear yet to have led to much price reduction being offered to consumers. At the same time there will still be some stations which continue to offer full service and mechanics on site as part of the distinctive package of services they offer. The experience in the USA has been that where self-service is offered, a majority of

customers prefer it. The "service premium" in some states may be in excess of 20 percent of the self-serve price. Many US outlets offer both self-serve and full-service on the same forecourt, but the lower volume outlets here are likely to offer only one or the other.

3.3 Regulation

The principal regulation of retail sites once deregulation is enacted will be through local authorities' town and country planning. In the past district schemes have defined distinct zones in which various "predominant" and "conditional" uses were permitted. Such controls and design specifications attached to the permitted land uses have acted as a constraint on the freedom to locate oil storage depots and retail outlets, although the provision for "specified departures" from the district scheme zoning and the option of appeal to the Planning Tribunal has made them a less rigid constraint than the issue of retail licences. The town and country planning legislation is currently under review and its future form can only be surmised, but it is likely that revised legislation will aim to invest more power in the local planning authority, reduce the sources of delay in the planning process, and relax some of the current controls on market-led land-use allocation.

The MTA consider the current planning controls are inadequate and could result in a proliferation of new sites. They also suggest that the oil companies were already violating the licensing laws prior to deregulation by surreptitiously acquiring sites and attempting to place "first refusal" clauses on supply contracts with retailers (i.e. giving them first option if and when the business is sold). They have similar reservations about the ability of the Commerce Act to control illegal trading practices between suppliers and retailers.

An inquiry in 1986 into wholesaler imposed agreements for supply and rights of first refusal found that three of the oil companies' contracts did contravene existing licensing legislation. However, it concluded that agreements conferring such rights with proper safeguards may smooth the deregulation process (MSLA 1986).

The MTA's reservations on the adequacy of planning controls are based on the following suppositions. Wholesalers frustrated in their

attempts to acquire existing sites will be able to purchase and develop alternative sites nearby. This would set the scene for predatory pricing by the company-owned outlets and the termination of supply to the existing retailer. In practice the delay and set up costs of establishing new sites and the opportunities for retailers to approach other suppliers, suggest that in few instances would this be a viable option, and that most site competition will be for existing establishments. The question of whether the Commerce Act has sufficient power to identify and prove anti-competitive practices hinges on the issue of distribution of power within a market characterised by a concentrated group of suppliers and a fragmented retail sector of small operators serving an even more fragmented set of consumers.

Oil companies on the whole favour the removal of the licensing authority and regard the planning controls as not a particularly onerous restriction on their activities. Their principal concern is that the controls should be consistent, both between districts and over time.

Two further areas for continuing regulation and monitoring have been identified. One was the question of product specification, which some of the oil companies and the Consumers' Institute considered required stricter control. The oil wholesalers may be able to invoke passing off laws to prevent fuel from alternative sources being sold through their pumps. However, individual customers would face considerable difficulty in proving that their fuel was deficient, or in tracing that deficiency to a particular source. (Note that the recent Shell formula case was only discovered through fleet cars run from a single fuel source, and is not strictly analogous to the case of private vehicles using defective fuel from individual stations). While it can be argued market mechanisms will force some quality standards on the industry, they are clumsy and retrospective in effect, and a case for public intervention in setting standards can be made.

The second area concerns regulations governing the handling of dangerous goods. The oil companies raise the possibility that a new entrant may attempt to cut corners in this respect, and argue that a public safety case can be made for government monitoring and control of this area. Their main concern is that all the competitors

in the wholesale and retail sectors should face the same basic minimum requirements.

4 OIL INDUSTRY PERFORMANCE

4.1 Supply Availability

The organisation of the motor spirit distribution sector under regulation in New Zealand has resulted in nationwide availability of petrol in both urban and rural districts. The common ex-refinery price, the price equalisation in coastal shipping and retail price control has ensured that consumers in all parts of the country face the same pump price for petrol.

There appears to be no inherent reason why the availability of petrol should change much with deregulation, providing prices can be raised sufficiently to cover the costs of distribution to remote areas. Since the demand for petrol is relatively inelastic, price increases in remote areas should not result in large reductions in consumption. The pattern of consumer purchases may change, but while there may be some thinning in the network of outlets, there is little reason to expect some regions to lose their supply. A possible exception to this general case are those off-shore islands (principally the Chathams) which currently obtain a large subsidy through the price equalisation system.

There may be some reduction in availability of certain products in certain areas, due both to the reduction in retail outlets and the competitive pressures placed on those which remain. Slow moving products such as regular grade petrol or CNG may be removed from smaller outlets. It is unclear what is the minimum throughput required by the oil wholesalers to continue to supply small outlets, and at what point they would cease to service the tanks and pumps they hold at such outlets. The present customers of such outlets are likely to face the costs of supplying petrol to such locations, either through the delivered wholesale price or through the need to travel further in their vehicles to collect their supplies. With the exception of the offshore islands, it is unlikely there will be instances where supply is neither viable for wholesalers nor feasible for consumers.

4.2 Price Structure

The three principal pricing issues in deregulation are:

- a) is there any consistent link between divorcement and prices;
- b) what will be the regional impacts of deregulation;
- c) what will be the effect on price stability?

4.2.1 Effects of divorcement

The state of Maryland in the USA has legislated divorcement between retail and wholesale gasoline interests. The MTA and Consumers Institute have quoted one study which suggests that petrol prices in Maryland since divorcement have been below those found in neighbouring states without it (Putnam Hayes & Bartlett 1987).¹ This study used the price of self-serve gasoline as a commodity price, and examined trends in Baltimore and six non-divorcement cities over the period 1979 to 1986. The findings suggest that:

- a) Baltimore self-serve prices were consistently lower than those elsewhere;
- b) the service premium on full-serve in Baltimore was generally higher;
- c) the results were not sensitive to changes in the cities sampled.

Unfortunately it is not clear from the paper exactly how the comparative prices were derived. The non-divorcement price appears to be a weighted average of the prices in the other cities and may conceal some variation between them. Although it is clear that the prices removed local and federal taxes for comparison, it is not clear whether the resulting price includes or excludes transport charges or, if it does include them, what effect that has on price differentials. Baltimore lies close to the main pipeline from the Gulf, whereas some of the non-divorcement cities (e.g. Boston) are some considerable distance from it and would face extra costs in inland transport or coastal tanker supply.

1. Another study (unsighted) by Lundberg with similar conclusions is quoted in Scott 1986.

An alternative examination of the effect of divorcement in Maryland is provided in a paper by Barron and Umbeck (1984). They noted that after divorcement a number of wholesaler operated stations converted to franchise operations, in which the franchisee is a "residual claimant" on the net revenue flow of the business (i.e. a risk-bearer), purchasing gasoline and leasing land and buildings from the wholesaler. In this situation the right to set prices and hours of operation passes from the wholesaler to the station attendant, so they undertook a regression analysis to see if there was any change in either prices or hours between the divorcement and pre-divorcement situation. Their results suggested that prices for all categories of fuel rose following divorcement, and opening hours fell for those stations converted to franchise operations. Opening hours for competing stations sold off to independent operators rose.

The evidence from the Maryland studies is conflicting and incomplete. If the price being considered in the first study includes the differential transport charge, the discrepancy between Baltimore and the non-divorcement cities can not be attributed to the act of divorcement. Even if transport charges are removed from the prices used, the pattern of lower self-serve prices and higher service premium in Baltimore need not be due to divorcement. Other factors, such as the level of state and federal taxes (which are specifically excluded) or the proportion of self-served and full-served petrol sales may differentiate Baltimore from other states and contribute to a different pricing strategy being used by petrol retailers there.

The second study suggests that the Maryland prices could be lower still in the absence of franchises brought about by the divorcement legislation. An implication made by the authors is that franchisees have different incentives from company station managers, placing a higher value on their leisure time. Their results are contrary to the usual expected outcome of franchising leading to longer hours and lower prices. It is possible that franchised outlets have certain features (e.g. location, mix of petrol/non-petrol business) not explicitly covered by the study which might account for their different behaviour; or that the possession of a franchise confers a rent on franchisees (for instance, from security of supply compared with independent stations) which they extract through the hours and

prices they set. This study is more revealing about a particular form of franchising arrangement than it is about the act of divorcement.

On the evidence available the case for divorcement is at best not proven. In any event the difference between "actual" ownership by wholesalers and pseudo-ownership through franchising, leasing of pumps, tanks or sites may not be great. The Maryland form of divorcement which permits franchise operations is not the same as the divorcement enforced in New Zealand. Moreover, overseas experience suggests that franchising is a common arrangement between suppliers and retailers even where wholesaler ownership is permitted. The real issue behind divorcement arguments is not one of efficiency of petrol distribution so much as the relationship between suppliers and retailers and the distribution of returns between them. So if retailers perceive their fragmentation as a disadvantage, some form of co-operative action would provide more effective countervailing power than restrictions on business ownership.

4.2.2 Regional price variations

Regional variations in prices after deregulation are likely to reflect three variable components: landed prices at each of the coastal depots; inland transport costs; and retailers' margins, which themselves will be determined by the nature of individual businesses, product mix, scale of operation and site costs. In addition, two further components of the petrol retail price can be considered as constant throughout the country if Marsden Point receives protection: the cost of petrol supply ex-refinery and the tax and duties paid to government.

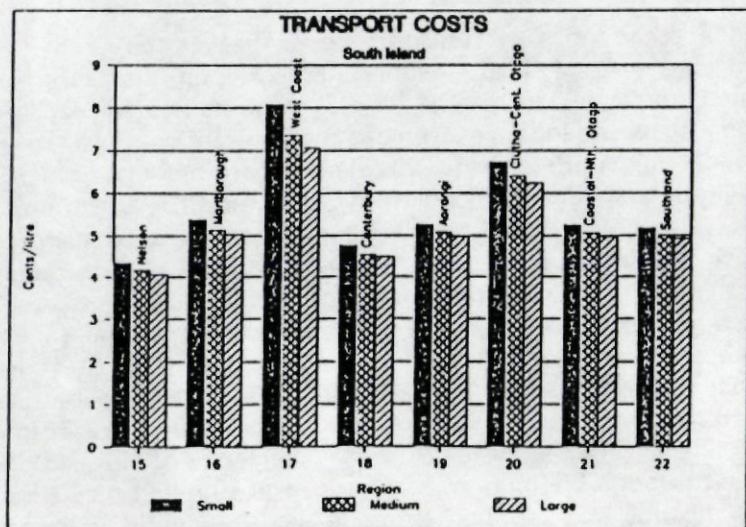
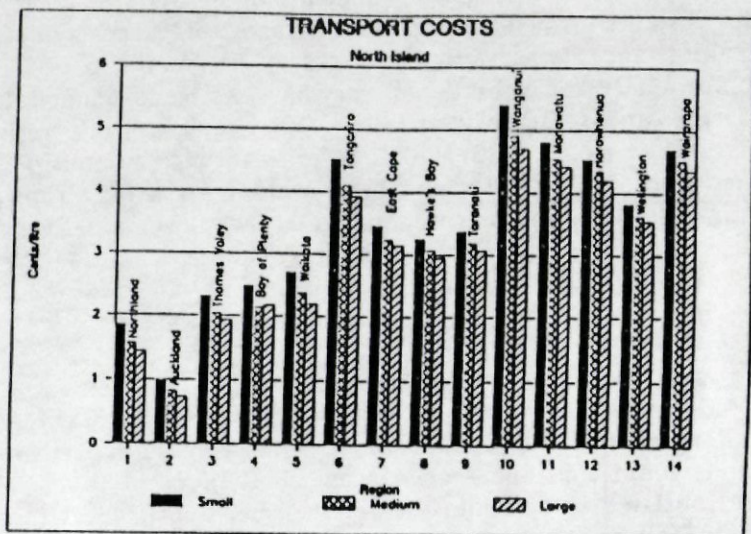
The current average coastal shipping allowance of 1.7 cents per litre translates to approximately 0.3 cents per litre of petrol transported via the Refinery-Auckland Pipeline and an average of 2.66 cents per litre for all petrol transported by ship. The total petrol shipping bill in 1986 was \$36 million which, if apportioned on the basis of tonne-kilometres of petrol delivered to each port, implies shipping costs ranging from 0.69 cents per litre to Mount Maunganui to 4.52 cents per litre to Bluff.

The cost of inland distribution depends upon the size of the truck used, distance travelled and the number of stops made. Some companies take the view that a one-drop delivery trip is ideal and maintain a fleet of vehicles of varying sizes to accommodate small and larger drops. Other companies suggest they use only vehicles of the largest capacity - 30-35,000 litres - and fit in multiple drops. The most costly delivery would be one involving many drops and an overnight stop for the driver. Such a trip would be a delivery to the Haast Pass, the cost of which on a moderate load (20,000 litres) would be around 11 cents per litre (i.e. in addition to the wholesaler's basic price covering storage, overheads etc.).

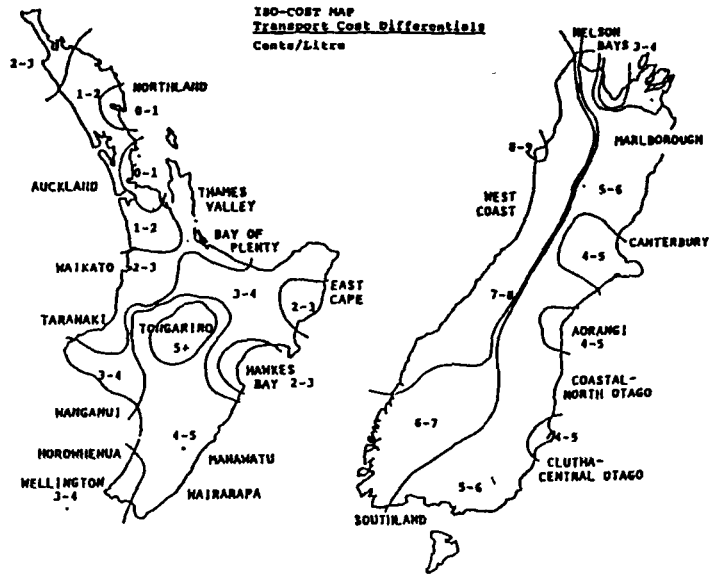
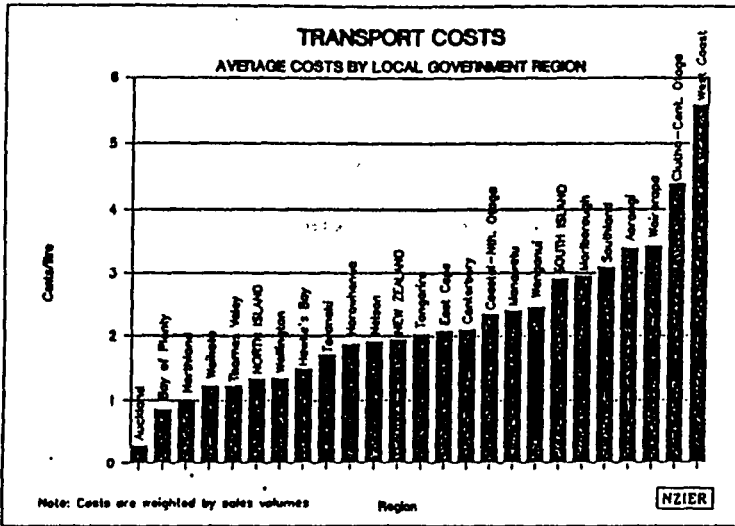
There seem to be some differences in the position of the oil companies with regard to delivery and the up-country differential, but all agree that supply to even the most remote parts of New Zealand would continue - at a price. The differential was unlikely to be translated in full into the retail price, due to local factors of competition, land prices, labour and so on. The cost of land and labour in particular would be quite different in the provinces from the metropolitan areas, oil companies currently having to pay above award rates to retain staff in the main centres.

Using a series of road transport costs, broken down by distance carted and size of load, superimposed upon the shipping costs outlined above, Figures 4.1 to 4.3 show estimated variations in delivery costs for local government regions. In making the estimates the receiving outlets were divided according to annual petrol throughput - small (<500,000 litres), medium (0.5-1.5 million litres) and large (>1.5 million litres) - and allowance was made for the number of licences in each of the size categories in each region. On the basis of the assumptions used in these calculations Auckland, sourced via the RAP, is the region with lowest transport costs, and the whole of the South Island has transport costs greater than the national average. Some North Island provincial areas lying a long way from coastal depots also incur higher than average transport costs. These could be brought below the average if, instead of being supplied through Wellington, Manawatu was supplied through Napier and Wanganui was supplied through New Plymouth. These results omit, for lack of information, variations in handling charges at each port and storage capacity constraints which may exist.

Figure 4.1



Figures 4.2 & 4.3



The results of this exercise support a number of expectations:

- a) South Island retailers face larger cost increases than those in the North Island;
- b) Provincial North Island retailers can expect larger increases than metropolitan areas;
- c) those regions with wider distribution areas face wider variation in cost increases.

4.2.3 Price instability

Concern over price wars and price instability has been heavily influenced by the experience in Australia, particularly Sydney and Melbourne, where discounting is widespread amongst all the major brands. Generally the oil companies claim that it is not in their interests to have widespread discounting, since they will be seeking a return on their investments in the retailing sector. Discounting is usually initiated by an independent wholesaler aggressively seeking market share, against which the major companies respond by discounting their supplies. However, a cycle of discounting could develop in a number of other ways:

- a) full-serve stations discount to match the price of self-serve;
- b) convenience stores use petrol as loss leader to increase sales;
- c) retail groups make bulk purchases and obtain wholesale discounts;
- d) mayhem! - all wholesalers discounting to their outlets.

All of these processes may escalate into a price war, at least among stations located in proximity with each other. Retailers watch the prices posted by their neighbours and, if they appear to result in trade diversion and can not be matched by reducing the retailer's margin, put pressure on their wholesalers to obtain discounts and defend their market share. There is a distinct difference in opinion between the MTA and oil companies as to who holds the strongest position in negotiating discounts. The MTA claims power rests with the wholesalers, but the oil companies claim that the defence of their market share has resulted in the reduction of wholesaler margin in Australia in recent years.

Site restructuring can also set off a price war. A wholesaler seeking an outlet in a new area may tempt an established retailer to switch supply by offering discounts. The discount may reflect particular characteristics of the outlet, the image portrayed by its appearance, or simply its location. If the retailer uses this wholesale discount to reduce the retail price, other retailers in the area will seek similar discounts from their respective wholesalers. A similar process could result from one retailer using shop sales or internal cost reductions to pass on discounts to customers.

Posted retail prices and assumed retailer margins are widely used to infer wholesale prices obtained by other retailers (see Marvel 1978). The reliability of this practice, and its tendency to lead to price instability is likely to worsen as the structure of retail businesses becomes more complex and the scope for internal cross-subsidy increases. If price stability were regarded as a social goal to be pursued, some form of intervention may be appropriate, such as the disclosure of posted wholesale prices. However, this also makes it easier for wholesalers to collude (USFTC 1982), and some price instability is necessary in a competitive market.

There are limits to the extent of price warfare. Outlets which show little price-volume sensitivity (e.g. rural or suburban) have little incentive for undertaking fierce discounting. It has also been suggested that the discounting in Australia is confined to the major metropolitan areas, developed over a number of years of gradual relaxation of regulation, and may even reflect the cultural background of the population. Retailer margins range from around 3 to 4.5 Australian cents in Sydney, and sales at main route outlets are reported to be highly responsive to differences in retail price of 1 cent. (The retail price of premium grade was around 59 cents per litre in mid-1987).

The current preference shown by customers for convenience to home in choice of outlets, and reluctance to drive out of their way for cheaper supplies, suggests that a price-war mentality may take some time to develop in New Zealand. Most retailers to date have not taken advantage of the removal of minimum price controls, recognising that they are unlikely to increase their sales volume by the 25-30 per cent necessary to maintain their revenue from a 2 cent

per litre reduction in retail price (cf. 7.9 cents per litre retailer margin).

Price wars at the retail level appear likely to be localised and relatively short lived. At the wholesale level there is also a question of price leadership amongst competing suppliers. Both the US and British markets have displayed periods when one major company has acted as price leader, either raising or lowering its prices in the expectation that others will follow. When refined petrol is scarce and independent wholesalers find it difficult to obtain their supplies, companies appear to have had some success in raising the price. At other times, independents may effectively lead the price down with discounting. New entrants seeking market share can have the same effect. However, the effect of independent wholesalers in other countries appears to be partly attributable to the number of new entrants and their competition between themselves as well as with the major companies (Shaw 1974). It is questionable whether a single new entrant would continue to act as price leader once it had secured sufficient market presence to give a good return from its operations.

Another issue in price stability is the speed with which exogenous shocks are translated to pump prices. One study of the British market identified four sources of response lag, due to: recognition and decision-making; uncertainty; cost adjustments; and inventory adjustments. Econometric analysis of data for the period 1977-85 showed variations in ex-tax retail prices to be almost entirely explained by changes in ex-refinery prices and in the exchange rate, with some asymmetry in companies' reaction to cost rises (rapid) and falls (slow). The uncertainty as to the permanence of changes and the effects of first-in-first-out inventory control were the most important sources of response lag (Bacon 1986). The ability of a new entrant to continue to compete on price during periods of supply price variation could therefore depend upon its inventory management and storage throughput compared to that of the major companies.

4.3 Margins

4.3.1 Wholesale and retail margins

The 1987 maximum retail price for premium grade petrol (92 cents) contained the following margins:

Retailer margin	7.94c
Inland distribution	11.10c
Coastal distribution	1.70c
Refinery Margin	3.80c
GST on margins	8.36c
Excise Duty	36.36c
Pool account credit	3.24c
Production Cost	19.50c

The item entitled "excise duty" includes 0.66 cents local authority levy, 9.90 cents contribution to the National Roads Board and 25.80 cents collected for the Consolidated Fund, of which 16 cents was originally intended to cover repayments on the Marsden Point refinery expansion. (Actual repayments in early 1988 were around 11 cents per litre). The local authority levy has been unchanged for more than 10 years and the NRB contribution was increased by one cent on 1st April 1988.

The breakdown of the maximum retail price for regular grade petrol (89 cents/litre) is similar, except for a reduction of 0.5 cents in excise duty and a reduction in pool account recovery. Oil companies have complained that recovery of their costs via the distribution margins was in arrears in 1986 and 1987 and they will seek to increase their margin on deregulation.

The retailer margin is considered high by the oil companies, in comparison with e.g. the situation in Australia where the margin is 4.5 cents from a retail price of 59 cents per litre and retailers assume a higher portion of their outlet costs. Tanks and pumps are owned and maintained by the wholesaler in New Zealand, leased to the retailer at a peppercorn rent.

With a constant retail margin there will have been significant economic rents being earned by low cost, high volume outlets, which

will have been capitalised to some extent into the value of retail businesses. If deregulation leads to increased price competition, some of this rent is likely to disappear, and with it some of the value attached to high volume outlets. Therefore it is not in the interests of those acquiring such outlets at the present time to see significant reductions in prices and margins in the medium to long term.

4.3.2 Outlet profitability

Outlet survey results of the MTA show petrol sales accounting for a steadily declining proportion of revenue over the period 1982 to 1986 (from 75 per cent to 63 per cent). Sales items which increased their share of total sales were CNG/LPG, diesel and confectionery. Other survey results (not strictly comparable) suggest the average outlet in 1986, with a petrol throughput of 1.7 million litres, employed shareholder funds of \$62,000 and produced a pre-tax profit of \$5,500 (after deduction of manager's salary). This represented a return on shareholder funds of 8.8 per cent, in contrast to the target of 25 per cent which the price review was meant to provide. The 1986 survey was based on a small sample and, due to the uncertainty surrounding the future of the industry, may not be representative of general results.

5 COMPETITION WITHIN THE OIL INDUSTRY

5.1 Contestability and Barriers to Entry

5.1.1 Wholesale level

There are three principal barriers to entry at the wholesale level:

- a) refinery support, which precludes the sourcing of supplies independent of the major oil wholesalers;
- b) acquisition of essential facilities for distribution;
- c) access to a network of efficient retail outlets.

A major part of this barrier has been removed with the passage of the Petroleum Sector Reform Act. A fourth barrier under previous legislation was wholesale licensing, but this too has been removed.

The acquisition of essential distribution facilities may or may not be a barrier to a new entrant. If a new entrant has access on a common carrier basis to the wharf and refinery facilities at Marsden Point, the Refinery-Auckland Pipeline and the storage at Wiri, the Auckland market would be relatively open to penetration. In this case a new entrant's set up costs would be limited to the installation of load out bays at Wiri; the acquisition of road tanker trailers and contracts with owner drivers; and the acquisition of supply contracts with retailers, and forecourt changes in storage, dispensers and "acrylics" (promotional and branded materials).

Entry into other main centres is more suspect, with the likely need to install storage and dependence on the coastal tanker fleet. However, the Wellington market (including Palmerston North) and Christchurch are sufficiently concentrated to be attractive to a new entrant.

If both the refinery company and the established wholesalers individually attempted to exclude a new entrant (e.g. by offering discriminatory rates on the use of facilities) the acquisition of a separate infrastructure could pose a significant barrier to entry. The landed cost of imported product decreases with increasing size of shipment, but the capital cost of storage increases with increasing capacity, so there is a trade off between increasing shore facilities

and smaller shipments.

Estimates of capital and operating costs for hypothetical shore facilities suggest that even relatively small shipments (20-50,000 tonnes) would require considerable penetration by the new entrant into regional markets (8-20 percent in Auckland, 17-42 percent in Wellington), with cost recovery of around 9 cents per litre on wholesaling alone. Capital costs for installations could range from \$11 to \$26 million over this range of storage capacity, with a further \$3 to \$9 million required for road tanker fleet acquisition. It appears that the scale of operations required to import and the limited size and dispersion of local markets could deter a new entrant from undertaking such investment in new infrastructure.

Entry of a new wholesaler would be made considerably easier if all wholesalers had access to the primary wholesale infrastructure (i.e. wharves, pipelines and storage facilities) on a common carrier basis. Amongst some players in the retail sector, divorcement of primary and secondary wholesale infrastructure is regarded as far more significant than divorcement of wholesale and retail interests. Some parallels exist with the national electricity grid or telecommunications networks which suggest a (state regulated) monopolist controlling primary wholesale facilities could effect savings through reducing duplication and easing entry into wholesaling. Since such a move would amount to requisitioning existing wholesalers' investments in port storage, it would face considerable costs for compensation.

Access to a network of retail outlets is one of the areas in which non-price competition has taken place under the regulated market. Wholesalers have cultivated good relations with their retailers by offering a variety of support measures, ranging from favourable credit, loans for improvements, staff training, assistance with accounting and business records, staff uniforms, site layout and refurbishing equipment on site. The result of such "wooing" by the wholesalers is that retail outlets do change brand, particularly when there is a change in ownership.

There is, however, a long history of suggestion by retailers that switching brands is hampered by an agreement between wholesalers for reciprocal exchanges of sites. Anecdotal evidence suggests some

retailers have found it difficult to obtain favourable terms from an alternative supplier, although this need not imply any collusion or agreement between the wholesalers. The fact that pumps and tanks on retail sites are owned by wholesalers is a complicating factor in any change of supplier. The wholesalers have consistently denied any such arrangement exists and the Commission of Inquiry into motor spirits distribution in 1976 found no conclusive evidence of such a "sanctity of site" agreement between the companies. In evidence to the Commission the companies indicated that attempts to secure brand changes draw retaliatory action and that little is to be gained by active poaching of competitors' outlets.

It appears that in the lead up to deregulation wholesalers have been active in securing outlets, using methods ranging from putting supply contracts onto a more formal basis than has been the case in the past, to entering "first refusal to purchase" agreements with retailers. It has also been suggested that sites have been purchased by individuals or companies acting as nominees for individual wholesalers. This raises the question: if competition for sites existed before, why should it have become more intense prior to deregulation? Possibly because with the removal of price control oil companies can see opportunities for more active marketing and wresting market share from their competitors, and so see a need to secure their market position.

In view of the costs of establishing new retail outlets and the presence in the market of existing wholesalers' brands, new entrants may be at a disadvantage in gaining retail outlets in some areas. However, the emergence of multiple-site retail companies and the prospect of retailer co-operatives being formed suggests that there may be openings for new suppliers. The threat of new entrants is of fundamental importance to the aims of deregulation, since this will discipline the possibility of "implicit" collusion among incumbents which may circumvent the controls imposed by the Commerce Act. Low entry and exit costs are vital if the full benefits of vigorous competition at wholesale and retail level are to be obtained.

5.1.2 Retail level

Entry into the retail market faces a number of barriers of a largely institutional nature. These include:

- a) the acquisition of suitable sites;
- b) the securing of supply and wholesaler support;
- c) the equipping of sites with storage and dispensing facilities.

Under previous legislation, the acquisition of a retailing licence has been an administrative barrier. Ironically, although the purpose of licensing was originally to prevent a "proliferation" of facilities, because the licences have not been terminable they have tended to have the opposite effect, a fact recognised by various revisions in the criteria for assessing licence applications (Commission of Inquiry 1976). Licences have been transferrable between owners but not between sites, which has provided an added obstacle to relocating outlets in order to rationalise the pattern of local distribution points.

The supply of suitable sites for petrol retail outlets is unlikely to be freed up much after deregulation, due to the cost and delay of obtaining planning permission for outlets in new locations. Further constraints will be the cost of installing a new site, compared with the costs of refurbishing existing outlets, and of establishing the new site with local customers. So even in the absence of the values conferred by holding a motor spirits retail licence, existing sites are likely to command a premium over new sites because of sunk establishment costs.

The securing of supply and wholesaler support will depend on the attributes of the site and the particular circumstances of wholesalers' current operations in the vicinity. As noted above, in the past wholesalers' ownership of tanks and pumps and their alleged desire for reciprocal exchanges in defence of their market shares has led to a widespread belief among retailers that it is difficult to switch suppliers. Would it be feasible for retailers to acquire ownership of the tanks and pumps themselves in order to increase their independence from wholesalers? The capital cost of equipping an outlet with an annual throughput of 1.5 million litres appears to be around \$130,000, around double the owner's equity revealed in the MTA survey for a business of similar size. The interest on a loan to cover such a sum would equate to around 2 cents per litre, or even

higher on smaller outlets. Wholesalers would be in a strong negotiating position with respect to retailers wishing to purchase tanks and pumps off them. It appears unlikely therefore that many retailers would see much advantage in freeholding their storage and dispensing equipment to obtain greater flexibility of supply, given the likelihood of their margin shrinking from its current 7.9 cents per litre.

The acquisition of new sites, equipment and ancillary facilities for new outlets is likely to offer a poor return on investment for new entrants, enhancing the attraction of existing sites with partly depreciated installations. On closure of an outlet, pumps can be removed for deployment elsewhere, but tanks represent a literal "sunk" cost and are rarely worth recovering from a site. After the experience of Esso Australia, which sold a number of limited sites with equipment in place which were acquired and successfully used by independent competitors, it is quite likely that existing wholesalers will adopt a "scorched earth" policy towards site closures, pouring concrete in the tanks and ripping up the forecourt to deter subsequent owners from approaching competitors.

Given the relatively high cost and low returns of establishing new outlets, the limited number of existing sites with potential for growth and achieving scale economies, and the arrangements existing wholesalers have made through acquisition by nominees, long term supply agreements and first refusal clauses, new entrants may face barriers in entering the retail business in certain areas. This obstacle is most apparent to a company seeking acquisition of sufficient outlets and volume to exert negotiating strength with wholesalers, or support its own wholesale operations. It would be less significant at the level of an individual retailer seeking to acquire a site.

5.2 Contractual Arrangements between Wholesalers and Retailers

There does not appear to be a standard form of contract between suppliers and retailers. The variety of contractual arrangements can be expected to increase after deregulation if increased competition results, with wholesalers using contract terms and price discounts as

means of securing their outlets and gaining greater control over the dispensing of their fuel.

There is a similar variation in the credit terms which wholesalers extend to their retailers. The Commission of Inquiry in 1976 found that around two thirds of retailers received "normal" commercial credit facilities (payment on the 20th of the month following delivery), 12 percent paid cash on delivery, 13 percent paid fill-to-fill, 4 percent paid weekly and 5 percent on other unspecified terms. But there was wide variation between individual wholesalers' practices, normal commercial credit being received by 44 percent of one company's retailers and 85 percent of another's. The Commission found that more than a sixth of retailers had had their terms altered in the previous two years, nearly half of which were changes from normal commercial to less favourable terms. Slightly over half of these changes had been made at the insistence of the oil companies because of supply debt or other reasons.

Little evidence has been obtained on the current position with respect to contract terms and credit arrangements. Most retailers appear not to have had a formal contract at all, being supplied instead under a fairly loose arrangement with the wholesalers' representatives. There has been some publicity given to an apparent tightening up of wholesalers' contract terms, including making them exclusive dealing arrangements and attempting to link petrol supply to that of other products. The MTA has traditionally had a role in advising its members on contract terms, and seems likely to monitor changes in contractual arrangements in future.

The duration of supply contracts may have significant effect upon the ease of entry for new operators in the market. In New Zealand at present, most supply agreements are on an annual basis although the MTA has reported attempts to make some contracts valid for longer periods. In Britain the Monopolies Commission in 1964 enacted a five year limitation on supply contracts, which has been attributed with maintaining a steady turnover of contracts and allowing independent wholesalers to obtain outlets (Shaw and Simpson 1985). At the same time, at least some of the smaller independent suppliers have depended upon contracts of 3-5 years themselves for securing a presence in the market.

Line-forcing, or the tying of supply of ancillary products such as lubricants to the supply of petrol by wholesalers, is another aspect of contractual arrangements which may impede new entrants in those ancillary markets. Evidence from overseas suggests this need not be detrimental to the operation of the market providing the contract does not specify the quantity of ancillary products to be sold, or prevent other brands' products from being stocked by the retailer. It is quite likely that wholesaler-owned outlets will be discouraged from stocking competing brands of ancillary product, as has happened in USA and Britain, but strong brand-loyalty means that independent lubricants are still stocked by wholesaler-owned outlets in these countries.

5.3 Implications of the Commerce Act

On the retailer side there is some concern at the ability of the Commerce Act to effectively police the degree of competition in the oil industry. The onus lies with the plaintiff to prove the intent of collusion or anti-competitive behaviour on the part of suppliers, and public access to the wholesaler information which might provide such proof is limited. For instance, the retailer who believed he was receiving unfavourable supply conditions in order to encourage him to sell up, would have difficulty obtaining information on what might be reasonable conditions for similar outlets from either his own or competing suppliers. Proof of collusion amongst wholesalers, which may never be put on a formal basis in writing, would also be entirely circumstantial.

A further criticism is that the deliberations of the Commerce Commission are simply too slow. A disruption of supply, pending a Commission hearing, of say two months would be sufficient to drive some outlets out of business.

This section judges how changes in industry structure and firm behaviour will be affected by the 1986 Commerce Act. This Act is the statutory device which regulates competition behaviour in New Zealand. The enforcement and administrative body is the Commerce Commission, with right of appeal to the High Court.

There are two general parts of the Commerce Act of relevance to the oil industry: Part III on Mergers and Takeovers, and Part II on Restrictive Trade Practices.

5.3.1. Mergers and Takeovers

In general there are unlikely to be problems with mergers and acquisitions contravening the Commerce Act in the oil distribution industry. There are currently four distributors and low barriers to entry into retailing, thus minimizing concerns about dominance. In any event given that the distributors are multi-national companies, local company takeovers seem unlikely. If individual service stations (rather than whole chains) change hands, the transactions will fall below the asset threshold at which S50 of the Act applies.²

The only possible competition problems regarding merger or takeover of service stations under the Commerce Act would seem to be if two companies were to consider an asset swap resulting in increased regional concentration of ownership. This happened between BP and Mobil in Queensland and W Australia. Such a case could fall above the Commerce Act threshold, in which case each of the two markets would be reviewed for dominance, and if this is found, subjected to the public benefit test.

It is nevertheless possible that competitive costs could arise from local or short term monopolisation, and that these could fall beneath the Commerce Act threshold. There are two general problems : (i) where entry is tightly regulated, eg petrol stations in National Parks, (ii) where there is a local market too big for one station but not big enough for two. In both these cases there is more room for the incumbent to raise prices before sparking off regulation or entry. Even where superprofits are made, potential new entrants will not automatically invest in the sunk costs necessary to supply petrol until they are sure that the high prices are a long term phenomenon.

Ownership changes on other assets such as the coastal shipping fleet and pipelines could fall under the Commerce Act. In this case the

2. The threshold is that assets of all participants must be at least \$100 million, and the smaller participant must have \$5 million in assets.

Commission might consider common earner issues. However, more interest is likely to be shown in the way they affect trade practices.

5.3.2. Restrictive Trade Practices

A wide range of potential business practices fall under this heading. Most are vertical (price and non-price) arrangements between supplier and retailer. Others are horizontal arrangements among suppliers or among retailers. As a broad generalisation economic theory generally is suspicious of collusive intent from the latter, while viewing the former much more liberally. The only general justification for banning purely vertical arrangements is in the case where they are used as instruments of collusion.

A number of common practices and their likely treatment under the Commerce Act are listed below.³ With tight regulation on the industry in the past, there is little history of oil industry cases coming before the Commission or Courts in New Zealand. In order to assist the interpretation we quote from some Australian, UK, and US cases that have arisen in this industry.

(i) Pricing Arrangements

Price fixing is clearly illegal under the Act (S38) : this covers both wholesalers and retailers. Consequently oil companies should not discuss prices among themselves directly, nor through third parties (such as overseas clearing houses) if there is any intention to use such a mechanism to coordinate prices in New Zealand. Similarly competing retailers must not discuss prices with any intent to fix them, whether it involve a national industry association or two neighbouring proprietors having a friendly chat. The problem for the law enforcer is to establish that price-fixing has actually taken place rather than the tendency of prices to reach an equilibrium through the natural mechanisms of a competitive market.⁴

3. Note that these judgements are very general. Particular cases will differ in their specifics, and specialist legal advice should be sought on them. In addition further detail is available in Hill, B and M Jones Competitive Trading in New Zealand : The Commerce Act 1986, Butterworths, 1986 Van Roy, Y Guidebook to New Zealand Competition Law, Commerce Clearing House, 1987

Resale price maintenance is *per se* illegal under S37 of the Commerce Act. This is the practice whereby the wholesaler sets a level below which the retailer must not drop his retail price. Thus an oil company cannot specify the price at which a service station must sell petrol, nor threaten to withhold supply if the station discounts the petrol.

This prohibition, while not well-founded on economic theory, occurs in the competition law of most Western countries. Its future treatment in New Zealand may be reviewed under the current appraisal of the Commerce Act here.

This has been the cause for a number of judicial actions overseas. In the case of The Commissioner of Trade Practices v Caltex Oil (Australia) Pty Ltd⁵ a sales manager told a petrol station that its wholesale price would be raised unless it increased its selling price. This was judged to be inducing resale price maintenance, hence illegal. In a similar case, TPC v Mobil Oil Australia Ltd,⁶ the oil company refused to grant a service station a rebate because it was selling petrol at a price lower than that agreed with the company.

In TPC v Mobil Oil Australia Ltd⁷ a retail price specified within an approximate range by the wholesaler was still judged to contravene the resale price maintenance prohibition. This prohibition does not hold when the petrol is consigned to an agent for sale. Many distribution arrangements are called agencies, but are not normally considered agents in law and are therefore still bound by resale price maintenance clauses. This was felt to be the case in Simpson v Union Oil Co of California.⁸

4. See Miller, R et al Price Setting and the Commerce Act, Research Monograph No 37, NZ Institute of Economic Research, 1987

5. (1974) ATPR 40-000

6. (1985 ATPR 40-503

7. (1984) ATPR 40-482

8. 377 US 13 (1964)

Price recommendations by trade associations are legal provided they do not have the purpose or effect of fixing prices, and if they do not have the effect of substantially lessening competition. Associations such as the Motor Trades Association with 50 or more members may make "genuine" recommendations without danger of price-fixing. Similarly it seems an oil company could recommend a petrol price to its retailers, and even advertise this recommended price, provided they do not contravene the catch-all section 27 prohibiting agreements with the effect of substantially lessening competition.

Price discrimination is legal under the Commerce Act (though illegal in Australia). Thus a service station could offer varying discounts to different customers. Similarly an oil company could offer its petrol at different prices to different stations. In practice this is likely to occur, not just as a result of different transport costs, but also as discounts for large buyers or in response to certain stations facing heavy competition. Economic theory would consider that this was generally efficient. The danger for oil companies is that they might be caught under the resale price maintenance section as happened in TPC v BP Australia Ltd⁹ where a temporary price support scheme with special credit arrangements was operated by the oil company for certain discounting service station lessees affected by intense competition. When the stations continued discounting the scheme was withdrawn.

Any predatory pricing, that is the driving down of prices to unprofitable levels in order to eliminate rivals, is likely to be illegal under the Commerce Act. However, it is also notoriously difficult to prove. A service station could, for example, cut its price severely and have the effect of driving out of business a neighbouring station. Yet this would not automatically contravene the Act. A contravention might be more likely if an oil company had cut its price in one locality to drive out competition and establish its own monopoly. However this would involve an analysis of transfer pricing within a large company, and would be most difficult to establish.

9. (1986) ATPR 40-652

(ii) Arrangements Among Retailers

Joint buying and joint promotion schemes are legal unless they represent an arrangement substantially lessening competition (S27), or constitute misuse of a dominant position in a market (S36). This issue is most likely to arise where a number of independent stations group together into some form of buying co-operative to extract lower price petrol from wholesalers. They could also go further and jointly promote the petrol under some common name. Given the size and number of oil companies and company-owned service stations, this seems unlikely to contravene S27 or S36.

Costing assistance by an association like the Motor Trades Association (eg. with regard to appropriate ways for service stations to arrive at a price for petrol or accessories) would not necessarily be anticompetitive, though recommending prices directly might contravene the Act.

It is not clear exactly when the mere exchange of information could cause problems under S27. In US v Socony-Vacuum Oil Co¹⁰ it was held that any exchange with the purpose or effect of affecting prices (not necessarily fixing them at a uniform level) was illegal.

Van Roy (1987) notes that other activities by a trade association (of stations or companies) which might be unlawful include: rules excluding anyone from membership, codes of ethics relating to quality, advertising and service that have the effect of imposing standards, and recommended price lists (particularly by an association of the oil companies).

(iii) Arrangements Among Wholesalers

Market sharing arrangements and collective boycotts are prohibited under S29, unless authorisation is obtained from the Commerce Commission. It seems unlikely they would sanction an agreement between oil companies whereby they shared out supply to service stations on a regional basis. This is not the same issue as one company selling off its assets in one region to another.

10. 310 US 150 (1940).

In addition, any evidence of the existing oil wholesalers jointly agreeing to exclude a new wholesaler from access to their port facilities, their tank farms, or their tanker wagons would appear to be illegal under S29, provided some arrangement or understanding to do this could be shown. On the other hand joint ventures such as the coastal fleet and the Refinery-Wiri pipeline would not necessarily be subject to this condition.

A new wholesaler may be excluded from using the trucks of tanker wagon owner-drivers and the tanks and pumps of petrol stations. Whether this is legal would depend on the contracts between oil companies and drivers, and oil companies and petrol stations. However if oil companies collude amongst themselves in the designing of these contracts they are likely to be in contravention of S27.

Joint ventures may have the effect of price-fixing. Under S31 this may still be legal, provided the joint venture does not substantially lessen competition. The joint venture provision is important for the oil company's operation of the coastal carrier fleet and for joint operation of pipelines, storage tanks or other facilities.

(iv) Conditions of Supply

There are a number of vertical practices that occur or may occur in the oil industry relating to conditions under which oil companies supply petrol to service stations. These generally fall under S27 on arrangements substantially lessening competition and S36 on the misuse of a dominant position in a market.

One of the most common is the exclusive dealing arrangement whereby an oil company offers supply only on condition that no other brands are stocked. This is also known as a requirements or "solus" contract. In Petrofina (Gt Britain) Ltd v Martin and Another, a British court declared illegal a solus agreement requiring a petrol station to stock only Petrofina.

In the United Kingdom the Monopolies Commission (1965), while not objecting to the principle of exclusive supply to individual petrol stations, did object to long term exclusive supply contracts, because of its detrimental effect on new entrants. They recommended that

any solus agreement for petrol should not exceed five years, that tying agreements should not commit stations to sell specified quantities of lubricants, and that distributors should not accept commission from petrol stations for sales of tyres, batteries or accessories. In Re Shell Company of Australia Ltd¹¹ approval was sought for this practice, but declined on the basis that this restrictive provision did not produce efficiencies.

The response in New Zealand is likely to be different, though the issue is yet to be tested. The degree of ownership of service station petrol tanks by the oil companies will presumably affect the outcome. So too will any indications that the oil companies could be acting in concert to impose agreements on service stations.

Another agreement is the use of a tying arrangement whereby for example oil companies supply a service station with petrol, on condition they also buy other products through them (line-forcing) or through a third party (third line forcing). Line-forcing (of lubricants) was condemned by the UK Monopolies Commission (1963). Line forcing may also arise as a result of conditions on loans from oil companies.

Another form of tying relates to restrictions that an oil company may put on a lessees' use of land. This has arisen in two British cases Esso Petroleum Co Ltd v Harper's Garage (Stowport) Ltd¹² and Alec Lobb (Garages) Ltd v Total Oil GB Ltd.¹³ A further case could occur if an owner-driver of a petrol tanker seeks to use his vehicle to supply other brands as well; this is a possible outcome if another distributor enters the industry.

Refusals to deal are another trade practice subject to the Commerce Act. Collective refusals to deal are prohibited under S29. Individual refusals to deal may be caught by S27 or S36. However if, as is likely in the oil industry, they concern distributors withholding supplies because the retailer is cutting price, then they may be

11. (1976) ATPR (Com) 35-220

12. (1967) 1 A11ER699; (1968) AC 269.

13. (1983) 1 A11 ER 944

caught by the S37 prohibition on resale price maintenance . This is what happened in two Australian cases TPC v Caltex Oil (Aust) Pty Ltd¹⁴ and TPC v BP Australia Ltd¹⁵ . It is unclear what would happen should oil companies refuse to supply petrol to a new retailer in the market.

Territorial limitations are another issue that might arise. Here major service stations may attempt to require oil companies not to supply other stations within specified territory. Given the number of oil companies available for supply, this is not likely to be serious.

Franchising of service stations is also subject to the Commerce Act. New Zealand has no specific franchising law in contrast to the Petroleum Retail Marketing Franchise Act (1980) in Australia. Here the broad test is whether franchise arrangements are anti-competitive, as is possible when franchisors impose restrictions on franchisees who are competing with them, or franchisees agree to maintain prices. Eagles (1986)¹⁶ examines the wide range of possible arrangements. They are not likely to be a major problem for the oil industry, though the issue frequently arises where service stations also have new car dealerships.

5.3.3. Policy Implications

In summary, mergers and takeovers in the oil distribution industry are unlikely to be a major problem under the Commerce Act, although local supply problems may emerge. The legality of a number of trade practices will inevitably be examined. Interest is likely to centre on resale price maintenance, exclusive dealing and refusals to deal and other agreements between wholesalers and retailers. The situation will become clearer as cases arise before the Commerce Commission and the Courts. The guiding principles are that such arrangements should not substantially lessen competition nor misuse a dominant position.

14. (1974) ATPR 40-000

15. (1985) ATPR 40-638.

16. Eagles, I "Franchising and the Commerce Act 1986" New Zealand Law Journal, October and November, 1986.

Parties which fear they are damaged by such practices can make complaint to the Commerce Commission or seek redress in the Courts. The regulatory role of the Ministry of Energy is not as straightforward, as they are themselves unlikely to be a party suffering harm. The Ministry's obvious course of action if fears the Act is being contravened would be to inform the Commission. If no action is taken the Ministry could probably go to the High Court, convince them they had an indirect interest in the matter, and seek an injunction. They could not seek damages or a pecuniary penalty.

6 TRANSITIONAL ARRANGEMENTS

6.1 General Considerations

The foregoing sections have already indicated the impact of deregulation is likely to be unevenly distributed across the regions and between different outlet types. This section examines the process of adjustment to the deregulated state and the dynamics of a deregulated market.

In considering the course of petrol deregulation, what signals of likely changes are there in the distribution of similar products? Diesel has been free of all price control since July 1987, but as yet little variation in retail prices has emerged. However, the diesel market is not strictly analogous to the petrol market since around 70 percent of diesel is sold in bulk to major users. The bulk market is reputed to be very competitive at present, and while no information has been obtained on discounts and contract terms to bulk consumers, some major users switched suppliers in early 1988.

In combination CNG and LPG account for around 10 percent of automotive fuels and are not currently subject to price control. The regional prices for CNG show no particular pattern in relation to distance from source. However, prices for LPG do show some variation which appears to reflect up-country differential, and also variation within urban areas which suggests local competition. In late 1987, for instance, the price per litre equivalent of LPG in Auckland ranged from 54 to 58.4 cents; in Rotorua, 58 to 61 cents; Palmerston North, 51.7 to 54 cents; Wellington, 54.5 cents; Kaitaia, 60 to 62 cents; and Murupara, 63.9 cents. Clearly the pattern of prices reflects more than transport costs alone, but there does appear to be a pattern of higher prices in remote areas with a small throughput.

The immediate effects of the passing of the Petroleum Sector Reform Act into law are the removal of price control and the ending of the prohibition on wholesaler involvement in retailing. The speed and manner in which the market adjusts is likely to depend upon whether secondary effects are induced by the changed marketing environment, and what form those changes take.

The minimal and most immediate change is likely to be seen in the ownership structure of a number of strategic retail outlets, with the major oil companies consolidating the acquisition positions taken up prior to deregulation. At this stage it is possible the companies may agree to continue their co-operative activities with respect to the coastal shipping operations, in which case main port prices will remain uniform.

Retail price discounting would be a destabilising influence. This could arise if independent retailers attempt to increase their sales by reducing their labour component and moving to self-service; if retailers form a purchasing co-operative to improve the terms of their supply agreements; if the major wholesalers set up some of their company-owned outlets as "flagship" stations with a cost structure which allows savings to be passed on to consumers; or if a major wholesaler tried to acquire outlets and increase its presence in a regional market in which it is under-represented (e.g. Caltex moving into Auckland). If significant discounting takes hold in one locality, other retailers and wholesalers will be tempted to match the discounts of their competitors. Such competition is likely to be most intense in the main urban areas, which in turn will exert pressure on the major wholesalers to reduce the regional cross-subsidy in their distribution operations. At this stage, therefore, significant up-country differentials are likely to emerge in the delivered wholesale price.

A third possibility, but one unlikely to emerge for at least some months, is the arrival of a competing wholesaler, most likely entering the Auckland market. Such a competitor would probably undermine the operation of the coastal shipping fleet, so that even if the major companies continued to operate coastal distribution jointly, cost equalisation would be abandoned and replaced by charges reflecting distance transported.

6.2 Structural Change

Structural change in the number and location of retail outlets seems likely to be a gradual process. Control over minimum retail petrol prices was removed in July 1987, but discounting prior to

deregulation was sporadic and, in most cases, not continuous. The lack of a sustained interest in price discounting by retailers suggests that some external pressure would be required before discounting took hold. Whether this comes from wholesaler operated outlets or a new independent supplier, it would take some time for the impact to be widely felt.

With respect to restructuring in the retail network, the latest figures recorded by the Motor Spirits Licensing Authority are for 1986. The figures show the number of outlets and their combined annual sales, broken down by size into small, medium and large categories; by location into main centre, provincial urban and rural; and by local authority territories, broadly corresponding to metropolitan local government areas (Auckland, Wellington, Christchurch and Dunedin), provincial city council areas; and rural counties, town districts and boroughs.

Over New Zealand as a whole the 14 percent of outlets in the largest category (>1.5 million litres annual throughput) accounted for almost half of total petrol sales, whereas the smallest category (<0.5 million litres throughput) accounted for nearly 60 percent of outlets and 15 percent of sales. The concentration of large outlets was greatest in the main centres, and the concentration of small outlets was greatest in the rural areas.

Site acquisitions by wholesalers and prospective new entrants are likely to be concentrated in the large category outlets, and possibly some medium outlets with potential to become large. Reports of wholesaler acquisitions and supply agreements tying up 75 percent or more of the retail market appear to be exaggerated. Competition for sites is likely to be concentrated amongst the large category outlets, but existing wholesalers are unlikely to acquire all the outlets in this category. Even where a supplier has an option for first refusal on the sale of a site, acquisition is not assured. Such options usually allow the wholesaler to match the best alternative offer received by the outgoing retailer, but since a new entrant may place a higher value on the site than the incumbent, and wholesalers have options on more outlets than they would realistically wish to acquire, some of these outlets may remain in independent ownership.

Without knowing the cost structure of the different types of outlet, limited inferences can be drawn. The implied petrol revenue of the small category of outlet (given 1986 volumes and a retailer margin of 7.9 cents per litre) is clearly too low for such outlets to rely on petrol sales alone. Most such outlets appear to be mixed businesses and, more particularly in the rural areas, relatively immune to the changes brought about by deregulation.

One category which appears likely to contract is that of medium outlets in main centres, which in 1986 accounted for a smaller percentage of main centre sales than of main centre outlets. The same can be said of the small category in all locations, but it is likely that a medium outlet would be more dependent on its petrol sales. The difference in pump utilisation between medium and large outlets is greater in the main centres than in other areas, and those medium outlets which occupy central city sites are likely to face high opportunity cost for land and offer least possibilities for expansion. All these factors suggest that competition for customers will be most intense in the medium size category and will exhibit increasing intensity the more urban the location.

The result will be a thinning in the number of medium outlets in the main centres and a less pronounced thinning of small outlets in the same areas, but the process will be a gradual one. Those medium urban outlets without potential for expansion will have limited value for sale as going concerns, and the costs of decommissioning the site will detract from their value for other purposes. So, depending on the particular nature of their tenancy arrangements, some occupiers may face considerable disincentives to business closure which will slow down the rate of adjustment.

At the end of 1985 calendar year there were 3042 unrestricted licences in New Zealand, but this had fallen by 7.5 percent to 2814 in 1986. Within this change were net losses of 159 small outlets, 98 medium outlets and a net gain of 29 large outlets. The possibility of outlets moving between the categories obscures the degree to which different size categories are prone to closure, but past figures show that the trend towards volume concentration in larger outlets is well established and, for reasons outlined above, likely to be reinforced by deregulation.

6.3 Adjustment in Industry Behaviour

A critical question concerning industry behaviour is what price levels will emerge after deregulation. As suggested in Section 6.1 price discounting is likely to be relatively localised and there is no inherent reason it should emerge without some external stimulus. Since the demand for petrol is relatively inelastic price discounting is likely to result in a reduction in wholesaler or retailer margins unless accompanied by a reduction in operating costs (e.g. from self-service pumps). At the retail level, therefore, an individual operator is unlikely to initiate discounting without having some strategic aim of wresting sales from local competitors, and without perceiving some cost advantage over them.

The application of distance-related coastal shipping charges and up-country differentials implies regional variations in prices which, given certain assumptions, may be estimated in advance. If, for instance, the total shipping cost is allocated to each port on the basis of tonnes delivered and kilometres carried, and if the current structure of large, medium and small outlets and their sales volumes is known in each region, an expected average price for each region can be estimated *ceteris paribus*. The results of such an exercise suggest that most of the South Island, and those parts of the North Island more distant from the coastal ports, would face increased petrol prices, whereas most of the North Island would have price reductions.

Such averages conceal wide variations even within regions, between small outlets in remote areas and large outlets close to the coastal depots. In Northland, for instance, the average delivery charge to small outlets implies a retail price of 91.29 cents per litre, whereas the average charge to large outlets suggests a price of 90.04 cents. On the West Coast of the South Island, where the average is heavily influenced by a proportionately large number of small outlets, the range could be between 90 cents in large outlets and 97 cents in small ones.

The figures are also flawed by the assumption that retailer and wholesaler margins will remain at their current level whereas, at least in the more competitive urban areas, the retailer's margin is likely to

contract. So in Auckland and Bay of Plenty, a reduction of 1-2 cents per litre in delivered cost may be compounded by a reduction of 2-3 cents per litre in retail margin in the main cities, resulting in overall reduction of around 5 cents in Auckland. Some individual retail outlets may be able to offer even larger reductions in price but such heavy discounting, which is likely to be borne by reductions in both wholesaler and retailer margins, is likely to be strictly localised and to have little effect on regional averages.

6.4 Changes in Industry Performance

Changes in performance of the oil industry, or more specifically in the distribution of motor spirits, are likely to become apparent in the medium to long term after structural and behavioural changes have taken effect. A reduction in the number of outlets will improve the utilisation of pump and tank capacity and facilitate cost reductions which can be passed on to consumers. Similarly, changes in industry behaviour which lead to sustained price reductions to consumers represent a gain in overall efficiency and welfare. However, some of such apparent gains may obscure hidden costs incurred at the same time. For instance, if retailing becomes very concentrated in fewer, larger outlets such that the retail price is significantly reduced, part of the apparent benefit to consumers will be offset by extra costs imposed on those consumers who now have to travel further for their fuel. Clearly there will be an overall gain if such changes enable to real savings in resources used for petrol distribution, but the amount of that gain will not be clear because of such variable impacts on part of the population.

6.5 Monitoring Requirements

Since a specific aim of the Petroleum Sector Reform Bill is the removal of government regulatory controls on the motor spirits distribution industry, a rationale is required for any further government involvement or monitoring of the industry. Such a rationale exists in the current government's promotion of competition as a means of obtaining welfare improvements through enhanced efficiency. This in turn suggests that the primary purpose of monitoring, both during and after the transition to a deregulated

industry, is the identification of symptoms of anti-competitive behaviour.

There is scope for monitoring at two levels. At the national level there is likely to be a need for an agency to monitor the operation of the oil sector as a whole, and the interrelationships between the supply, wholesale and retail sectors, since the the distribution of information and resources between these sectors is uneven. The retail sector in particular has an atomistic structure, largely attributable to the regulatory framework in which it has developed, which places it at some disadvantage in dealing with the other sectors, at least in the short term. So a case can be made for an agency to collect and analyse industry-wide information which is available to all parties.

The second level for monitoring is at the local scale. The retail and, to a lesser extent, the wholesale markets for petrol are lumpy and offer a margin for operators to extract monopoly rent in some circumstances, with very little threat of a competitor entering the local market. Monitoring with a view to building up an expectation of reasonable pricing and service provision in different regions would be a prerequisite for identifying when deviations from the expectation occur. In this case also there is an asymmetry of information, between the industry operators and the more fragmented interests of consumers.

In summary monitoring requirements might be outlined as follows:

Pricing

- 1/ Establish reference price series for overseas sourced product.
- 2/ Collect national average price series.
- 3/ Compare local price development against reference price.
- 4/ Disaggregate national series into regional prices.
- 5/ Compare regional price developments against a reference price (perhaps Auckland).
- 6/ Develop a transport cost model.
- 7/ Use reference price of imported product in model to produce expected prices for each region/district.
- 8/ Compare actual and expected regional prices.

The purpose of steps 1-3 is to establish trends in the domestic price development relative to overseas prices which may indicate rent being extracted by the domestic distribution industry.

Structure

- 1/ Record retailer business/site closures over time.
- 2/ Establish location of closures and effect on local distribution of outlets.
- 3/ Use outlet data base to establish main centre/provincial city/rural spread of remaining outlets.
- 4/ Record changes in concentration of ownership.

The purpose of steps 1-4 is to monitor whether structural changes conform to expectation of changes within industry. A high concentration of ownership by wholesalers, or a thin distribution of outlets in some districts, may infer market imperfections which would need checking against other evidence, such as prices. No accurate information on scale of retail operation is available.

Behaviour

- 1/ Record number of complaints brought before Commerce Commission and their subject matter.
- 2/ Record/investigate issues raised within the industry which are not covered by Commerce Act.
- 3/ Record progression of profits for retail businesses.
- 4/ Monitor changes in market share between the major oil wholesalers and independent operators.
- 5/ Monitor changes in geographic coverage amongst the existing oil wholesalers.

The purpose of steps 1 and 2 is simply to monitor ability of the Commerce Act to deal with complaints perceived within the industry. The purpose of step 3 is to establish the direction of movement in margins, and whether monopoly rents are being extracted. Competition between wholesalers should show up as changes in their market shares over time (step 4). Step 5 could indicate whether there is any collusion amongst wholesalers in selectively dividing up regions between each other.

7 DEREGULATION - THE FIRST SIX MONTHS

7.1 Structural Changes in Petrol Distribution

Deregulation of motor spirits distribution in New Zealand took effect on 9 May 1988. The Petroleum Sector Reform Act brought to an end price control, abolished the Motor Spirits Licensing Authority, the Motor Spirits Licensing Appeals Authority and removed the requirement for petrol wholesalers and retailers to obtain licences. It also ended the prohibition against wholesalers acquiring "interests or estates" in retail businesses and opened up the domestic market to imports of refined oil products.

Changes in the retail structure of petrol distribution were very apparent in the period immediately after deregulation, and received considerable media coverage. Within six months, however, the pace of structural change appeared to have slowed down, as the retail sector settled into a new equilibrium. Some retail outlets closed during this period, but insufficient data have been collected as yet to determine whether the rate of closures has changed significantly from the previous rate of attrition, or indeed whether the expectation of deregulation affected the rate of closure in the years immediately prior to deregulation.

As was foreseen prior to deregulation, oil wholesalers moved swiftly to consolidate the positions they had taken up in the regulated environment for securing their retail outlets. A number of retail sites which were subject to first-option on purchase clauses in their supply agreements were bought by the oil companies. The exact number of sites acquired is shrouded in commercial secrecy, but it appears that overall the wholesalers have acquired or secured through long-term supply contracts around 15-20 percent of all outlets.

Competition for sites in some areas appears to have been intense, with a number of outlets changing brand. Companies were reputed to have offered sizeable retainers (six-figure lump sums) to induce some retailers to sign a long term supply agreement, or to have offered handsome offers to purchase sites. Other retailers appear to have been less fortunate in the sense of having a weaker bargaining position, being offered take-it-or-leave-it contract terms and,

according to some reports, coerced with threats to withdraw petrol supply in some instances.

In August 1988, BP announced it was buying all the stations owned by the Top Group, the largest independent multiple-outlet chain. Shortly afterwards, the second largest chain, Solo Energy, was signed up on a long term contract with BP. Both these chains had been publicly investigating the direct importation of their own supplies, so within three months of deregulation two of the most likely contenders for the role of new entrant into wholesaling had been removed from consideration. Why the challenge of the potential new entrants should have fizzled so soon is not clear. It may be that the risks associated with entering wholesaling proved, on closer examination, to be too great for the required investment to be an attractive proposition. Alternatively, it is possible that the formation of these multiple chains was simply an arbitrage operation, taking advantage of the oil companies' inability to legally acquire retail outlets under regulation, by pre-emptive purchase of those outlets which the companies would be most keen to buy.

In addition to acquisition of strategic retail outlets, oil companies have also formalised the nature of supply contracts. Retailers who under the regulated system were supplied on what amounted to verbal agreement with company salespeople were approached to enter into formal, written contracts. Where written contracts had always been used, new contracts were sought with a change in terms and conditions of supply; frequently a lengthening of the supply agreement from an annual to a three- or five-yearly basis, and in some instances requiring stocking of products other than petrol.

A distinct split in policy has emerged between the oil companies regarding the appropriate management policy for retail outlets they acquire. Two of the companies have adopted a "hands-on" approach, with manager-operation of a substantial number of their outlets, and most of the rest being operated by franchisees. The two other companies seem to set more store on the incentive of independent retailers to work to their own advantage, relying on franchising or leasing of sites they own. There are also a few retailers now operating on a commission agent basis, principally in situations where the agent would be disadvantaged by holding costs incurred in purchasing a stock of petrol.

The majority of petrol retail outlets continue to be independent businesses, albeit more likely to be "tied" by contract to a particular supplier than prior to deregulation. Some new outlets in key locations have been constructed by the companies and more will be in future if this is a less costly means of improving throughput and efficiency than reconstructing existing sites. In time this will affect the viability of nearby independent stations. In other cases of company-acquired sites, workshops have been closed, convenience stores installed, and other changes made to the operation of the business. In some instances the existing retailer has sold the site and remained as outlet manager. However a number of independent retailers appear to have quit the business after capitalising on their site value by selling to an oil company. One company suggested that, since deregulation, there was a shortage of suitably experienced people to run all the outlets they owned. In response, this company was directly managing a number of its sites so as to retain direct control over staff training and performance.

7.2 Developments in wholesale and retail pricing

7.2.1 Wholesale pricing in the deregulated market

Arguably the most significant features of deregulation for wholesale pricing are the continuation of co-operation between the oil wholesalers on coastal shipping and the retention of shipping cost equalisation. The method of charging is essentially the same as before deregulation: the total cost of shipping (and running the Refinery-Auckland Pipeline), less any cost recovery from back-loading, is allocated between products and divided between wholesalers on the basis of offtake from the refinery, regardless of the distance carried. The effect of this system is that the landed cost of petrol is the same in each of the main ports.

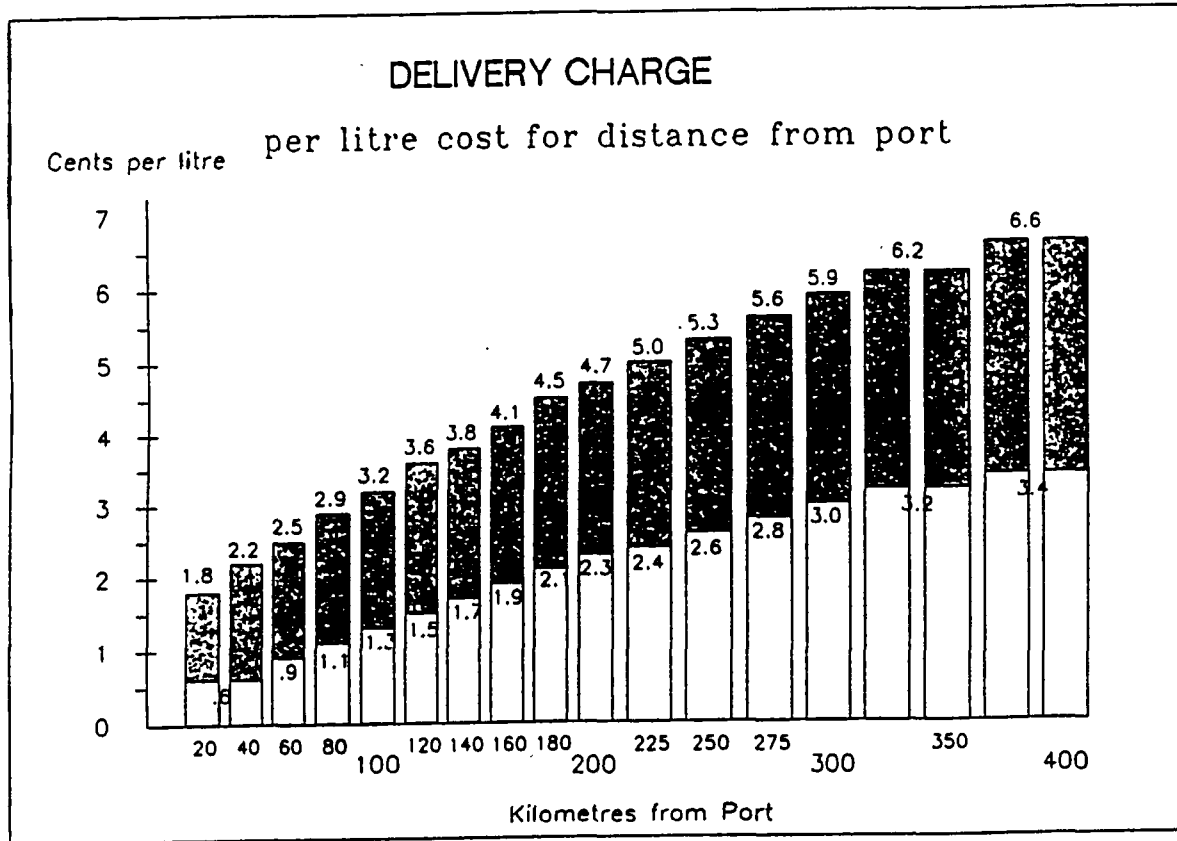


Figure 7.1

Wholesalers do have differential charges for inland deliveries, but the system used varies. Each company has a posted ex-depot price, which usually covers delivery within a specified radius of the port. Some companies have established delivery zones based on distance from the port, within which a single delivery charge applies, regardless of delivery size. One company assesses its charges according to the characteristics of each particular load, varying the notional wholesale price (inclusive of delivery) according to distance carried (to the nearest 20 kilometres) and the size of the delivery (see Figure 7.1).

While it should be possible to use posted port prices and inland delivery charges to estimate expected wholesale prices in each region of the country, oil companies offer discounts to retailers varying according to specific features of each outlet, such as scale of deliveries, high throughput bonuses, or strategic importance. The type of discount offered is confidential to the parties to each supply contract, so there will be some discrepancy between the expected price based on public information and the actual price paid by retailers for their supplies.

7.2.2 Retail prices

Retail prices have fallen since deregulation. A survey conducted in mid November 1988 by the Ministry of Energy suggested that the main port price for super grade petrol had fallen by 3.35 cents per litre, and by 2.44 cents per litre for unleaded regular grade. Up-country prices were higher but still less than the regulated prices, by around 2.02 cents per litre for super grade and 1.39 cents per litre for regular. The national average retail prices of the two grades were estimated to be 89.00 and 86.83 cents per litre respectively. Possible explanations for these changes are considered in 7.2.3 below.

Price variations do occur in some localities but heavy discounting and price wars have yet to emerge. Part of this may be due to geographical features: some cities, (e.g. Christchurch) may be more susceptible to price variations because of their ease of access and flat terrain, compared with hilly localities in which cross-city transport in pursuit of a marginal saving on petrol price is more inconvenient

(e.g. Wellington). Demand for petrol is by most estimates inelastic, and the high proportion of the retail price which is still absorbed by taxes may further dampen the response of consumption to marginal changes in retail price at individual outlets.

Self-service discounting has emerged in some areas, with at least one company having a deliberate policy of promoting self-service at some stations. In such cases the "service premium" (difference in price between self-serve and attendant-served fuel) appears to be small, around 2-3 cents per litre. This amounts to between 4 and 7 percent of the tax-exclusive price, considerably lower than the proportionate service premium observed in the USA.

7.2.3 The sequence of adjustments in price

Although price control was removed from petrol on 9 May 1988, on 5 May the Minister of Energy dropped both the retail and wholesale prices by 6 cents per litre, so as to prevent the previous regulated price from becoming a "benchmark" which would continue to influence prices after control was lifted. On or after 9 May prices initially stayed at the low controlled levels, then moved up to a new equilibrium, but the pre-emptive price reduction tactic appears to have worked since prices did not return to their previous high controlled levels.

The wholesale price moved from 83.27 cents per litre at the high controlled level to 80.85 cents, a reduction of 2.42 cents. The corresponding change in retail price was from 92.00 to 89.90 cents per litre, a reduction of 2.1 cents (all GST-inclusive). Much of these changes can be attributed to a reduction in the supply cost of petrol (ex-refinery) of around 7 cents per litre. This was partly offset by apparent increases in the wholesalers margin of 2.3 cents per litre, and retail margins of 0.3 cents per litre. Road fund tax had also been increased by 1 cent per litre from 1 April, just prior to deregulation. The tax component (including GST) of the retail price moved from 44.72 cents to 45.57 cents per litre after deregulation.

Prices should have come down over the course of 1988 because of the fall in international oil prices, even allowing for a three month lag for crude price changes to feed through to pump prices. From January to October 1988 crude oil prices fell by about one third on

average, most in the third quarter, due to over-production by Opec members. Opec has been unable to agree on production definitions or to enforce the notional production quotas on its members, who each individually face liquidity or debt problems and have an incentive to boost their production. In addition there have been increases in reported recoverable reserves, due to more efficient extraction techniques rather than new discoveries, which suggest the current oil glut is unlikely to end quickly and a further decline in retail prices can be expected.

7.3 Conclusions

The first six months of deregulation have resulted in some changes similar to those foreseen, particularly with respect to wholesalers securing access to outlets and a reduction in supply (ex-refinery) cost of petrol. Changes which were not totally predictable prior to deregulation include the retention of cost equalisation in coastal shipping, the increase in both wholesaler and retailer margins and the failure of price cutting to emerge.

The retention of coastal cost equalisation and lack of price wars might be both attributable in part to the failure of the "new entrant wholesaler" threat to materialise. Had a new entrant emerged to concentrate on the main centre markets, the system of coastal cost equalisation would have been less tenable for the existing wholesalers, who would have faced price competition in the main centres. With both the main independent chains of retail outlets secured by an existing oil company, the prospect of new entry into petrol wholesaling seems much less imminent. This is in contrast to the diesel market which, much less reliant on a network of retail outlets, has already been penetrated by independently-sourced imports.

The uniformity of prices offered by wholesalers at the main ports has already led to complaints of tacit collusion, but an investigation by the Commerce Commission reported in October concluded that the companies were not in contravention of the Commerce Act. Given the areas of common cost shared by the oil companies it would be surprising if large price discrepancies had occurred. Each company faces the same toll charge per unit output from the

refinery; each faces the same unit coastal shipping charge; and the technology employed in coastal depots, inland transport and retailing is presumably very similar for all companies. Some regional variation in the efficiency of coastal depot and inland transport operation is to be expected due to differences in age of equipment and achievable economies of scale, but the scope for cross-subsidy by the companies between regions and products would make it easy for them to employ uniform national pricing at the port depots.

In short, deregulation has not led to as much regional variation as had been expected, and it is difficult to see why the current equilibrium would change without some exogenous shock from a new entrant. The period since deregulation has seen some rapid structural changes, the pace of which appears to have slowed. It remains to be seen whether this was simply a one-off adjustment to the new conditions, or whether it is part of a continuing dynamism imposed by a more competitive environment.

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