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STRUCTURAL AND LOCATIONAL INFLUENCES

AFFECTING EXPORT PERFORMANCE

IN

SOUTH ISLAND EXPORT MANUFACTURING FIRMS

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for the Degree of Master of Arts in Geography  
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## Chapter 1

### RESEARCH PROBLEM

Industrialisation may be defined as 'the growth in the proportion of the workforce employed in factories or manufacturing' (Blyth , 1974, 2). Generally there is no single accepted theory of industrialisation, instead there is a wide spectrum of theories and models concerning industrialisation and its relationship to economic development at both the national and subnational scale.

Industrialisation is assumed by most as the key to economic progress. Maizels (1970) argues that industrialisation raises the physical output per head in the agricultural and then subsequently in the manufacturing sector. Historically, this sets in motion the process of urbanisation and over time the urban population becomes employed in manufacturing. The manufacturing sector then expands and exports follow as a logical consequence.

The industrialisation of New Zealand has proceeded within the confines of accepted theory whilst exhibiting certain unique characteristics which have arisen from colonial status. The economic development of the country reflects its particular size and structure (Hearn and Slater, 1974). From early settlement, New Zealand developed as an efficient exporter of food and raw materials for the United Kingdom (Blyth , 1974; Sutch, 1964). Returns from exports were used initially to finance the importation of manufactured goods and thereafter to pay for imports of some manufactured but more especially raw materials

for processing by domestic industry. As the secondary and tertiary industries have expanded the population of the country has become more urbanised. However, accompanying the industrialisation process has been the creation of several nationally significant socio-economic problems.

The global location of New Zealand, its industrial mix, its dependence on imported raw materials, and the small size of the market have given rise to two paramount problems,

- 1) the balance of payments problem and
- 2) the spatial inequalities problem.

#### The Balance of Payments Problem

New Zealand is a small open economy with a large proportion of her economic activity interwoven in international trade (Armstrong, 1969; Holmes, 1976). Since the late 1950's New Zealand has experienced a balance of payments problem resulting from a decline in export prices and market opportunities for traditional agricultural exports and an increasing dependence of the growing manufacturing sector upon imported raw materials. This lack of balance between imports and exports did not appear until the late 1950's because of a twenty year world wide inflation in primary produce prices, the rising productivity of New Zealand farms and a general expansion in export receipts which was sufficient to allow the rapidly rising import bill to be financed (NZIER, 1963).

The New Zealand economy of the mid 1970's is just as vulnerable to the international economy as it was twenty years ago. Exports make up such a large proportion of gross domestic product, that it is reasonable to assume the

relative poor performance of the economy is largely connected with the slow rate of growth of export receipts (Willis, 1973). Over the last 15 years there has been a growing share of manufactured exports in our export total, but just as export earnings are rising rapidly, so too are the costs of imports. In April 1975 a record deficit of \$1,068 million showed how deteriorated our balance of trade had become. Coupled with the dramatic balance of payments problem, New Zealand's holdings of overseas reserves have declined and the effects of external borrowing are now being felt. The recent Holmes report graphically summarised the situation.

The terms of trade (the ratio of export prices to import prices) facing New Zealand reflect the real purchasing power of our exports, and as such are vitally important to any consideration of the stability and growth of the New Zealand economy. (Holmes, 1976, 186)

### Spatial Inequalities

The small size of the market and the dependence on imported raw materials are the main reasons for the centralisation of urban-industrial development within New Zealand (Johnston, 1971; Hearn and Slater, 1974). Population and industry is concentrated in the northern half of the North Island, with pockets of urban-industrial activity located in linear fashion at ports along the coasts of both islands.

The spatial dimension of development that has taken place within New Zealand can be viewed in terms of a core-periphery type framework (Le Heron, 1977). Such a framework is encompassed within the general theory of unbalanced growth (E.F.T.A., 1968; Kuklinski, 1972; Richardson, 1969).



Unbalanced growth between regions can largely be explained by the location pattern of propulsive industries which create cumulative advantages and polarization effects in the growth pole. (E.F.T.A., 1968, 63).

Propulsive industries are those that disseminate growth impulses through backward or forward linkages, to other sectors of the economy. Growth poles are cities or towns incorporating a complex of propulsive industries which induce further development of economic operations throughout their sphere of influence.

Le Heron and Taylor (1975) conceptualised the agglomerative and propulsive mechanisms of Auckland, showing that while economies exist attracting economic development to Auckland, diseconomies arise in other regions resulting in socio-economic problems and disparities (see also Johnston, 1971). Such problems or inequalities exist in many forms and are universal phenomenon inherently associated with the structural change of nations striving for a sustained improvement in their economic growth (McCrone, 1969; Stilwell, 1972). In an exaggerated form

The market economy may lead to a massive drain of population from certain areas and a heavy concentration of resources at a limited number of high density conurbations. (Richardson, 1969, 3).

The drain of resources away from areas creates depressed regions and gives rise to 'the regional problem'. The regional problem varies according to the type and scale of region looked at. In New Zealand's case, the poor performance or relative stagnation of several of her regions is the result of some endemic disadvantage, such as their peripheral location as regards to the major market centre



of Auckland (Taylor, 1976).

The thesis considers the balance of payments and spatial inequality problems to be separate parts of an overriding 'national problem'. The national problem (a term of convenience) refers basically to the awesome task of the 'reorganisation of the New Zealand space-economy', objectively aimed at solving the above two mentioned problems. Instrumental in reshaping the space-economy of New Zealand are the regional development policies and objectives which this country's governments have adhered to.

### Regional Development Policy

In relation to the inequalities mentioned above it is necessary to ask whether their solution requires specific intervention, namely governmental? If the inequalities are not self correcting (the thesis assumes they are not self correcting) then one has a case for intervention. Essentially then, regional development policy involves the application of a spatial framework in the achievement of certain objectives. The objectives of such a framework were first publicised in the programme of regional development assistance announced in the budget of 1973:

a) to encourage full use to be made of the human, physical and infrastructural resources available but underutilised in the provincial centres of New Zealand by promoting the establishment, expansion and retention of viable and efficient manufacturing, processing and ancillary industries in such centres.

b) by assisting the realisation of (a), to relieve to some extent the growing pressure on resources which has already become apparent in the Auckland and Wellington metropolitan regions (Department of Trade and Industry, 1974, 1).

The core of the regional development issue involves regional assistance being directed primarily (but not wholly) toward the development of industries in priority regions. What then is the criteria for considering that one region, but not another deserves regional assistance? Assistance is primarily given to those regions with a lower than average rate of expansion in employment and output (Franklin, 1975), though Taylor (1976) contends the basis for selection is not rigorous. Growth in employment has to be in either secondary or tertiary industry, and not in the overall provision of employment.

Priority regions in New Zealand are those regions possessing problems predominantly of a historical nature resulting in their peripheral location to the major market locations. Regions accorded top priority are the West Coast of the South Island, Otago and the East Coast of the North Island, followed by Northland, King Country, Taranaki, Wanganui, Wairarapa and Southland (Department of Trade and Industry, 1974). Assistance in the form of capital, labour training, transfer and freight subsidies is provided in order to retain existing industry and to induce the establishment of new ones in the priority regions. Specific criteria for assistance to industry are set down in both cases.

The role of regional policy concerning the balance of payments problem could be especially designed to make more buoyant those regions or industries specialising in the production of export and/or import substitutes. In relation to the spatial inequality problem, growth pole theory is offered as a possible source of assistance in the search

for better solutions to the regional problem (Thomas, 1972).

Whatever the particular means used to mitigate the two problem areas of the nation, one cannot in attempting to solve the dilemma avoid a reorganisation of the New Zealand space-economy. Reorganisation involves regional development, and regional development involves both structural and locational adjustments in the growth of the New Zealand economy.

### Structural and Locational Adjustments in the Growth Process

Structural change defined refers to

Structural changes during the growth process divided into the following types. Changes in the industrial structure, i.e. in the distribution of labour, capital and total output between the various industries; changes within the enterprise structure within industries, and finally, changes in the location pattern and settlement structure, resulting from the two former types of adjustments (E.F.T.A., 1968, 41).

Locational change is implicit within the above E.F.T.A. definition of structural change. Many of New Zealand's regional problems are closely connected with changes in location patterns consequent upon national growth, hence it is necessary to treat the location pattern as a separate entity because it stands alone as a significant aspect of regional development.

Free market forces interacting within the New Zealand space-economy have encouraged the reallocation of resources from declining or slow growing to expanding or fast growing industries (from primary to modern light industries). Accompanying the change in the industrial structure has been the tendency for an increasing number of mergers and takeovers

to take place (Le Heron, 1977). Restructuring of enterprise is a response by large primarily metropolitan based firms to the competitive economic climate. These large firms absorb small run down inefficient firms through mergers or takeovers. Discussion of these points at a disaggregated level will take place in a later section.

The location pattern of changing and expanding industries in this country, as previously mentioned, is increasingly becoming concentrated in the northern half of the North Island. Such a weighting of production factors in the top half of the country has brought about a stagnation and decline of production factors in peripheral locations about the rest of the country. The changes that have taken place inherent in economic development have left the South Island in an increasingly disadvantageous socio-economic position.

Attention is now focussed on the South Island's growth, studied in terms of the dynamics of its structure and location.

### Identification of the Dimensions of the South Island Structural and Locational Problems.

#### The Structural Problem

Traditional opinion has it that the slow growth of an area (in this case the South Island) results from the unfavourable economic structure of that area (Cameron, 1971; E.F.T.A., 1968; Franklin, 1975; McCrone, 1969; Stilwell, 1972). In the South Island there is an absence of the two major causes of regional disparities common to other countries, a low productivity agriculture and an obsolescent industrial structure. Franklin (1975) argues that the

industrial structure in New Zealand is largely a creation of the post war era and therefore is hardly likely to suffer in the short term from obsolescence.

The above argument, however, does not negate the fact that the South Island manufacturing scene is disadvantaged. The following paragraphs show, in comparison with the national and North Island scene, the extent of disadvantage of the South Island industrial and enterprise structure. It must be born in mind though, the location problem is preeminent over any structural disadvantage the South Island may possess.

Significant totals relating to the year 1973-4 (Table 1), show the South Island to have only 28 percent of the total number of factories in the country, 26 percent of the persons engaged in manufacturing, 24 percent of the total value of production and 25 percent of the net output from New Zealand's factory production. Generally speaking the South Island accounts for just over a quarter of the country's industrial production, of which Christchurch's contribution represents well over a half of the South Island production.

McDonald (1969) stated the South Island had a higher proportion of manufacturing labour engaged in textiles, rubber, food, non-metallic minerals and leather industries than the North Island. In 1973-4 (Table 2) the South Island still had a larger proportion of its labour force engaged in food, textiles, rubber, non-metallic minerals and leather than the North Island, with wood and cork and electrical machinery being additional industrial groups since 1969, having larger numbers proportionally in the labour force than the North Island.

The industrial structural change that has taken place

TABLE 1

Distribution of Factories, Persons Engaged and  
Production by North and South Islands 1973-74

|  | North Island<br>Totals | South Island<br>Totals |
|--|------------------------|------------------------|
| Number of factories                          | 5,558                  | 2,132                  |
| Persons Engaged                              |                        |                        |
| Males  | 129,008                | 48,040                 |
| Females                                      | 51,240                 | 16,234                 |
| Total  | 180,248                | 64,274                 |
| Value of Production<br>\$ (million)          | 4,014.5                | 1,236.4                |
| Cost of Materials<br>\$ (million)            | 2,401.9                | 711.0                  |
| Net Output \$ (million)<br>(net value added) | 1,123.2                | 379.2                  |

Source: Statistics of Industrial Production, 1973-74.



TABLE 2

Distribution of Labour by Industry Group for the South and North Islands, 1973-74.

| Industry Group                  | Persons Engaged |                                |              |                                |
|---------------------------------|-----------------|--------------------------------|--------------|--------------------------------|
|                                 | Totals, N.I.    | Proportion of<br>N.I.Total (%) | Totals, S.I. | Proportion of<br>S.I.Total (%) |
| Food                            | 30,691          | 17.0                           | 15,319       | 23.8                           |
| Beverages                       | 2,559           | 1.4                            | 700          | 1.1                            |
| Tobacco                         | 1,169           | 0.7                            | 73           | 0.1                            |
| Textiles                        | 9,280           | 5.1                            | 6,186        | 9.6                            |
| Footwear, Apparel               | 20,962          | 11.6                           | 6,938        | 10.8                           |
| Wood and Cork                   | 11,074          | 6.1                            | 4,278        | 6.7                            |
| Furniture and Fixtures          | 4,907           | 2.7                            | 1,661        | 2.6                            |
| Paper and paper products        | 8,845           | 4.9                            | 1,014        | 1.6                            |
| Printing and publishing         | 11,820          | 6.6                            | 3,688        | 5.7                            |
| Leather and Leather products    | 1,583           | 0.9                            | 998          | 1.6                            |
| Rubber products                 | 1,980           | 1.1                            | 1,881        | 2.9                            |
| Chemicals and chemical products | 6,253           | 3.5                            | 1,293        | 2.0                            |
| Petroleum and Coal              | 610             | 0.4                            | 47           | 0.1                            |
| Non-metallic mineral products   | 6,148           | 3.4                            | 2,859        | 4.4                            |
| Basic Metal Manufactures        | 3,352           | 1.9                            | 1,232        | 1.9                            |
| Metal products                  | 16,666          | 9.2                            | 3,837        | 6.0                            |
| Machinery                       | 13,353          | 7.4                            | 3,791        | 5.9                            |
| Electrical Machinery            | 7,969           | 4.4                            | 3,421        | 5.3                            |
| Transport Equipment             | 11,342          | 6.3                            | 3,250        | 5.1                            |
| Miscellaneous                   | 9,685           | 5.4                            | 1,808        | 2.8                            |
|                                 | 180,248         | 100.0                          | 64,274       | 100.0                          |

Source: Statistics of Industrial Production, 1973-74.

since McDonald's 1969 study can be simplistically shown by ranking the six largest employers of industrial labour for both islands, for the given time periods 1969 and 1973-74 (Table 3).

For the South Island the most striking features are,

- 1) the increase in the proportion of the labour force employed in textiles and wood and cork,
- 2) the complete disappearance of the transport equipment group and,
- 3) the slow proportional growth in metal products and machinery.

The North Island too has experienced similar shifts with the food and footwear/apparel industries retaining the same dominant ranking, but with increases in the rankings of metal products and machinery highlighting the gradual maturation of the New Zealand industrial scene.

Traditional industries (food, footwear, leather, clothing, tobacco) have reduced their share of the labour force while the new industries (machinery, electrical machinery, textiles) have increased their shares (McDonald, 1969). Concerning new growth industries, the South Island in relation to the North Island has a larger proportion of labour engaged in electrical machinery and non-metallic mineral products, both of which nationally recorded large employment growths (10 percent and 8 percent respectively) over the year 1972-73 to 1973-74 (Statistics of Industrial Production, 1973-74). However, there still exists 34 percent of the South Island's labour force engaged in the two traditionally slow growth industries, of Food and Footwear and Apparel. Such a structure is characteristic of Dunedin, which at present is exhibiting an efflux largely



TABLE 3

Ranking of Largest Employers by Industrial Groups for the North and South Islands,  
1969 and 1973-74.

| North Island                 |                            | South Island               |                   |
|------------------------------|----------------------------|----------------------------|-------------------|
| 1969                         | 1973-74                    | 1969                       | 1973-74           |
| 1 Food                       | Food                       | Food                       | Food              |
| 2 Footwear, Apparel          | Footwear, Apparel          | Footwear, Apparel          | Footwear, Apparel |
| 3 Transport Equipment        | Metal Products             | Transport Equipment        | Textiles          |
| 4 Wood and Cork              | Machinery                  | Textiles                   | Wood and Cork     |
| 5 Printing and<br>Publishing | Printing and<br>Publishing | Wood and Cork              | Metal Products    |
| 6 Machinery                  | Transport Equipment        | Printing and<br>Publishing | Machinery         |

Source: McDonald, 1969; Statistics of Industrial Production, 1973-74.

of traditional industries which were established in Dunedin some time ago under a different competitive situation than exists now.

In a study of regional economic health in New Zealand, Taylor (1976) observed that although everywhere has its problems, the South Island was at a greater structural disadvantage than the North Island. In terms of growth, and social and economic depression the South Island fared badly. In growth particularly, the Otago statistical area, in which Dunedin is located, was seen to be the least healthy part of New Zealand (Taylor, 1976, 43).<sup>1</sup>

Le Heron (1977) presented a paper on enterprise structural change in New Zealand confirming the shift of head offices out of many South Island non metropolitan areas into Christchurch and Dunedin, and the greater Auckland and Wellington areas. His findings 'indicate very obvious regional shifts in control stemming from the geographic expansion patterns of New Zealand companies' (Le Heron, 1977, 69). More and more 'control related decision-making' is being taken out of the companies in priority regions and concentrated within metropolitan companies. As a result the growth rates in the priority areas of the South Island can only but suffer as enterprise gravitates towards the larger metropolis.

Although there are obvious structural disadvantages

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1 Growth represented the third factor in Taylor's analysis, and variables related to this factor included increase in manufacturing employment, labour force in manufacturing and primary industry, retail turnover and value added per manufacturing employee.

with the changing enterprise structure, industrial structural problems as defined are not as explicit within the South Island economy. The historical legacy of the island has resulted in it having a large proportion of slow growing industries, and yet this same legacy provides the footing for expansion in the light engineering and machinery fields which are considered to be the new growth industries.

### The Locational Problem

Physical attributes (local and non-transferable) associated with the absolute dimension of location include the South Island's climate, topography and mineral and soil constituents. Generally speaking the climate can be assumed to be a disadvantageous element, while its topography, soil and mineral constituents used in the extractive industries of mining and farming, have made for a dispersed pattern of settlement and industry throughout the island (Hoover, 1971).

The dispersed pattern of settlement is further accentuated by the location of the sea-ports. The ports are regionally scattered along the coast serving as outlets for their large, but not excessive pastoral hinterlands (Rimmer, 1973a). Historical settlement originally focussed on the ports and the pattern still persists today with import-dependent secondary industry maintaining close liason with the ports and any incoming raw materials. Population is concentrated predominantly in the two main metropolis of Christchurch and Dunedin, with Nelson, Blenheim, Timaru, Oamaru, Greymouth and Invercargill constituting the regional service centres all of which remain in close interconnection with the remaining hierarchy of settlement.

In terms of absolute distance the South Island is

peripherally located to the 'optimal' market, Auckland (McDermott, 1974). As a result modern growth industries are not being attracted to many parts of the South Island, unless such a disadvantage can be removed, or at least counterbalanced by improvements in regional infrastructure, particularly transport links.

Changes in factors determining the relative location pattern of producers and consumers are playing an increasingly significant role in impeding the development of the South Island. Industrial location is a continuous process in which firms may shift as location determinants change, in order to retain their competitive position. Increased costs, changing technology resulting in an alteration of existing linkages, increased complexity of products, and so on, have placed the South Island economy in a much more disadvantaged position than compared with the North Island.

The increasing costs of physical transport between industries and their sources of raw materials, but more especially their markets, have placed the South Island economy under tremendous strain. A Department of Trade and Industry investigation (Department of Trade and Industry, 1966) found that South Island manufacturers were faced with 30 percent more expense to distribute products to the national market than they would have been if they were located in the southern half of the North Island. Such a freight disadvantage arises from the relative remoteness of 'national' industries from the main markets. Increases in transport costs since 1966 further exacerbate the problem.

McDonald (1969) studied the effects of transport costs in New Zealand surmising that South Island locations had a

relative disadvantage in the distribution of goods to the national market, reflecting heavily their reliance on sea transport and the significance of stowage factors to sea cargo.

The results of two papers by Rimmer (1973a) and (1973b) show the considerable significance of coastal shipping for South Island distribution to the North, particularly to Auckland, and their increased relative disadvantage if they are dependent on rail distribution,

As shipping services to small ports become irregular their hinterlands will inevitably become more dependent on rail services making them less desirable for firms distributing final products throughout New Zealand unless there are savings in local production costs.  
(Rimmer, 1973b, 93)

However, the setting up of container ports in the South Island has helped to lessen the impact of the adverse transport cost differential that South Island regions faced, in the exchange of goods both with North Island and with overseas countries (Cooper, 1974).

Problems involved with changes in location and settlement patterns are not simply a matter of transport costs. There is the continuing trend of the 'rapid polarisation of the New Zealand space-economy' centred upon Auckland. In terms of population and labour force (the labour force having a high degree of geographic correlation with population) there is an increasing emigration of people from the South to the North Island (Rowland, 1976). Employment shifts to the Auckland area at the expense of South Island employment districts, are the dominant feature of past and present regional distributions of employment (Jensen, 1969; Johnston, 1971; McDonald, 1969).

The two main South Island centres both performed badly [with regard to regional employment shifts], especially Dunedin which 'lost' over 11,000 jobs, and which has experienced virtually no net immigration over the last two decades (Johnston, 1971, 327).

Other problems involving the relative distance of the South Island from the main markets, are that executives of head offices would be less able to watch over the affairs of the branch, as was previously intimated in conjunction with the changes in structural enterprise (E.F.T.A., 1968; Le Heron, 1977; McCrone, 1969). Also contacts with suppliers would be more difficult to maintain and it would be harder to rush orders to the market on time.

In regards to the structural and locational disadvantage of a region it is often difficult to assess how much importance should be attached to each of these. However, in this case data for the South Island is substantially weighted towards locational structure creating the underlying causal factors contributing to the island's disadvantageous socio-economic position.

### Exports and Economic Growth

The picture so far points to the need for a reorganisation of our economic structure, with the prime objective being an increase in the country's economic growth rate while at the same time preventing any further exaggeration of existing spatial problems (See Holmes, 1976). The growth problem is inherent in the locational and structural dimensions of the South Island, and a very important key to solving the problem of economic growth lies in understanding the role of exports.

Exports may be defined as the 'sales abroad of



goods and services. The term "sales" includes barter as well as the exchange of goods and services for many' (Encyclopaedia Britannica, 1970, 977). The Oxford English Dictionary (1969, 441) also offers a similar definition. The importance of exports has been succinctly stated by Stilwell:

Short run export expansion leads to increases in regional income both directly and via secondary effects on the demand for locally produced goods and services. In the long run there will be changes in the structure of the regional economy resulting from capital and labour movements, and these will tend to reinforce the process of regional growth (Stilwell, 1972, 32).

Tiebout (1964) in a review of the export base theory literature, argues that a regions growth

is closely tied to the success of its exports and may take place either as a result of the improved position of existing exports relative to competing areas or as a result of the development of new exports. (Tiebout, 1956, 256).

Hultman (1967) identifies a series of models which attempt to show the possible relationships between a country's exports and the growth of the domestic economy. In each of the models discussed a specific role is assigned to the export sector in the process of economic growth. It is important to consider briefly some of the models surveyed by Hultman because they illuminate the various lines of causation running from exports to the internal economy.

The foreign trade multiplier model, is one in which 'exports are assumed to be comparable to investment because both are injections which serve to expand domestic income' (Hultman, 1967, 149). Hence any autonomous increase

(decrease) in exports leads to a multiple increase (decrease) in domestic income and employment.

Hultman assumes the export sector, in the stages of economic growth theory (Rostow, 1960), can be classed as a 'leading' sector, therefore, activities within the propulsive export sector set in motion production in other modern industries which supply input requirements to it.

The principal thesis of the export base model proposes that the growth of a region is closely tied to the success of its export base (representing a collection of exportable items). 'A region develops around the export base which, according to some versions, becomes the critical autonomous variable determining the level of regional income' (Hultman, 1967, 151).

Other models pertaining to exports and economic growth include the growth models, the staple model (Brazzel and Hicks, 1968) and to a lesser extent the developmental stages approach. The models, except perhaps the latter, hypothesise that exports are the key source of regional economic growth. Proponents of the models agree that an increase in exports induces changes facilitating economic growth. Care should be taken though when discussing the concept of exports, because the export concept is merely one aspect of a general theory of short run regional income determination. 'There is no reason to assume that exports are the sole or even the most important autonomous variable determining income' (Tiebout, 1956, 257). For this reason the models should perhaps be considered as theories about the effect of exports on regional growth rather than theories of regional economic growth.



## A Priori Expectations about the Export Contribution:

### The Research Problem

The affect of exports on economic growth within New Zealand is assumed to be primarily positive. Recent concern for structural change in the country has highlighted the increasing role which exports (especially manufactured goods) must come to play (Willis, 1973). The promotion of exports is a matter of national importance, and the national interest is reflected in arrangements made by the government with a view to assisting the exporter and in statutory regulations (Schmitthoff, 1975).

Despite the high level of national interest in exporting there is a scarcity of empirical research on the incidence of exporting manufactured goods from the country, more especially the South Island. This study focusses on the South Island manufacturing export scene with the objective of providing empirical evidence about the various relationships between important variables and

export performance. Empirical evidence about the South Island exporting scene in manufactures may provide answers for both individuals and governments in relation to the what, where, why and how questions encompassed within firm and national policy.

The following remarks and questions provide the general expectations and directions upon which the study attempts to focus.

What are the types and incidence of manufacturing exports in the South Island? Is there a geography associated with the South Island export scene. Franklin (1969) claims the export oriented sector has a geography, and a

paper on the geography of British exports states that there is a geography to exporting, but it has developed as a result of the 'random spatial incidence of a spatial business - environmental forces [rather] than in the spatial-environmental controls of geographical analysts' (Hoare, 1977, 133).

How does the structure and location of the island affect export performance? Does where we manufacture affect how much we can export or will what we have affect what we export?

What are the ramifications and effects of any export activity in both metropolitan and priority areas? Are the growth rates of exporters faster or slower than non exporters or national growth rates? Variables at different levels of scale will be examined to see if there are any significant correlations. Examination of export industries will be viewed at the city, industry, and plant level.

Apart from a determination of general characteristics (year established, branch or head office, ownership, employment, sales, expenditure, year commenced exporting, and so on) and the testing of hypotheses, other findings will elucidate the main reasons why manufacturers get into exporting, the factors detrimental to exporting, government incentives used and whether formal research by firms varies between the home and export markets.

Do the linkages vary the further one goes south? Has the affect of higher costs (especially transport costs) and perhaps minimal returns engaged in competing in the national market, encouraged South Island manufacturers to export? Do those manufacturers who export still seek to compete in the national market?

It is often said that a large domestic market base affords a sense of financial, production and marketing stability which are essential prerequisites for successful exporting. However, research evidence, suggests Cullwick (1975) does not fully support this view. The perceived risk of exporting for some companies has resulted in them placing limits on the proportion of production that may be sold overseas. Does the above strategy therefore mean that the future growth of manufactured exports is hamstrung by the limit many companies place on exports? A section on the perception of exporting will provide some interesting evidence on how manufacturers view exporting.

The questions and issues raised in this section represent the guidelines and foundations on which the thesis is built. While not all questions will be answered, and no doubt others will arise, they will nevertheless provide invaluable information with the resultant clarification of many matters in the export field.

## Chapter II

### RESEARCH DESIGN

This chapter discusses the research design which is constructed with the purpose of providing answers to the research problem. Before considering the design, a statement defining the types of manufacturing firms included within the study will be given. This in turn will be followed by a statement of the hypotheses. Discussion of the methodology is set out in the third section, including an examination of the area studied, the firms interviewed and the development of the questionnaire the survey and sampling procedures. The chapter ends with a definition of the variable, export performance.

#### Definition of Manufacturing Sector

A definition most appropriate for the manufacturing sector in New Zealand is put forward by Lloyd (1971) and draws on an earlier development by the National Development Council, one which has come to be widely used throughout New Zealand. This definition differs from the coverage of the Industrial Production Statistics in that some of the industries processing farm products which are included in the latter, notably meat freezing and preserving, butter and cheese and repairs to motor vehicles, have been omitted. These exclusions are arbitrary, facilitating a more representative picture of New Zealand manufacturing, particularly manufacturing exports.

#### Hypotheses

Two groups of hypotheses have been selected for the

study and these seek to concentrate attention on issues of primary importance to the research problem.

### Structural Hypotheses

The broad structural hypothesis is that there are a significant number of structural influences determining the export performance of manufacturing firms in the South Island.

The following hypotheses based on variables relating to structural factors are tested:

- H1 That overseas firms are more export orientated than New Zealand owned firms.
- H2 That New Zealand public firms are more export orientated than New Zealand private firms.
- H3 That export performance will be greater in firms that are headquarters than with firms that are branch offices.
- H4 That firms emphasising growth by exporting will have higher export performance levels than firms with alternative growth strategies.
- H5 That firms may differ in terms of export performance for reasons associated with the degree of research in export markets.
- H6 That export performance may vary in relation to the age of the firm.
- H7 That export performance may vary in relation to the time the firms have been engaged in exporting.
- H8 That the larger the firm the greater the percentage of sales exported.

### Locational Hypotheses

Again a working hypotheses, this time about location influences guides the formulation of testable relationships. The general hypothesis is that there is a positive increase in the average export performance of firms the more southerly the location in the South Island (H9). The specific hypotheses investigated in the study are:

- H10 That there is a difference between Christchurch and Dunedin exporters with regards to their interaction with the national market, Auckland.
- H11 That there is a difference between Nelson and Invercargill exporters with regards to their interaction with the national market, Auckland.
- H12 That there is a difference between Nelson, Christchurch, Dunedin and Invercargill with regards to their interaction with the national market, Auckland.
- H13 That there is a difference in freight costs as a percentage of total production costs, between Nelson, Christchurch, Dunedin and Invercargill.
- H14 That firms experiencing high internal freight costs are more export orientated than firms experiencing low internal freight costs.
- H15 That there is a difference in export performance between the two levels of the urban hierarchy, the metropolitan and regional centres.

### Methodology

In this section the main decisions which had to be made in the construction of the research design are discussed in

detail. They involve:

1. The Area of Study

The area of study focusses on the South Island of New Zealand. The island has definite structural problems and these are to be dealt with in relation to the incidence of export activity. It was felt the response rate of manufacturing firms in the South Island to a questionnaire and interview survey would be better than the North Island due to the 'slower pace of life' in the business environment. Time and expense constraints necessitated that the study be on a subnational scale, and the presumed small population of manufacturing firms which export from the South Island made the island an attractive proposition for research.

2. The Research Objects

A decision was made that the study was interested in South Island factories which are involved in the exporting abroad of manufactures.

3. The Basic Data Sources

The first major obstacle to be overcome was the establishment of a comprehensive list of manufacturing firms throughout the South Island who participate in their company's exportation of their goods and services to overseas destinations. An up-to-date list of exporters was not available (although was in print) so a working population had to be developed. Data on locations, and names of firms exporting manufactured goods was extracted from several prominent sources, namely the 1973 New Zealand Manufacturers Federation Directory, South Island telephone directories, a half yearly coverage (November 1976 to April 1977) of



metropolitan newspapers, Department of Trade and Industry articles, and up-to-date lists from the Canterbury and Otago-Southland Export Institutes.

#### 4. The Collection of Information

Data collection involved two methods, personal interviewing and the use of mail questionnaires. Personal interviewing was the major method used in gathering the data because of the type and amount of information required, and also because the response rate anticipated using the personal interview approach was assumed to be much higher than mail questionnaires. The personal interview was conducted around a questionnaire (Appendix A), and when time permitted, general informative questions were asked of the firm about certain relationships. Information obtained by way of personal interview was collected on the understanding that it would be treated with strict confidence. The facts and figures required in answering the questionnaire, although of a fairly diverse nature, were designed so they could be readily accessible to one appropriate person, usually the General Manager, Export or Marketing Manager. The time constraint involved with the interview necessitated in many instances the completion of the questionnaire at a later date. In due course these questionnaires were posted back. Those who did not return the questionnaires by a set date (the first week in September) were reminded by way of mail questionnaires with an accompanying letter (Appendix B).

#### 5. The Questionnaire Design

The problem was one of deciding what were the structural and locational variables that were most likely to determine the extent of a firms involvement in exporting. The first



step undertaken was an exhaustive search of literature, both New Zealand and overseas, in order to reveal the important variables associated with exporting and more specifically export performance. This literature search suggested the information required and necessitated the questionnaire to be divided into seven sections dealing with the general structure, growth and development, linkages, research, transport, expenditure and exporting.

Section 1 sought information on the location, year established, ownership, and whether the respondent company was a branch or head office. These aspects were included because they represented variables though to have significant relationships in determining export performance. Section 2 required data on employment and sales (both total and export) for the years 1972 and 1976. The rate of growth could be established from this data, which was further complemented by questions emphasising type of growth, intensity of competition and influences bringing about product changes. The questionnaire encouraged the respondent to rank on a scale (from the most important to the least important) two or three of the most important influences. Again some of these variables could be correlated with respect to the incidence of exporting among the firms. In section 3 information was sought on linkage patterns and changes associated with the different locations, especially the changes as one goes further south, and the variance brought about by different emphasises attached by exporting.

Section 4, and section 6 included questions which have been used in slightly different formats in other studies, (for example, questions 10, 15 and 16) but were considered

suitable variables for their inclusion into this study. Whether a company undertakes research or not for the export market could have a direct bearing on how much it exports. The expenditure variable is part and parcel of the structural dimension of manufacturing, and is also indicative of the general economic climate and of the involvement of a company in exporting. The locational problem is highlighted in section 5, while section 6 sought information on the general nature of exporting, i.e. year commenced, personnel responsible, and the product ranges and countries exported to in the years 1972 and 1977. Finally respondents were asked to rank the three most important reasons why South Island firms enter into exporting, the factors detrimental to their export performance and acknowledge any formal export incentives they used. The last point was included to establish the dependence of firms on incentives, and to determine whether there was any widespread lumpiness in when firms first began to export corresponding with the introduction of particular export incentives. The latter part of the export section generates information regarding how exporting is perceived by the firms currently engaged in it. Little is known about the views of company involvement in exporting.

The questionnaire was pretested in a pilot study on twelve manufacturing exporters within the city of Wanganui. Wanganui was chosen as the pre testing location because of its accessibility, coupled with time and cost constraints. Of the twelve manufacturers interviewed, ten usable questionnaires were returned. Minor difficulties in interpreting some of the questions were experienced, so the ambiguity

and existing faults were removed, though without change to the format of the questionnaire.

## 6. The Survey and Sample Procedures

Interviewing began at the beginning of June 1977 lasting three months to the beginning of September. The fieldwork was arranged so that four main centres in the South Island were covered, the four cities constituting a linear descent southwards, each city becoming located further and further away from the national market. The cities chosen were Nelson, Christchurch, Dunedin and Invercargill (Figure 1).

A list of manufacturers who exported in the cities was based on previously mentioned directories and other sources. The survey approach was used in three of the cities, Nelson, Dunedin and Invercargill, whilst the fourth, Christchurch, was sampled. Here the sample was drawn randomly from the list of known manufacturing exporters. Proportional selection by industry was considered but could not be carried out because there was no breakdown of manufacturers who exported.<sup>2</sup> Table 4 summarises the survey and sample populations and responses.

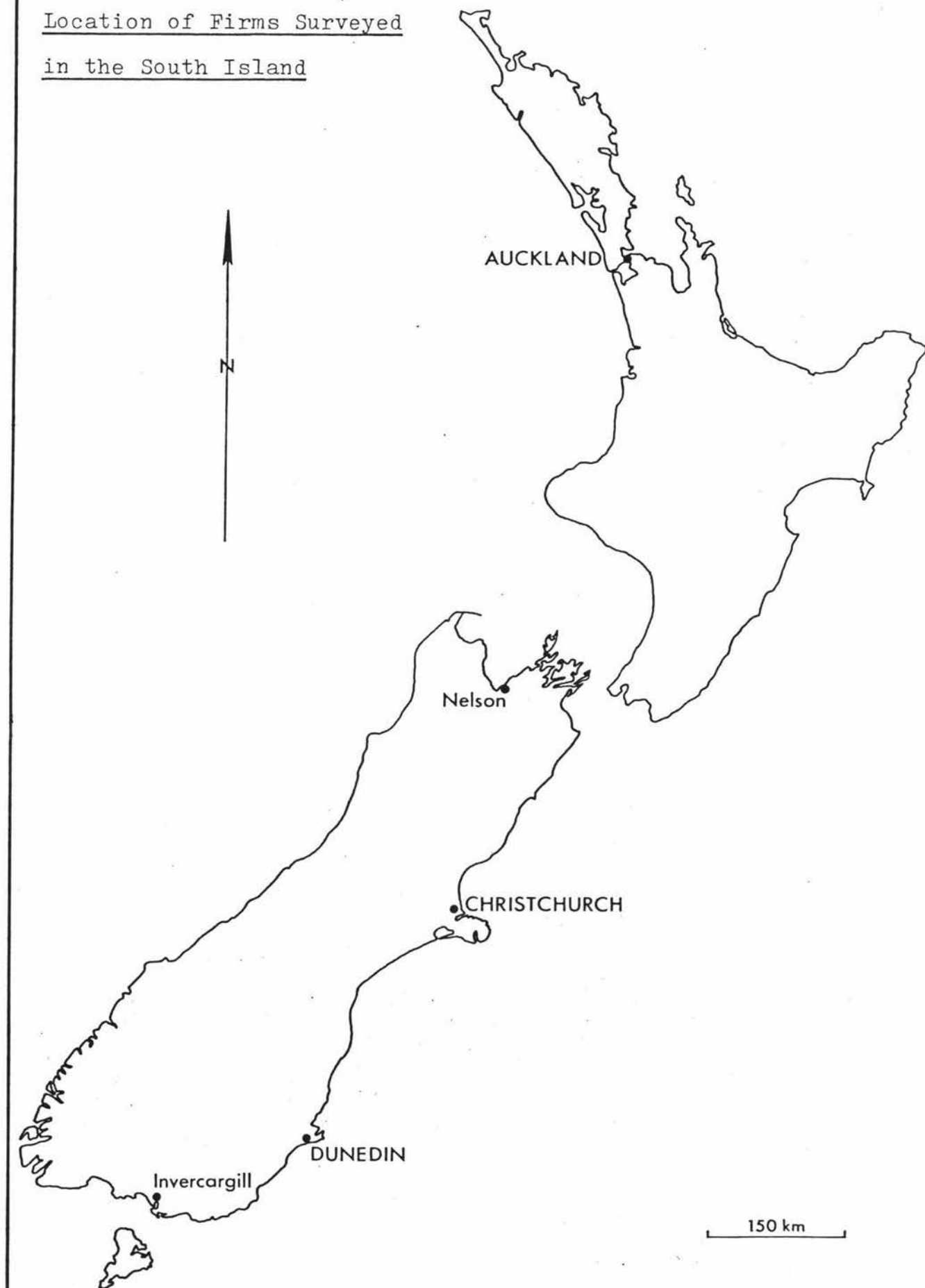
As already stated, interviews were carried out in the majority cases with the General Manager or Export Manager. However, because of their overseas commitments and the small number of employees engaged in company export departments

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2 Such a breakdown was not easy to establish, because lists of exporters (particularly the Export Institute list and the telephone directory) are comprised solely of individual company names, not product ranges. So random proportional selection was avoided.

FIGURE 1

Location of Firms Surveyed  
in the South Island



(usually one person), the task of finding the appropriate person(s) to answer the questionnaire was sometimes very arduous. Companies were contacted through two methods, telephone contact arranging a particular day and time for a personal interview, and unannounced arrival on a company's doorstep requesting an interview with the appropriate person(s). All companies having the appropriate personnel in absentia at the initial contact were visited a second time.

The estimated populations for the four cities are representative of the manufacturing exporters in those cities. The manufacturing exporters listed represent the known population of the respective cities.<sup>3</sup> Any weighting in the population towards the engineering and machinery industrial categories is accounted for by the historical legacy of the island. Although the counts are small for three of the cities, excluding Christchurch, they nevertheless represent what exists. The random sample of Christchurch, in which 56 percent of the population was sampled, may have an element of bias, but is believed to be unimportant at the present level of analysis.

### Measuring Export Performance

Export Performance is used in this study as the critical measure of a company's involvement in exporting.

Export performance is defined here, as in other studies

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3 Reliable information on export populations was provided by persons knowledgeable in this sphere: Mr. F. Ward, Nelson Public Relations Officer; Mr. I.D. Howell, President, Canterbury Manufacturers Federation; Mr. J.G. Crawford, President, Otago-Southland Manufacturers Federation.

TABLE 4

Summary of Survey and Sample Population, Respondents, Usable and Unusable Questionnaires, and Refusals.

|              | Number of Export Companies |                   | Percentage Approached | Number of Respondents | Refusals | Number of Usable Questionnaires | Effective Response Rate |
|--------------|----------------------------|-------------------|-----------------------|-----------------------|----------|---------------------------------|-------------------------|
|              | Population                 | Number Approached |                       |                       |          |                                 |                         |
| Nelson       | 14                         | 14                | 100.0                 | 13                    | 1        | 12                              | 85.7                    |
| Christchurch | 152                        | 85                | 56.0                  | 58                    | 9        | 47                              | 58.0                    |
| Dunedin      | 28                         | 28                | 100.0                 | 21                    | 3        | 17                              | 60.7                    |
| Invercargill | 7                          | 7                 | 100.0                 | 5                     | 0        | 5                               | 71.4                    |
|              | 201                        | 134               | 66.7                  | 97                    | 13       | 81                              | 60.4                    |

Note: Where sources not shown in tables, they indicate results from the survey.

(Stening, 1974) as a percentage of the total sales exported. The formula is as follows:

$$\text{Export Performance, EP} = \frac{E}{S} \times \frac{100}{1}$$

where EP = export performance, E = value of export sales in a given year, and S = value of total sales in a given year. Export performance, a concern of firm and national interest, can then be assessed in terms of a number of independent variables. The important independent variables will be discussed and defined an association with findings of the hypotheses and other relevant questions.



## Chapter 3

### STRUCTURAL INFLUENCES AFFECTING EXPORTING

In this chapter the structural elements of the South Island export scene are analysed. The chapter is divided into two sections. The first section on the incidence of exporting, presents the facts in a descriptive analysis of the industrial and enterprise structure of South Island export firms. Having established the facts, the second section then tests specific relationships between the dependent variable, export performance, and a wide range of independent variables.

#### The Industrial and Enterprise Structure of the South Island Export Scene

##### Industrial structure

Table 5 illustrates the incidence of South Island export firms by industry. Firms oriented towards exporting are represented in all but four of the industry groups, they being beverages, tobacco, paper and rubber. The dominant export industries are miscellaneous (15 percent of the respondents), electrical machinery, metal and textiles (11 percent each). Together the above four industries account for 48 percent of the firms interviewed. Associated with the industries is a wide range of manufactures such as fire places, shower mixing valves, marine equipment, polypropylene sacks, processed minerals, insecticides, food essences, background music, temperature controls, sculpture, brushware, graph paper, coolrooms, and so on.

South Island export firms are spread across the board

TABLE 5

Incidence of Export Firms by Industry

| Industry             | Number of Firms |              |         |              |       |                  |
|----------------------|-----------------|--------------|---------|--------------|-------|------------------|
|                      | Nelson          | Christchurch | Dunedin | Invercargill | Total | Percent of Total |
| Food                 | 2               | 3            | 2       |              | 7     | 8.7              |
| Beverages            |                 |              |         |              |       |                  |
| Tobacco              |                 |              |         |              |       |                  |
| Textiles             |                 | 4            | 3       | 2            | 9     | 11.1             |
| Footwear             |                 | 3            |         | 1            | 4     | 4.9              |
| Wood                 | 1               | 2            |         | 1            | 4     | 4.9              |
| Furniture            | 1               | 1            | 1       |              | 3     | 3.7              |
| Paper                |                 |              |         |              |       |                  |
| Printing             |                 | 1            |         |              | 1     | 1.2              |
| Leather              |                 | 3            | 2       | 1            | 6     | 7.4              |
| Rubber               |                 |              |         |              |       |                  |
| Chemicals            | 1               |              | 1       |              | 2     | 2.5              |
| Petroleum & Coal     |                 | 1            |         |              | 1     | 1.2              |
| Non-Metallic         | 1               | 1            |         |              | 2     | 2.5              |
| Basic Metal          |                 | 2            | 1       |              | 3     | 3.7              |
| Metal                | 2               | 5            | 2       |              | 9     | 11.1             |
| Machinery            |                 | 4            | 1       |              | 5     | 6.3              |
| Electrical Machinery | 1               | 7            | 1       |              | 9     | 11.1             |
| Transport Equipment  | 1               | 3            |         |              | 4     | 4.9              |
| Miscellaneous        | 2               | 7            | 3       |              | 12    | 14.8             |
| Total                | 12              | 47           | 17      | 5            | 81    | 100.0            |

Note: Percentages are rounded to the nearest decimal point.

in terms of the number of years they have been established (Table 6). Firms established more than eighty years ago account for 23 of the respondents, compared to 35 percent being less than twenty years old. There is a predominance of young export firms in Nelson and Invercargill, contrasting with Dunedin which is characterised by 65 percent of its export firms having been established more than eighty years ago. These findings differ from Willis (1973), who found that 50 percent, of the firms studied in his sample, were less than 20 years old. Admittedly Willis was studying only one industrial group, the Manufacturing Engineers and Allied Metal Trades group, and therefore his findings (that export firms were not old established) should not be considered representative of exporting in general. Canterbury and Otago, the country's initial areas of colonial development, account for the weighting of factors towards the older established export firms in the South Island.

With respect to size (employment and total annual sales) the majority of the export firms are small and medium sized. Employment data revealed that 78 percent of the firms employed fewer than 250 persons, and 43 percent employed fewer than 50 persons (Table 7). There is an absence of bigness in the export firms of Nelson and Invercargill, with all firms in these two centres employing fewer than 500 persons.

Table 8 shows the average employment size of the export firms studied, and is accompanied by individual and overall employment growth rates for the respective locations. The average employment size for a South Island export firm is 183 persons. Forty-one percent of Dunedin export firms

TABLE 6

Distribution of Export Firms for Year Established  
By Location

| Years | (Percentages) |              |         |              |       |
|-------|---------------|--------------|---------|--------------|-------|
|       | Nelson        | Christchurch | Dunedin | Invercargill | Total |
| 0 - 9 | 33.3          | 12.8         | 4.8     | 40           | 17.3  |
| 10-19 | 16.8          | 19.1         | 4.8     | 20           | 17.3  |
| 20-39 | 33.3          | 27.7         | 5.9     | -            | 22.2  |
| 40-59 | 8.3           | 17.0         | -       | -            | 11.1  |
| 60-79 | -             | 10.6         | 5.9     | 20           | 8.7   |
| 80-99 | -             | 6.4          | 35.3    | 20           | 12.3  |
| 100 + | 8.3           | 6.4          | 29.4    | -            | 11.1  |
|       | 100.0         | 100.0        | 100.0   | 100.0        | 100.0 |

Note: Percentages are rounded to nearest decimal point.

TABLE 7

Distribution of Export Firms for Employment Groups  
By Location, 1977

| Employment<br>Groups | (Percentages) |              |         |              |       |
|----------------------|---------------|--------------|---------|--------------|-------|
|                      | Nelson        | Christchurch | Dunedin | Invercargill | Total |
| (persons)            |               |              |         |              |       |
| 1 - 9                | 16.7          | 10.4         | -       | -            | 8.6   |
| 10 - 49              | 41.7          | 38.3         | 17.6    | 40.0         | 34.6  |
| 50 - 249             | 33.3          | 29.8         | 47.0    | 40.0         | 34.6  |
| 250 - 499            | 8.3           | 14.9         | 11.8    | 20.0         | 13.6  |
| 500 - 999            | -             | 2.1          | 11.8    | -            | 3.7   |
| 1000 +               | -             | 4.3          | 11.8    | -            | 4.9   |
|                      | 100.0         | 100.0        | 100.0   | 100.0        | 100.0 |

Note: Percentages are rounded to nearest decimal point.

employ persons in excess of the South Island average emphasising the bigness of Dunedin export firms. The South Island mean is therefore exaggerated by the employment size of firms in Dunedin.

Invercargill export firms, as illustrated in Table 8, display a prolific mean employment growth rate of 123 percent for the period 1972-1977, compared to the South Island mean of 18 percent. The Invercargill variation is explained by way of its small export population, whereby one export firm is currently experiencing rapid growth, both in employment and annual sales. Hence the particular firm colours the general picture of growth in Invercargill giving rise to the exceptional growth in employment.

The South Island export industry employment growth rate of 78 percent between 1972-1977 compares favourably with the national employment growth in industry of 11 percent, over a comparable five year period 1969/70 to 1973/74.<sup>4</sup>

TABLE 8

Average Employment Size and Growth of export Firms  
by Location

|              | Average Employment<br>Size 1977<br>Persons | Employment<br>Growth 1972-77<br>Percent |
|--------------|--|---|
| Nelson       | 68.1                                       | 6.8                                     |
| Christchurch | 179.9                                      | 19.5                                    |
| Dunedin      | 340.5                                      | 10.6                                    |
| Invercargill | 131.8                                      | 122.6                                   |
| South Island | 182.5                                      | 17.6                                    |

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4 Statistics of Industrial Production, 1973/74.

Eighty-four percent of the respondents had a total annual sales turnover of less than \$5m in 1976 (Table 9). There is an absence of bigness for South Island export firms with respect to turnover. At the disaggregated level Dunedin again exhibits large firms, 29 percent of them having annual turnovers in excess of \$5m and 21 having annual sales above \$10m. At the opposite end of the scale there are few export firms with annual sales below \$100,000 (3 percent of the respondents). The average total annual sales for South Island export firms approximates \$3.4m (Table 10).

A comparison of New Zealand and South Island manufacturing export growth rates highlights interesting features concerning the island's export scene. Table 11 illustrates the national and South Island export growth rates over the period 1972-1976. Certain gaps exist in the South Island data set, the reasons being that often there were no exports in that particular industrial category or that data was not available from the particular firm.

In conjunction with the growth rates, an absolute difference ratio covering the five year time period was calculated to give a more accurate picture of the relativity between the national and South Island exporting scene. Calculation of the absolute difference ratios involved two steps:

$$1) \quad \text{New Zealand absolute difference ratio,} \quad \frac{\text{NZX 1976} - \text{1972}}{\text{NZT 1973/74}}$$

where for each industrial category, the national difference in export sales (NZX) 1972 to 1976, was divided by the national value of production (NZT) 1973/74 for that same

TABLE 9

Distribution of Total Annual Sales for Export Firms  
by Location, 1976.

| Dollars               | (Percentages) |              |         |              |       |
|-----------------------|---------------|--------------|---------|--------------|-------|
|                       | Nelson        | Christchurch | Dunedin | Invercargill | Total |
| Below 50,000          | -             | 2.4          | -       | -            | 1.5   |
| 50,000 - 99,999       | 11.1          | -            | -       | -            | 1.5   |
| 100,000 - 249,999     | 11.1          | 4.9          | 7.1     | -            | 5.9   |
| 250,000 - 499,999     | 11.1          | 26.9         | 7.1     | -            | 19.1  |
| 500,000 - 999,999     | 22.2          | 14.6         | 14.4    | 20.0         | 16.2  |
| 1,000,000 - 4,999,999 | 44.5          | 36.6         | 42.9    | 40.0         | 39.7  |
| 5,000,000 - 9,999,999 | -             | 7.3          | 7.1     | 20.0         | 7.4   |
| Above 10,000,000      | -             | 7.3          | 21.4    | -            | 8.8   |
| Total                 | 100.0         | 100.0        | 100.0   | 100.0        | 100.0 |

TABLE 10

Average Total Annual Sales and Growth for Export Firms  
by Location

|              | Average Total Annual Sales (\$) | Total Sales Growth 1972-1976 Percent |
|--------------|---------------------------------|--------------------------------------|
| Nelson       | 1,173,400                       | 156.5                                |
| Christchurch | 2,566,900                       | 266.3                                |
| Dunedin      | 7,676,500                       | 131.7                                |
| Invercargill | 4,950,000                       | 181.3                                |
| South Island | 3,429,000                       | 181.8                                |



industrial category.

$$2) \quad \text{South Island absolute difference ratio,} \quad \frac{\text{SIX } 1976 - 1972}{\text{SIT } 1973/74}$$

where for each industrial category, the South Island difference in export sales (SIX) 1972-1976, was divided by the South Island value of production (SIT) 1973/74 for that same industrial category. The South Island value of production figures were used so as not to deflate the absolute difference ratio in exports between 1972 and 1976. The 1973/74 statistics represent the latest available set.

At the outset it would seem apparent that in eight of the industrial categories, South Island exports are experiencing higher rates of growth than the national trends. In the categories of machinery and electrical machinery for instance, South Island growth rates are respectively three and five times those rates of the same industries at the national level.

While South Island export growth rates generally appear to be larger than the national rates, they are in absolute terms not significant. If one looks at the absolute difference ratios, Table 11 shows how insignificant South Island exporting is when compared to the national export scene. Despite the North Island growth rates not being shown in the table, one can ascertain the North Island's prominence in the production of manufactured exports. The South Island's insignificance with regards to manufacturing exports has important regional development implications which will be discussed in the final chapter. However, it must be taken into consideration that manufacturing exports

TABLE 11

New Zealand and South Island Manufacturing Export Growth Rates by Industry 1972-1976.

| Industry                   | New Zealand                            |                   | South Island                           |                   |
|----------------------------|--|-------------------|--|-------------------|
|                            | Absolute Difference Ratio<br>(1972-76) | Percent<br>Growth | Absolute Difference Ratio<br>(1972-76) | Percent<br>Growth |
| Food                       | 0.022                                  | 159.9             | 0.038                                  | 243.4             |
| Beverages                  | 0.006                                  | 88.6              | - (2)                                  | -                 |
| Tobacco                    | - (1)                                  | 164.6             | - (2)                                  | -                 |
| Textiles                   | 0.075                                  | 166.8             | 0.022                                  | 218.3             |
| Footwear                   | 0.003                                  | 767.3             | - (2)                                  | -                 |
| Wood                       | 0.184                                  | 183.8             | - (2)                                  | -                 |
| Furniture                  | 0.033                                  | 238.4             | 0.013                                  | 456.3             |
| Paper                      | 0.145                                  | 155.7             | - (2)                                  | -                 |
| Printing                   | 0.007                                  | 53.5              | 0.001                                  | 121.1             |
| Leather                    | 0.261                                  | 409.9             | 0.053                                  | 194.1             |
| Rubber                     | 0.016                                  | 20.5              | - (2)                                  | -                 |
| Chemicals                  | 0.046                                  | 157.9             | 0.008                                  | 362.8             |
| Petroleum and Coal         | 0.175                                  | 241.0             | - (2)                                  | -                 |
| Non Metallic               | 0.013                                  | 75.4              | - (2)                                  | -                 |
| Basic Metal                | 0.305                                  | 311.5             | 0.016                                  | 248.9             |
| Metal                      | 0.041                                  | 253.5             | 0.008                                  | 149.2             |
| Machinery                  | 0.110                                  | 203.2             | 0.001                                  | 800.0             |
| Electrical Machinery       | 0.056                                  | 120.4             | 0.007                                  | 813.0             |
| Transport Equipment        | 0.039                                  | 402.1             | -                                      | -                 |
| Miscellaneous              | 0.047                                  | 161.2             | 0.047                                  | 194.9             |
| Total<br>All Manufacturing | 0.065                                  | 219.3             | 0.018                                  | 342.4             |

Source: Courtesy New Zealand Manufacturers Federation, Wellington, 1977 Statistics of Industrial Production, 1973-74.

Notes: (1) Included in Miscellaneous by Department of Statistics to avoid disclosure of individual establishments.

(2) Data not available from fieldwork.

do not include a large proportion of primary processing industries which are outside the scope of the thesis definition of manufacturing.

The average export performance for South Island export firms in 1976 was 17 percent. Table 12 illustrates the locational variations in export performance, with Nelson and Invercargill exhibiting high average levels of export performance. Their high performance levels can be partly attributed to the emphasis of these centres on primary processing industries (leather goods, timber products and textiles), and partly to the small size of the five respective export populations which tends to partially inflate the mean.

The industrial groups of food, furniture, leather, petroleum and coal and basic metal all have export performances above the South Island mean (Table 13). The variation of export performance within each category is significant with firms in the textile, wood, basic metals, electrical machinery and transport equipment industries exhibiting a wide range in their percentage of total sales exported (from 1 percent to 60 percent plus). No industry however could qualify for consideration as being totally export oriented. Several industries are fast approaching and two are already above the 'export orientation level', which through a consensus of opinion represents one third of a firm's total sales being exported.<sup>5</sup> The industries of furniture and petroleum and coal are the only ones having thirty percent

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5 Refer to section on perception of exporting.

TABLE 12

Average Export Performance for South Island  
Export Firms by Location, 1976

|              | Average Export<br>Performance (Percentage) |
|--------------|--|
| Nelson       | 24.9                                       |
| Christchurch | 15.9                                       |
| Dunedin      | 12.9                                       |
| Invercargill | 26.3                                       |
| South Island | 17.0                                       |

TABLE 13

Variation in Average Export Performance by Industry

| Industry             | Mean | Standard<br>Deviation | Coefficient<br>of Variation<br>( $V = \frac{s}{\bar{x}}$ ) |
|----------------------|------|-----------------------|--|
| Food                 | 23.0 | 16.31                 | 0.709  |
| Beverages            | (1)  |                       |  |
| Tobacco              | (1)  |                       |  |
| Textiles             | 16.0 | 14.71                 | 0.919  |
| Footwear             | 5.0  | 1.63                  | 0.326  |
| Wood                 | 17.0 | 25.02                 | 1.472  |
| Furniture            | 45.0 | 15.00                 | 0.333  |
| Paper                | (1)  |                       |  |
| Printing             | 11.0 | 0.00                  | 0.000  |
| Leather              | 28.0 | 19.59                 | 0.700  |
| Rubber               | (1)  |                       |  |
| Chemicals            | 10.0 | 9.00                  | 0.900  |
| Petroleum and Coal   | 47.0 | 0.00                  | 0.000  |
| Non Metallic         | 7.0  | 6.00                  | 0.857  |
| Basic Metal          | 21.0 | 27.36                 | 1.303  |
| Metal                | 19.0 | 17.83                 | 0.938  |
| Machinery            | 19.0 | 8.16                  | 0.907  |
| Electrical Machinery | 10.0 | 19.93                 | 1.993  |
| Transport Equipment  | 18.0 | 25.05                 | 1.392  |
| Miscellaneous        | 14.0 | 16.48                 | 1.177  |
| TOTAL                | 17.0 | 12.03                 | 0.708  |

Note: (1) Data not available from fieldwork.

or more of their sales allocated for export. In the case of petroleum and coal, the industrial category is represented by one firm.

The emphasis firms attach to exporting can be depicted from the capital outlay they invest into the process. Encompassed within the questionnaire is a section dealing with capital expenditure of export firms, which when analysed provides the following bent. Over the three year period 1974-76 inclusive, 56 percent of respondents undertook building expansions of a general nature which included either rental, leasehold or freehold purchases (Table 14). Of the firms undertaking building expansions 62 percent of their capital expenditure was not used for export production, 34 percent was partly used for export production, and only 4 percent of capital expenditure in buildings was wholly used for export production.

TABLE 14

Distribution of Export Firms Undertaking  
Building Expansions 1974-1976

|              | Firms undertaking<br>building expansions<br>(percentages) |
|--------------|---|
| Nelson       | 41.7  |
| Christchurch | 56.4  |
| Dunedin      | 60.0  |
| Invercargill | 80.0  |
| South Island | 56.4  |

Table 15 summarises the capital expenditure invested in building expansions of firms for the four respective locations. The table indicates that building expansions

were generally not tied to export efforts.

The number of years export firms engaged in exporting is an important structural variable that may affect export performance. Table 16 outlines the distribution of South Island export firms by the number of years they have been actively engaged in exporting. A greater proportion of firms have been exporting for ten or less years, with 53 percent of firms engaging in exporting since 1970. Although exporting is a phenomena associated with the 1960's and 1970's a significant proportion of firms (10 percent) have been engaged in exporting well before the 1960's and the subsequent introduction of export incentives.

Since 1962 many firms have begun to export during specific years. Illustrated in Table 16 are years of 'lumpiness' in which firms began to export; 1965, 1969, 1970, 1975 and 1976. Despite no definite causal relationship having been established, firms commencing to export in certain years can be closely related to the occurrence of particular economic circumstances, such as the annual budgets and devaluations of currency, and more closely to the introduction of formal government export incentives. The latter definitely helps to explain the lumpiness for the years 1975 and 1976.

Transport costs, both internal and external, represent another structural variable that might affect export performance. Export performance may be partly a function of the cost of the transportation of raw materials and finished goods. Over the last 15 years transport costs have become a very significant factor in the profitability of many South Island export firms. Faced with a considerable cost disadvantage in reaching the national market, the transport

TABLE 15

Distribution of Capital Expenditure Involved in Building Expansions of Export Firms by  
location, 1974-1976

| Export Orientation                | \$(000's) |      |      |              |       |        |         |      |      |              |      |      |
|-----------------------------------|-----------|------|------|--------------|-------|--------|---------|------|------|--------------|------|------|
|                                   | Nelson    |      |      | Christchurch |       |        | Dunedin |      |      | Invercargill |      |      |
|                                   | 1974      | 1975 | 1976 | 1974         | 1975  | 1976   | 1974    | 1975 | 1976 | 1974         | 1975 | 1976 |
| Wholly used                       | -         | -    | 80   | 50           | -     | -      | -       | 130  | 76   | -            | 3    | 250  |
| Partly used                       | 10        | 200  | 37   | 450          | 1,680 | 1,720  | 519     | 257  | 90   | 2            | 60   | -    |
| Not used for export<br>production | 70        | 20   | -    | 281          | 26    | 8,492  | 113     | 1    | 256  | -            | -    | -    |
| TOTAL                             | 80        | 220  | 117  | 781          | 1,706 | 10,212 | 632     | 388  | 466  | 2            | 63   | 250  |



TABLE 15 (cont'd)

| \$(000's)    |       |        |                    |                        |
|--------------|-------|--------|--------------------|------------------------|
| South Island |       |        | Total<br>1974-1976 | Percentage<br>of Total |
| 1974         | 1975  | 1976   |                    |                        |
| 50           | 133   | 450    | 583                | 3.9                    |
| 981          | 2,197 | 1,847  | 5,025              | 33.8                   |
| 464          | 47    | 8,748  | 9,259              | 62.3                   |
| 1,495        | 2,377 | 11,045 | 14,867             | 100.0                  |

TABLE 16

Distribution of Export Firms by Location for the Number of Years Actively Engaged in Exporting

| Number of years<br>actively engaged<br>in exporting | Nelson | Christchurch | Dunedin | Invercargill | Total | Percentage of<br>Total |
|---|--------|--------------|---------|--------------|-------|------------------------|
| 0   | 1      |              |         |              | 1     | 1.2                    |
| 1   | 3      | 4            |         | 2            | 9     | 11.2*                  |
| 2   | 3      | 7            | 1       | 1            | 12    | 14.8*                  |
| 3   |        | 2            | 1       |              | 3     | 3.8                    |
| 4   |        | 4            |         |              | 4     | 4.9                    |
| 5   | 1      | 2            | 1       |              | 4     | 4.9                    |
| 6   |        | 2            | 1       | 1            | 4     | 4.9                    |
| 7   |        | 4            | 1       | 1            | 6     | 7.4*                   |
| 8   |        | 4            | 1       |              | 5     | 6.2*                   |
| 9   | 1      | 1            | 1       |              | 3     | 3.8                    |
| 10  |        | 4            |         |              | 4     | 4.9                    |
| 11  |        | 2            | 2       |              | 4     | 4.9                    |
| 12  | 2      | 2            | 2       |              | 6     | 7.4*                   |
| 13  |        | 1            |         |              | 1     | 1.2                    |
| 14  |        | 2            | 1       |              | 3     | 3.8                    |
| 15-17   |        | 3            | 1       |              | 4     | 4.9                    |
| 18-27   | 1      | 2            | 1       |              | 4     | 4.9                    |
| 28-37   |        | 1            | 3       |              | 4     | 4.9                    |
| TOTAL   | 12     | 47           | 17      | 5            | 81    | 100.0                  |

Note: Lumpiness, denoted thus \*

problem is further aggravated by the ever occurring internal freight rate rises (For a summary of Rail and Air Freight Rate Increases 1963-1977 and 1965-1977 respectively refer to Appendix C1 and C2).

The average internal freight cost (as a percentage of total production costs) for the South Island equals 5 percent, with 9 percent, 6 percent, 4 percent and 8 percent respectively being the means for firms in Nelson, Christchurch, Dunedin and Invercargill. As a percentage of total production costs, the cost for distributing to the internal markets does not increase the more southerly the location. With respect to absolute costs, transport costs to the national market do increase the further south a firm is located. For air freight rates the cost of transporting a product weighing 1 Kilogramme, at 1.3 cents a kilogramme, to Auckland from Invercargill is 59 percent dearer than from Nelson to Auckland (Appendix C2).

Appendix D summarises the variations in the average transport costs as a percentage of total production costs for the respective industrial categories.

A question relevant to external transport costs was included within the questionnaire, but the information could not be collated effectively because of the many costing systems used by export firms when selling abroad. Costing systems included c.i.f., c. and f., f.a.s., f.o.b., and f.i.s.<sup>6</sup> making it difficult to compare internal and external costs. Several firms did not experience the problem of

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6 Appendix E.

external transport costs, the costs being off loaded onto the buyer's account. Naturally if the export was a high bulk to low value ratio, then in many instances the transport costs were excess of the internal freight bill. But the cost ratio (internal to external) could still differ depending on the distance the external market was from New Zealand, and on the proximity of the export firm to the nearest export port or international air terminal.

If a firm from the South Island was to export by sea to the Pacific Islands, then in the majority of cases it could only do so through the Auckland port, considered by South Island manufacturers to be the 'export port' of New Zealand. The Auckland port is the only port having frequent and regular shipping links to the Pacific Islands. Hence the cost of getting to the Auckland port, inclusive of any freight rebates, is considerable for many South Island firms wanting to sell to the South Pacific.

The South Island export firm's dependence on the sea (Table 17) is reflected in part in where their export products are marketed. South Island exports moving through its ports are primarily focussed on the Australian market, with a large proportion of the products travelling by way of containerised bulk carriers. Increasing attention is being placed in the Australian market by Christchurch and Dunedin manufacturers in particular, because of the growing difficulty faced by these firms in competing north of Hamilton. At the present point of time, with the aid of export incentives, it is cheaper for Dunedin manufacturers to sell their

goods in Australia than market them in Auckland.<sup>7</sup>

An example of the significance of internal freight costs is exemplified by the publically voiced problems of a Christchurch based export company, Bunting and Company Limited. In 1974, Bunting and Company Limited. In 1974, Bunting and Company Limited, brushware manufacturers, opened a factory in Papakura. The main factor in Bunting's making this decision was the cost of freighting their goods to their main market area, the North Island. At the time the decision was made to establish in Auckland, the cost of getting one ton of brushware from Christchurch to Wellington was \$60, compared to the cost of servicing Wellington from Auckland of only \$21. Any product whose weight converts to greater than 40 cubic foot per ton (i.e. brushware) allowed in the sea freight portion in the transport of goods to the North Island has the same disadvantage in freight costs (Gardner, 1977). By locating in the Auckland area, the company has overcome its freight cost disadvantage.

TABLE 17

Transport Modes Used by South Island Firms when Exporting

|             | (Percentages) |               |         |               |       |
|-------------|---------------|---------------|---------|---------------|-------|
|             | Nelson        | Christ-church | Dunedin | Inver-cargill | Total |
| Sea         | 75.0          | 34.0          | 52.9    | 20.0          | 43.2  |
| Air         | 16.7          | 38.3          | 5.9     | 40.0          | 28.4  |
| Sea and Air | 8.3           | 27.7          | 41.2    | 40.0          | 28.4  |
|             | 100.0         | 100.0         | 100.0   | 100.0         | 100.0 |

<sup>7</sup> Mr. Kennedy, Department of Trade and Industry, Dunedin, 1977.

The transport issue has become an emotional problem in the South Island based primarily on an absolute problem - that of cost. On top of the cost element, South Island manufacturers are faced with breakdowns in transport (strikes and derailments). Such delays can be upwards of two and three months, therefore becoming critical elements influencing production especially in the lower half of the South Island.

Further to the transport problem South Island export firms experience is the inefficiency of New Zealand Railways. The detrimental factors of rail service are causing the export firms to turn to private enterprise in order to increase their efficiency in the distribution of their goods. It has resulted in the classic model, state versus private enterprise, whereby the middlemen, the transport operators (an example being Freightways Limited) are reaping the rewards from the lack lustre performance of New Zealand Rail.

Using a Ranking Additive Model, the three most detrimental factors of rail service were ranked by the export firms. Three factors out of a selection of 14 were ranked by the respondents with '1' the most detrimental to '3' the least detrimental of the three factors. The responses to each factor were then reranked with responses ranked '1' weighted by 3, responses ranked '2' weighted by 2, and those ranked '3' weighted 1. The reranked responses were then summed resulting in an overall score for each factor. The weighted scores provide an indication of the relative importance of the variables as perceived by the respondents.

Firms using freight services other than New Zealand Railways accounted for 31 percent of the export population.

The remainder were dissatisfied with the rail system, ranking time in transit (weighted index = 114), regularity of service (39) and lack of links to all parts of New Zealand (38) as the respective first, second and third detrimental factors of the railways (Table 18). Time in transit is clearly the major detrimental factor of the railway system.

TABLE 18

Weighted Index and Weighted Rank of Factors in  
Rail Service Most Detrimental to Export Firms

| Factors                               | Weighted Index | Rank |
|---------------------------------------|----------------|------|
| Time in Transit                       | 114            | 1    |
| Frequency of transit                  | 37             | 4    |
| Regularity of Service                 | 39             | 2    |
| Links to all parts of New Zealand     | 38             | 3    |
| Ability to handle bulky items         | 8              | 11   |
| Ability to handle perishable items    | 0              | 13=  |
| Ability to handle fragile items       | 9              | 9=   |
| Minimising risk of damage             | 29             | 5    |
| Minimising need for special packaging | 7              | 12   |
| Minimising handling and transshipment | 17             | 7    |
| Minimising risk of pilfering          | 9              | 9=   |
| Ready access to terminals             | 0              | 13=  |
| Easy of pickup/delivery               | 10             | 8    |
| Ready traceability of consignments    | 18             | 6    |

Enterprise Structure

Exporting is predominantly the responsibility of head office management (Le Heron, 1977). Seventeen branch firms in Nelson were approached to establish whether or not they participated in exporting. All but two manufacture for the local needs. Headoffices of the remaining fifteen firms were all engaged directly in exporting. The majority of



the decisions for the two export branch firms concerning their export performances were also the responsibilities of their respective head offices.

Table 19 illustrates the distribution of branch and head offices for South Island export firms. Eighty nine percent of the export firms interviewed were headoffices.

TABLE 19  
Distribution of Branch and Head Offices for  
South Island Export Firms

|             | Percentages |                   |         |                   |       |
|-------------|-------------|-------------------|---------|-------------------|-------|
|             | Nelson      | Christ-<br>church | Dunedin | Inver-<br>cargill | Total |
| Branch      | 16.7        | 8.5               | 11.8    | 20.0              | 11.1  |
| Head Office | 83.3        | 91.5              | 88.2    | 80.0              | 88.9  |
|             | 100.0       | 100.0             | 100.0   | 100.0             | 100.0 |

In contrast to the findings of Willis (1973), there was a noticeable absence of foreign ownership among export firms in the South Island. Willis found nearly 50 percent of his sample had some foreign shareholding. The present thesis reveals that no less than 94 percent of South Island manufacturing export firms are either owned by New Zealand public or private interest (Table 20). The ratio of private export firms to public export firms for the South Island is 2.3, compared to 6.42 private firms to every public firm for the overall New Zealand manufacturing scene. The ratio of private to public export firms signifies the relative importance of the contribution South Island public firms make in the aquisition of overseas exchange. This aspect is

especially significant in the case of Dunedin whereby 35 percent of the city's export firms are large publicly owned enterprises.

TABLE 20

Distribution of South Island Export Firms by Ownership

| Ownership           | Percentages |              |         |              |                 |
|---------------------|-------------|--------------|---------|--------------|-----------------|
|                     | Nelson      | Christchurch | Dunedin | Invercargill | Total (average) |
| Public New Zealand  | 25.0        | 21.8         | 35.3    | 20.0         | 25.0            |
| Private New Zealand | 66.7        | 76.1         | 47.1    | 80.0         | 68.8            |
| Public Overseas     | 8.3         | 2.1          | 11.8    | 0.0          | 5.0             |
| Private Overseas    | 0.0         | 0.0          | 5.8     | 0.0          | 1.2             |
|                     | 100.0       | 100.0        | 100.0   | 100.0        | 100.0           |

South Island Export Firm Policy

The growing importance of exporting to South Island firms is shown by the subjective evaluation they gave it in relation to the strategies they acknowledged as significant in determining their growth. Firms were required to rank first and second, the two most important strategies contributing to their growth. Product and marketing extension was ranked first by 44 percent of the firms, and second by 19 percent of the firms. Export was the next important growth strategy ranked first by 24 percent of the firms and second by 30 percent of the firms.

Table 21 highlights the percentage distribution of companies with respect to six alternative growth strategies.

The overall emphasis on the product and marketing extension strategy indicates the importance attached to the home market by export firms in order to grow (Barker, 1951; Kahn, 1951). Significantly exports are ranked second. Just as significant perhaps is the fact that 5 percent of the export firms experienced no growth over the period 1972-1976.

TABLE 21

Distribution of South Island Export Firms by  
Ranking for Alternative Growth Strategies

| Strategies                       | Percentage |        |
|----------------------------------|------------|--------|
|                                  | Rank 1     | Rank 2 |
| Product and marketing extension  | 43.8       | 18.6   |
| Product and marketing adaptation | 10.0       | 28.6   |
| Product innovation               | 12.5       | 15.7   |
| Marketing Innovation             | 5.0        | 7.1    |
| Exporting                        | 23.7       | 30.0   |
| No Growth                        | 5.0        | 0.0    |

An examination was made of the three most important factors bringing about product changes in export firms. By way of The Ranking Additive Model, head office decisions (weighted index = 51), customer initiative (49) and price competition (48) were ranked as the first, second and third factors responsible for product change respectively. The ranking of head office decisions first, reiterates the already expressed opinion that export decision making is encompassed within headoffice enterprise. No factor stands out as being a major influence bringing about product changes (Table 22).

It is appropriate that part of the structural research examine why firms initially enter into exporting, and the detrimental factors involved once having commenced exporting. Information of this type is beneficial to both policy makers and prospective exporters.

Table 23 illustrates the reasons perceived by firms as being of major importance for their initial entry into exporting. Respondents were required to rank the three most important reasons. A weighted index score of 124 for export incentives indicates a large proportion of the firms were motivated to export because of the availability of government export incentives. Excess capacity (93) and the research carried out into export potential (66) constitute the remaining significant factors. In order for many of the firms to export they had to have an excess capacity. In several instances, the excess capacity available for export arose from a depressed home market, characteristic of the year 1975 (Holmes, 1976). Concomitant with export incentives and excess capacity is the necessity of undertaking research in order to effectively develop export markets. Furthermore, communication is at the core of exporting, hence the high weightings attached to approaches by overseas companies and visits by firms to foreign countries.

Government export incentives in the form of import licences, duty and taxation incentives is clearly the most important reason why firms are attracted to exporting. Incentives are claimed in one form or another by 84 percent of the firms interviewed. The most popular incentives claimed are the export promotion taxation incentive (used by 74 percent of the firms), the increased export taxation

TABLE 22

Weighted Index and Weighted Rank of Factors Responsible  
for Product Change in Export Firms

| Factors                                   | Weighted Index | Rank |
|---|----------------|------|
| Price Competition                         | 48             | 3    |
| Customer Initiative                       | 49             | 2    |
| Head Office decisions                     | 51             | 1    |
| Distribution competition                  | 8              | 11   |
| Product quality competition               | 47             | 4    |
| Marketed by competitors                   | 27             | 9    |
| Product life cycle pressures              | 32             | 7    |
| Size of New Zealand market                | 35             | 5=   |
| Different regional markets in New Zealand | 5              | 12   |
| Desire to begin exporting                 | 35             | 5=   |
| Plant underutilised                       | 12             | 10   |
| Desire to continue exporting              | 31             | 8    |

TABLE 23

Weighted Index and Ranking of the Important Reasons for  
the Initial Entry into Exporting by Firms

| Reasons  | Weighted Index | Rank |
|--|----------------|------|
| Market saturation  | 27             | 6    |
| Excess capacity  | 93             | 2    |
| Approached by overseas company                                   | 52             | 4    |
| Research carried out into export potential                       | 66             | 3    |
| Opportunity by devaluation                                       | 8              | 10   |
| Visit by firm to foreign country                                 | 51             | 5    |
| Export incentives  | 124            | 1    |
| Regional development incentives                                  | 5              | 11=  |
| NAFTA arrangements   | 12             | 8    |
| Test marketing of a product                                      | 9              | 9    |
| Internal transport costs reducing competitiveness in New Zealand | 5              | 11=  |
| Other  | 16             | 7    |

incentive (used by 63 percent of the firms) and the new markets increased export incentive scheme (used by 39 percent of the firms).<sup>8</sup> Incentives were first introduced in 1962 by the National government and from that year onwards there has been a considerable increase in incentives available of both a formal and informal nature. Table 24 illustrated the chronological sequence of export incentives over the 15 years elapsed since 1962. Complementing those incentives listed are the annual budget incentives announced by the respective political parties in power.

Representative statements from South Island export firms claiming incentives suggests, that under present marketing conditions, one out of every two firms when competing in overseas countries, costs outside export incentives, leaving the export incentives as the cream. The remaining 50 percent of firms, either do not know or could not continue exporting if the export incentives were reduced.

Research, the third ranked reason motivating firms to export is undertaken by 75 percent of South Island firms for the New Zealand market and 68 percent of firms for the export market. For both markets there is a dominance of company level research in products, markets, sales methods and manufacturing processes throughout the South Island. On average 72 percent of all domestic market research is undertaken at the company level and 65 percent of all export markets research is also undertaken by company. Agents increase their significance with respect to export research

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<sup>8</sup> For expansion of government export incentives refer to Appendix F.



TABLE 24

Chronological Sequence of Major Export Incentives 1962-1976

| 1962   | 1963  | 1964   | 1965   | 1966   |
|--|---|--|--|--|
| Export Incentive Scheme.<br>Export Market Development Allowance. | Export Development Conference.<br>Direct Taxation Incentive Scheme.   | Export Guarantee Act.  | Export Guarantee Office Set up.  | Export Award Scheme.   |
| 1967   | 1968  | 1969   | 1970   | 1971   |
| Special Export Finance set up.<br>Devaluation.                   |   |  |  |  |
| 1972   | 1973  | 1974   | 1975   | 1976   |
|  | UDC Finance Inventors Award.<br>The Services Export Development Grants Act.<br>Export Suspensory Loan Scheme. | Establishment of N.Z. Export - Import Corporation.<br>Rural Export Suspensory Loan Scheme. | 15 percent currency Devaluation.<br>Development Grants Scheme (for new markets). | Development Finance Amendment (No.2.) Bill.<br>Special Tax Deduction Allowance.<br>Export Investment Allowance |

Source: Compiled from Export News, 1966-1977; Manpress, 1974-1977; New Zealand Manufacturer, 1964-1977; Productivity News, 1975-1977.



with just over 20 percent of South Island export research handled by agents.

The three major detrimental factors ranked by export firms are listed along with ten other factors in Table 25. A fairly close correspondence between the firms is indicated in the factors regarded as those which are most detrimental to firm's export performance. Insufficient product capacity (weighted index score = 66), domestic market demand (43), and liquidity in buying country (34) and the availability of raw materials (34) are the three marked major detrimental factors.

It is worthwhile noting, although excess capacity is ranked second as a major reason of firms for initially entering into exports, insufficient production capacity constitutes the major detrimental factor. The reason for the above is, initially firms set themselves up in exporting because of the availability of excess capacity, but over time are subsequently innundated with large overseas orders which their short run production lines cannot fulfill.

Domestic market demand can hinder export performance in two ways;

- i) because the size of the internal market is limited, the scale of production is then limited (which relates back to insufficient production capacity)
- and ii) when the domestic market increases in prosperity, any excess capacity is subsequently absorbed resulting in restrictions on the amount of production that can be exported.

The shortage of finance, labour and raw materials also constitute impediments for export firms attempting to expand their overseas trade.

One question sought to establish what changes have taken

TABLE 25

Weighted Index and Ranking of the Major Factors  
Detrimental to the Export Performance of Firms

| Factors                          | Weighted Index | Rank |
|----------------------------------|----------------|------|
| Availability of raw materials    | 34             | 3=   |
| Local transport                  | 12             | 12   |
| Overseas transport               | 33             | 5    |
| Labour                           | 28             | 9    |
| Domestic market demand           | 43             | 2    |
| Domestic liquidity               | 31             | 7    |
| Liquidity in buying country      | 34             | 3=   |
| Lack of export experience        | 23             | 10   |
| Insufficient production capacity | 66             | 1    |
| Company restrictions on exports  | 2              | 13   |
| Unsuitable product(s)            | 22             | 11   |
| Other internal influences        | 29             | 8    |
| Other external influences        | 32             | 6    |

place in the internal market sales of South Island export firms. Most firms experienced significant increases in all area sales, especially those marketing in the North Island. Table 26 summarises the changes in domestic sales locations for the respondents.

Diversification, both in product ranges and countries exported to, represents a major objective of manufacturing policy at national and firm level. The number of product ranges exported per respondent in 1972 was 1.8 product ranges, compared with an average of 3.6 in 1976. The relativity of change over the four year period is exemplified by the one hundred percent increase in the average number of product ranges exported. Similarly, the average number of countries exported to was 2.2 per firm in 1972, where as in 1976 each firm on average was exporting to 4.6 countries. Australia and the Pacific Islands dominated the principal export markets of the South Island manufacturing scene.

### Perception of Exporting

This subsection elucidates South Island export firms attitudes on exporting. A full appreciation of how firms perceive the export process is necessary for policy makers in order that they act in accord with popular opinion.

Tables 27 to 30 summarise firms attitudes on the priority of exports, the special runs made for exports, product export orientation and the regularity of export orders.

Two-thirds of the firms interviewed gave export orders priority over domestic orders (Table 27). Such a ploy was not to the detriment of the local market, it meant however that if export orders were required by a specific date, they were given priority in production over local orders. The

TABLE 26

Summary of Changes in Domestic Area Sales for South Island Export Firms

| Location     | Sales Area         | Percentage of Companies |           |          |
|--------------|--------------------|-------------------------|-----------|----------|
|              |                    | Increase                | No Change | Decrease |
| Nelson       | Local              | 63.6                    | 27.3      | 9.1      |
|              | Other South Island | 70.0                    | 30.0      | -        |
|              | North Island       | 81.8                    | 18.2      | -        |
| Christchurch | Local              | 72.7                    | 15.9      | 11.4     |
|              | Other South Island | 56.8                    | 29.5      | 13.7     |
|              | North Island       | 85.7                    | 4.8       | 9.5      |
| Dunedin      | Local              | 70.6                    | 29.4      | -        |
|              | Other South Island | 41.2                    | 58.8      | -        |
|              | North Island       | 68.8                    | 31.2      | -        |
| Invercargill | Local              | 100.0                   | -         | -        |
|              | Other South Island | 80.0                    | 20.0      | -        |
|              | North Island       | 100.0                   | -         | -        |

TABLE 27

Distribution of Firms by the Priority Attached to  
Export Orders over Domestic Orders

| Priority        | Percentage of Firms |               |         |               |                 |
|-----------------|---------------------|---------------|---------|---------------|-----------------|
|                 | Nelson              | Christ-church | Dunedin | Inver-cargill | Total (average) |
| Export orders   | 66.6                | 61.7          | 82.4    | 60.0          | 66.7            |
| Domestic orders | 33.3                | 38.3          | 17.6    | 40.0          | 33.3            |
|                 | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |

TABLE 28

Distribution of Firms by Whether or Not They Undertook  
Special Runs for Export Orders, 1976

|                               | Percentage of Firms |               |         |               |                 |
|-------------------------------|---------------------|---------------|---------|---------------|-----------------|
|                               | Nelson              | Christ-church | Dunedin | Inver-cargill | Total (average) |
| Firms making special runs     | 33.3                | 67.5          | 21.4    | 60.0          | 52.1            |
| Firms not making special runs | 66.7                | 32.5          | 78.6    | 40.0          | 47.9            |
|                               | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |

international credibility of local firms was at stake if delivery dates were not met.

Firms were divided on the question of special runs for exports shown in Table 28. Export firms making special runs accounted for 52 percent of the respondents, where as 48 percent did not bother to undertake special runs for their exports.

Table 29 illustrates the percentage of firms exporting as much as possible of their production compared to those who were not exporting as much as possible. Sixty two percent of firms felt they were exporting as much as possible at the present point of time given:

- i) the size of their plant,
- ii) the economic situation of the domestic and overseas markets,
- iii) and any company restrictions limiting the amount that could be exported.

Many other factors also have a direct bearing on the proportion of production exported.

Export orders were secured on a regular basis by 62 percent of the firms (Table 30). Thirty eight percent of firms did not export on a regular basis, reflecting the somewhat fluctuating fortunes of many exporters. Although a count was not possible, a significant number of firms in the Christchurch area were approached because they were listed as exporters, but were found to have ceased exporting within the last five years. What needs to be done to maintain these firms in exporting? Is exporting a temporary experience for many firms? The former represent two important research questions, answers to which may provide

TABLE 29

Distribution of Firms by Whether or Not They Exported  
As Much As possible of Production

|                                    | Percentage of Firms |               |         |               |                 |
|------------------------------------|---------------------|---------------|---------|---------------|-----------------|
|                                    | Nelson              | Christ-church | Dunedin | Inver-cargill | Total (average) |
| Exported as much as possible       | 83.3                | 60.0          | 47.1    | 80.0          | 62.0            |
| Did not export as much as possible | 16.7                | 40.0          | 52.9    | 20.0          | 38.0            |
|                                    | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |

TABLE 30

Distribution of Firms by the Regular or Irregular  
Basis by which Export Orders are Secured.

|           | Percentage of Firms |               |         |               |                 |
|-----------|---------------------|---------------|---------|---------------|-----------------|
|           | Nelson              | Christ-church | Dunedin | Inver-cargill | Total (average) |
| Regular   | 50.0                | 55.3          | 82.4    | 80.0          | 61.7            |
| Irregular | 50.0                | 44.7          | 17.6    | 20.0          | 38.3            |
|           | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |



enlightening comment on the South Island export scene.

South Island export firms' involvement in exporting is summarised in Table 31. The interesting features of the table are firstly, three-quarters of the companies view exporting as a low risk process. The above is especially so in Dunedin and Invercargill, where exporters regard competing in the national market and export markets as being on a par. The entrepreneurial ability and enterprise required in competing in the national market, lowers the perceived risk involvement when the same firms compete in overseas markets. Secondly, exporting to 88 percent of the respondents is perceived as a long term process. Thirdly, the financial return from exporting for 60 percent of the firms is equivalent to being the same or lower than the returns got from the domestic market. Finally, firms are split evenly on how they view their commitment in exporting. It is the two southerly locations of Dunedin and Invercargill which attach a larger commitment to exporting, 82 percent and 100 percent of the firms respectively have a large perceived commitment in exporting.

The common viewpoint of South Island export firms suggests, a firm to be export oriented needs to sell abroad more than a third of its production. The average percentage of the perceived export orientation level was calculated at 33 percent. This fact reveals a large proportion of the firms surveyed were not export oriented. The export orientation mode (10 cases) stands at 20 percent, and the range of a perceived level of export orientation varied from 5 to 100 percent.

For individual firms below the export orientation level

many circumstances would have to prevail before they would become export oriented. The following represent some of those circumstances;

- i) larger overseas market demand for certain products,
- ii) lower risk, consistent high returns and economic freight rates,
- iii) change in management and attitudes,
- iv) a complete drop off in local market,
- v) improvement in efficiency,
- vi) vast increases in locally available raw materials, and
- vii) better NAFTA deal and more export incentives.

As well as the above, there were two specific factors making it impossible for particular firms to become export oriented:

- i) company policy limiting production for export, for example, ceilings of 20 percent, associated with the cliché of having too many eggs in the one basket.
- ii) home market main concern, exports are secondary, therefore the present level of export performance would not increase.

The personnel responsible for exporting and any organisational changes made to aid exporting are useful adjuncts for an examination of the way firms perceive exporting.

The distribution of personnel responsible for exporting in firms illustrates the lack of specialised marketing institutions. The General Manager or his equivalent portfolio in 55 percent of the firms was responsible for exporting, a reflection of the immaturity and small scale of South Island exporting. Twenty two percent of the firms incorporated

TABLE 31

Distribution of Firms by Their Involvement in Exporting

|                  |        | Percentage of Firms |               |         |               |                 |
|------------------|--------|---------------------|---------------|---------|---------------|-----------------|
|                  |        | Nelson              | Christ-church | Dunedin | Inver-cargill | Total (average) |
| Risk             | High   | 58.3                | 23.7          | 7.1     | 0.0           | 25.4            |
|                  | Low    | 41.7                | 76.3          | 92.9    | 100.0         | 74.6            |
|                  |        | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |
| Duration         | Long   | 81.8                | 86.4          | 93.8    | 100.0         | 88.0            |
|                  | Short  | 18.2                | 13.6          | 6.2     | 0.0           | 12.0            |
|                  |        | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |
| Financial Return | High   | 33.3                | 34.2          | 40.0    | 100.0         | 39.1            |
|                  | Low    | 66.7                | 65.8          | 60.0    | 0.0           | 60.9            |
|                  |        | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |
| Commitment       | Large  | 36.4                | 35.0          | 82.4    | 100.0         | 49.3            |
|                  | Little | 63.6                | 65.0          | 17.6    | 0.0           | 50.7            |
|                  |        | 100.0               | 100.0         | 100.0   | 100.0         | 100.0           |

exporting under the wing of the Marketing Manager. Only 15 percent of the firms surveyed had a separate Export Division which focussed specifically on the marketing of products abroad. In the remaining firms accountants, company secretaries and agents undertook the task of handling individual firm's exports.

Company organisational changes aiding exports were undertaken by only 31 percent of the firms over the last two years. Common changes included the setting up of company export divisions, additional staff recruitments (1 to 3 staff), the setting up of overseas departments and salesmen, and executive additions. The general lack of organisational change has

meant that a small number of personnel do a large amount of export marketing. Large as this effort may seem, any further significant further growth is hamstrung by a small export work force working under extreme pressure.

Having concluded setting the South Island exporting scene, the following sections test the structural hypotheses based on the facts as presented above.

### Statistical Analysis of Structural Hypotheses

The formal analysis that follows is an attempt to test the various hypotheses concerning the structural determinants affecting export performance. Contingency tables coupled with simple correlation analysis were the respective techniques used to examine the hypotheses formulated at the beginning of Chapter 2.

A general comment about the resultant contingency coefficients (C) and simple correlation coefficients (r), as shown in Tables 32 and 33, is appropriate at this stage. The low level of most of the C and r values suggests that support for the majority of the study's structural hypotheses is weak. Similar findings were discovered in papers by Hoare (1977), Lloyd (1971), Severinsen (1976), Stening (1974) and Willis (1973).

Of the hypotheses, only one structural relationship was established as having a fairly strong degree of association and it was tested by way of the contingency coefficient.

### Retained Structural Hypothesis

Hypothesis 4 (H4) that firms emphasising growth by exporting will export more than firms with alternative growth strategies, was accepted with  $C = .57$  indicating that there

is a fairly strong relationship. South Island firms emphasising exports as their major growth strategy justifiably exhibited a higher level of export performance, than firms with alternative growth strategies. Fifty three percent of the firms ranked exporting as their first or second growth strategy, and of those firms, 23 percent export more than 40 percent of their total sales. No firm emphasising other growth strategies exported more than 40 percent of its sales.

### Rejected Structural Hypotheses

A major part of the study has been directed towards ascertaining whether there are significant structural variables determining the export performance of manufacturing firms in the South Island. Of the eight hypotheses tested for relationships between the dependent variable, export performance, and other independent variables, only one was found to have a fairly strong degree of association (Tables 32 and 33). Something of a non result applied when the testing of the remaining hypotheses was completed. Therefore the generally phrased working hypothesis stated above, was rejected on the grounds that only one of the variables tested, was accepted.

Lloyd (1971) and Willis (1973) offer partial explanations to why the various hypotheses proposed and tested appeared incapable of explaining the relationships between the selected variables and export performance. The explanations are,

- 1) 'The important variables, whatever they are, were not included.' (Willis, 1973, 170) and
- 2) 'One contributing factor is that the hypotheses has been formulated in a loose fashion.' (Lloyd, 1971, 35).

TABLE 32

Analyses of Structural Variables Affecting Export Performance in Manufacturing Firms  
of the South Island, 1977.

| Hypothesised Relationship   | Contingency Coefficient | Decision    |
|---|-------------------------|-------------|
| H1 That overseas firms are more export orientated than New Zealand owned firms.   | .17                     | H1 rejected |
| H2 That New Zealand public firms are more export orientated than New Zealand private firms.   | .00                     | H2 rejected |
| H3 That export performance will be greater in firms that are headquarters than with firms that are branch offices.                      | .10                     | H3 rejected |
| H4 That firms emphasising growth by exporting will have higher export performance levels than firms with alternative growth strategies. | .57                     | H4 retained |
| H5 That firms may differ in terms of export performance for reasons associated with the degree of research on export markets.           | .26                     | H5 rejected |

Note: H4 while not exhibiting a high degree of statistical association, has been retained because the association is sufficiently strong enough, relative to all others.

TABLE 33

Analyses of Structural Variables Affecting Export Performance in Manufacturing Export  
Firms of the South Island.

| Hypothesised Relationship   | Correlation Coefficient | Decision    |
|---|-------------------------|-------------|
| H6 That export performance may vary in relation to the age of the firm.                                       | -.16                    | H6 rejected |
| H7 That export performance may vary in relation to the time the firms have been engaged in exporting.         | -.02                    | H7 rejected |
| H8 That the larger firm the greater the percentage of sales exported,<br>i) sales 1976<br>ii) employment 1977 | .00<br>.01              | H8 rejected |



# 1. Overseas Ownership.

Firms controlled or owned by overseas interests were expected to be more export intensive than New Zealand owned firms (Hoare, 1977, 131). Deane (1970) noted that overseas firms accounted for approximately two-thirds of New Zealand's manufactured exports in 1964/65, and on average their export performance was above the level achieved by local firms.

The relationship between foreign ownership and export performance for South Island firms does not hold  $C = .17$ , primarily because of one, the absence of foreign ownership in the South Island (only four firms were owned by foreign interests), and two, all of the overseas companies exported less than 20 percent of their total sales.

# 2. New Zealand public versus private ownership.

Public firms consisted of 27 percent of the New Zealand owned respondents, and private firms the remaining 73 percent. The average size (large in employment numbers and annual sales) of public firms and their functional specialisation organised for carrying out activities, were factors thought to have lowered their perceived risk of exporting and consequently increased their level of export performance. Private firms in general do not have the capital available, nor the devision levels characteristic of the more mature, public firms.

However, hypothesis 2 when tested shows there is no relationship at all between New Zealand owned public firms having high export performance levels and New Zealand owned private firms having lower export performances.

### 3. Headquarters versus branch offices.

Hypothesis 3 can be rejected because there is an absence of manufacturing branch office involvement in exporting in the South Island. For the 6 branch offices engaged in exporting, the average export performance is 8 percent, with a range from 1 to 32 percent. For the remaining 69 head offices their average export performance is 18 percent, with a range from 1 to 66 percent supporting the view that head office export performance levels are on average greater than branch office export performance levels.

### 4. Firms undertaking research.

Surprisingly, hypothesis 5, that firms may differ in terms of export performance for reasons associated with the degree of research on export markets, was rejected. Although the existence of a very small association may be evident  $C = .26$ , no clear trend exists between firms undertaking research having high export performance levels and firms not undertaking research having low export performance levels.

The above result is in direct contrast with Stening's empirical study (1974), and other studies acknowledged within his thesis, which have shown certain firms to achieve a higher level of export performance as a result of undertaking research.

### 5. Age of firms.

The thesis anticipated that export performance was a function of the length of time a firm had been in business. Through time certain barriers are overcome (economic, administrative and psychological) enabling firms to effectively

compete, both locally and abroad. Time is required by many firms to successfully adapt to the domestic market, and once having established a share of the domestic market, firms are in a position to increase their sales and growth by exporting.

The relationship between the age of a company and export performance is not sustained (Table 33). In fact the weak negative correlation, points to the opposite, insinuating the younger the South Island export firm the greater the export performance level. An explanation of the above findings may be encompassed by the adage, that old age breeds conservatism.

#### 6. Length of time engaged in exporting.

Table 16 illustrates the length of time firms have been engaged in exporting. Export performance was expected to rise the longer the length of time a firm was engaged in exporting. Time is necessary for firms to build up confidence, expertise and overseas contacts, culminating in an increase in their export performance levels. The correlation coefficient .47 for the relationship between the variables age, and year commenced exporting (Table 34) presents evidence suggesting, the older the firm the longer the length of time involved in exporting. Again, however, the negative coefficient  $r = -.02$  requires that the view that export performance may vary in relation to the time firms have been engaged in exporting has to be rejected. These results contrast with Stening's (1974), whose findings bear out the relationship, that in each of three countries he studied, there was a general upward trend in export performance the longer the period engaged in exporting.

## 7. Size of Firms.

Size of the firm is a further aspect which was anticipated to bear a relationship with the level of export performance (H8). The first variable tested was the annual sales of firms (Table 33). Firms with large annual sales were expected to be more export oriented than firms with small annual turnovers. Zero coefficient suggests there is no relationship between firms' sales and their export performance levels. In other words, the export performance of larger firms is not greater than the performance of smaller firms. The result is in accord with the conclusions of Willis (1973, 9), 'export performance (as measured by percentage of sales exported) is independent of size'.

Because no relationship was found between sales and export performance, a further surrogate, employment, was used to test the relationship between size and export performance. However, only a very weak relationship  $r = .01$  was yielded.

## Other findings.

The following relationships are illustrated in Table 34, the correlation matrix of export variables for South Island export firms. Several relationships deserve mention. They are,

- 1) Age - Employment 1972.
- 2) Sales 1976 - Employment 1972 and 1977.
- 3) Sales 1976 - Exports 1976.
- 4) Employment percentage growth 1972 to 1977 - Export performance 1976.
- 5) Exports 1976 - Product Ranges 1972 and 1976.
- 6) Countries exported to 1972 - Countries exported

TABLE 34

Correlation Matrix of Export Variables for South Island Export Firms, 1977.

|                                  | 1    | 2    | 3   | 4    | 5   | 6    | 7    | 8    | 9   | 10  | 11  | 12  | 13 |
|----------------------------------|------|------|-----|------|-----|------|------|------|-----|-----|-----|-----|----|
| 1 Age                            |      |      |     |      |     |      |      |      |     |     |     |     |    |
| 2 Employment '72                 | .33  |      |     |      |     |      |      |      |     |     |     |     |    |
| 3 Employment '77                 | .26  | .67  |     |      |     |      |      |      |     |     |     |     |    |
| 4 Percentage growth (employment) | -.16 | -.10 | .17 |      |     |      |      |      |     |     |     |     |    |
| 5 Sales '76                      | .27  | .70  | .60 | .02  |     |      |      |      |     |     |     |     |    |
| 6 Exports '76                    | .00  | .26  | .13 | .04  | .59 |      |      |      |     |     |     |     |    |
| 7 Export performance '76         | -.16 | .03  | .01 | .46  | .00 | .22  |      |      |     |     |     |     |    |
| 8 Internal transport costs       | .05  | -.08 | .12 | -.02 | .02 | -.13 | -.21 |      |     |     |     |     |    |
| 9 Year commenced exporting       | .47  | .06  | .01 | -.18 | .09 | .12  | -.02 | -.09 |     |     |     |     |    |
| 10 Product range '72             | .02  | .14  | .06 | -.09 | .28 | .44  | -.06 | .23  | .29 |     |     |     |    |
| 11 Product range '76             | -.05 | .07  | .00 | -.02 | .26 | .30  | -.09 | .08  | .03 | .33 |     |     |    |
| 12 Countries exported to '72     | .14  | .24  | .11 | -.08 | .32 | .38  | .13  | -.11 | .36 | .26 | .29 |     |    |
| 13 Countries exported to '76     | .04  | .31  | .16 | -.04 | .52 | .48  | .17  | -.06 | .25 | .25 | .35 | .85 |    |

to 1976.

From the above relationships a few trends are noticeable. Firstly, a weak association between age and employment is indicative of the fact that the older the export firm, the larger its employment size is likely to be. Secondly, the larger the numbers employed in a firm, the larger the firm's total annual sales. Thirdly, in absolute terms the dollar value of sales is closely related to the dollar value of exports. Such a relationship emphasises the overall role big companies play in the export of manufactures from the South Island. Hoare (1977) and Lloyd (1971) both provide comments indicating the extent to which a large bulk of the overseas trade is concentrated surprisingly in the hands of a few. For the South Island, 79 percent of the total value of exports is handled by only 9 companies, each exporting more than a million dollars worth of products.

Fourthly, firms experiencing high growth rates are more likely to attain better export performance levels than firms not experiencing high growth rates. Exports, for many expanding firms seeking to exploit new markets, can therefore be assumed to be the source of their growth. Fifthly, the relationships between export sales and product ranges and countries exported to, suggests that the larger the amount of sales exported from the South Island, the more numerous will be the products exported and in turn contacts with overseas countries will correspondingly increase. Finally, export contacts with overseas countries have definitely increased between 1972 and 1977.

Thus the analysis suggests the majority of structural hypotheses cannot be supported. The non results obtained in most cases are however, still very important, especially when looked at in terms of their implications for regional development policy.



## Chapter 4

### LOCATIONAL INFLUENCES AFFECTING EXPORTING

In this chapter an attempt is made to determine whether locational influences affect export performance.

#### Statistical Analysis of Locational Hypotheses

Influences affecting South Island exporters were examined at the four locations of Nelson, Christchurch, Dunedin and Invercargill. The four locations represent a two-tier hierarchy of population centres, namely metropolitan and regional service centres. The locations, as previously mentioned, also constitute a southward progression through the island facilitating a representative picture of the South Island export scene. The aim of this subsection is to examine whether the influences affecting export firms vary spatially.

H9 has been modified from its initial statement (Chapter 2) in order to accommodate testing procedures. The hypotheses and results are summarised in Table 35. Contingency tables and coefficients were the analytical methods used to test the hypotheses.

#### Hypotheses

H9 postulated there would be a difference in the export performance between the locations of Nelson, Christchurch, Dunedin and Invercargill. The thesis assumed that because of the high cost for South Island firms involved in marketing in the Auckland area, firms located further south would sell proportionally less of their sales in Auckland and consequently

their level of export performance would be higher.

However, H9 was rejected as a result of the weak association  $C = .26$ . Reasons for the rejection of the hypothesis are probably two fold. Firstly, the consumer market for New Zealand is focussed primarily around Auckland, and no matter what the cost involved in getting there, the majority of South Island manufacturers are required to sell their products where the population is located. Most manufacturers need a sound home market before they can substantially improve their export performance levels, and in many instances Auckland represents 'the market'. Secondly, exporters in Dunedin and Invercargill perceive the risk associated with national and export markets, as being the same. In many instances it makes little difference whether they 'export' to Auckland or export overseas. The known and unknown factors of the national and overseas markets respectively, are balanced out by the costs associated in selling to Auckland, and the export incentives gained in selling abroad. As a result only a weak association exists between export performance and increasing distance away from the national market.

Hypotheses 10, 11 and 12 all examine the extent of the linkages, both input and output, between the four locations and Auckland. All three hypotheses have been rejected, indicating there is little variation in the interaction of firms from their respective locations with the Auckland area (Table 35). H10 proposed there should be a difference between Christchurch and Dunedin firms with regards to their interaction with the national market, Auckland. The hypothesis must be rejected on the supply side with Auckland

$C = .00$ , and on the demand side with Auckland  $C = .10$ , suggesting that there is little or no difference in interaction with Auckland, between Christchurch and Dunedin firms.

Concerning supply linkages, 30 percent and 24 percent of the firms in Christchurch and Dunedin respectively, obtain part of their materials for production from Auckland. A large proportion of firms in Christchurch and Dunedin import their raw materials, with 51 percent and 47 percent of the export firms in each respective location importing raw materials. These percentages are indicative of the dependence of South Island manufacturing exporters upon imported raw materials (Ichikawa, 1971).

The two major port locations have a higher percentage of firms dependent upon imports than do the secondary centres of Nelson (25 percent) and Invercargill (20 percent). Overall some 44 percent of the respondents depend to some extent on imported raw materials. Eighty five percent of Christchurch firms and 94 percent of Dunedin firms market their products in Auckland. Both figures underline the dependence on the Auckland market, especially to Dunedin export firms who sell slightly under 40 percent of their total sales in Auckland.

In contrast to the above,

'it can be suggested that the behavioural assumption, based upon the optimising propositions of traditional economic location theory, that all firms in the country seek to serve the largest market centre, Auckland, is unrealistic.' (McDermott, 1974, 1).

The present thesis' empirical linkage data, established that while not 'all' South Island manufacturing export firms sought to serve the largest market area, a significant 88

TABLE 35

Analyses of Locational Influences Affecting Exporting Firms of the South Island, 1977

| Hypotheses Relationship |   | Contingency Coefficient  | Decision     |
|-------------------------|---|--------------------------|--------------|
| H 9                     | That there is a difference in the export performance between the locations of Nelson, Christchurch, Dunedin and Invercargill.                           | .26                      | H 9 rejected |
| H10                     | That there is a difference between Christchurch and Dunedin exporters with regards to their interaction with the national market, Auckland.             | Supply .00<br>Demand .10 | H10 rejected |
| H11                     | That there is a difference between Nelson and Invercargill exporters with regards to their interaction with the national market, Auckland.              | Supply .10<br>Demand .39 | H11 rejected |
| H12                     | That there is a difference between Nelson, Christchurch, Dunedin and Invercargill with regards to their interaction with the national market, Auckland. | Supply .10<br>Demand .14 | H12 rejected |
| H13                     | That there is a difference in freight costs as a percentage of total production costs, between Nelson, Christchurch, Dunedin and Invercargill.          | .30                      | H13 rejected |
| H14                     | That firms experiencing high internal freight costs are more export orientated than firms experiencing low internal freight costs.                      | .00                      | H14 rejected |
| H15                     | That there is a difference in export performance between the two levels of the urban hierarchy, the metropolitan and regional centres.                  | .14                      | H15 rejected |

percent of the firms did however market their goods in Auckland, and on average one-third of the value of their total sales was sold in the Auckland market. These findings differ with McDermott's, whose data was not weighted with respect to the value of goods involved.

Admittedly the thesis results are inflated because only export firm linkages in both metropolitan and secondary centres have been studied, their market interaction fields exhibit wider dimensions than manufacturers producing for local markets. Nevertheless, it would not be unrealistic for a significant proportion of non exporting manufacturers throughout the South Island to interact with the Auckland market. Future work could seek to discover differences in market linkages between South Island exporters and non exporters, especially in relation to their dependence on the national market.

H11 and H12 yield similar results. Both hypotheses receive little support (Table 35). The interaction with Auckland by export firms differs little at the top of the South Island than with firms located at the bottom of the island. The next hypothesis, H13, that there is a difference in freight costs as a percentage of total production costs between Nelson, Christchurch, Dunedin and Invercargill also received no confirmation. The average internal transport costs (as a percentage of total production costs) do not increase the more southerly the location. A noticeable feature however of internal freight costs among firms, is that there is a general trend, the more southerly the location, for a larger percentage of firms in each location, to experience transport costs equivalent to 5 percent or less

of the total production costs. The respective percentages for Nelson, Christchurch, Dunedin and Invercargill (the odd man out) are 55, 58, 82, and 80 percent. The increase in the proportion of firms for each location having internal freight costs of 5 percent or less, could be partly attributable to the willingness of transport operators in offering freight rebates to many of the more southerly located export firms. Subsidies help lower the cost of internal transport.

It was anticipated that firms experiencing high internal freight costs would export more of their production than firms experiencing low internal freight costs. Transport costs were perceived by firms as being a lot higher than the actual percentage stated.<sup>9</sup> The thesis assumed, that by reason of the high internal cost (perceived and actual) involved in getting to the Auckland market (and also to a lesser extent in receiving raw materials from Auckland), many firms would transfer their sales to another outlet, presumably exporting. Another possible alternative, not considered in the thesis, would be for the firm to close down and relocate elsewhere, probably in the northern half of the North Island. On the other hand, it is assumed that firms experiencing low internal freight costs would remain content with the Auckland market. If transport costs were low, rendering firms competitive in the Auckland situation, there would be little of consequence necessitating them to market elsewhere.

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<sup>9</sup> Emotional value of transport costs outweigh the absolute value, see Chapter 3.



The contingency coefficient  $C = .30$  indicates there is little difference in the relationship between the export performance of firms experiencing freight costs in excess of 5 percent of their total production costs, and of firms experiencing freight costs of 5 percent or less. Table 34, suggests however, that there is a propensity for the export performance of firms, to fall off the higher the internal transport costs.

It was postulated that there may exist different average export performance levels between the metropolis of Christchurch and Dunedin, and the regional centres of Nelson and Invercargill. The location of specific types of industries in specific size classes of cities may eventuate in different export performance levels. The predominance of the Christchurch and Dunedin ports, both as importers of raw materials and as important outlets for South Island exports (coupled with the Christchurch international air terminal) may promote the establishment of more export intensive firms in the metropolis (Hoare, 1977). The above argument is based on the premise that there are certain economies attractive to the exporter, to be taken advantage of in the larger agglomerations. Once more no difference could be detected, in this case amongst the centres.

While export performance may not vary between different hierarchical centres, the distribution of export firms does. The metropolitan areas are the export foci for the South Island. There are differential advantages to be gained through locating in the larger centres, which attract both non exporting and exporting manufacturers. Christchurch dominates the export scene with approximately three times



the number of export firms located in the remaining centres studied (Table 4).

Evidence presented in the above analysis of the locational hypotheses suggests very clear that locational influences is not a major effect upon export performance in South Island manufacturing units.

### Other Findings

The selective dimensions of the locational hypotheses create a need for wider analysis of any spatial change occurring within the South Island export environment. Supplementary evidence becomes important in light of the weakness of the hypothesised relationships.

Data from Christchurch and Dunedin were worked into the individual correlation matrices, Tables 36 and 37. The two metropolitan centres were employed in the analysis of the export variables because there were sufficient responses in either case, (39 and 14 respectively) for an across the board tabulation of the variables. The coefficients for many of the relationships are stronger in Dunedin than in Christchurch, signifying perhaps (size of population notwithstanding) the greater overall export orientation of Dunedin export firms.

Older firms emerge as having slower employment growth rates in both locations. The trend for Dunedin is confirmed by a relatively high coefficient  $r = .76$  (Table 37). The relationship for Christchurch is very weak, although the coefficient is negative (Table 36). There is also mild support for export performance levels to drop the older the firm. Again the relationship is stronger in Dunedin than Christchurch. This would suggest, the older the firm, the

TABLE 36

Correlation Matrix of Export Variables for Christchurch Export Firms, 1977.

|                                     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 Age                               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2 Employment '72                    | .28  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3 Employment '77                    | .25  | .97  |      |      |      |      |      |      |      |      |      |      |      |      |
| 4 Percentage Growth<br>(employment) | -.18 | -.09 | -.04 |      |      |      |      |      |      |      |      |      |      |      |
| 5 Sales '76                         | .31  | .82  | .68  | -.10 |      |      |      |      |      |      |      |      |      |      |
| 6 Exports '76                       | .25  | .42  | .46  | .08  | .37  |      |      |      |      |      |      |      |      |      |
| 7 Export Performance '76            | -.05 | .07  | .16  | .49  | -.12 | .50  |      |      |      |      |      |      |      |      |
| 8 Supply, Local                     | -.06 | .04  | -.02 | -.19 | .13  | -.04 | -.19 |      |      |      |      |      |      |      |
| 9 Linkages, South Island            | .50  | .05  | .02  | -.16 | .17  | .37  | .14  | -.02 |      |      |      |      |      |      |
| 10 Southern North Island            | .07  | -.12 | -.10 | -.03 | -.08 | -.11 | .00  | .08  | -.05 |      |      |      |      |      |
| 11 Northern North Island            | -.04 | -.09 | -.09 | -.09 | -.08 | -.11 | .03  | .05  | -.15 | .14  |      |      |      |      |
| 12 Demand Local                     | .23  | .09  | .08  | -.09 | .02  | -.03 | -.04 | .17  |      |      |      |      |      |      |
| 13 Linkages, South Island           | .04  | -.02 | -.08 | -.19 | .21  | -.05 | -.28 |      | .26  | -.11 | -.12 | -.05 |      |      |
| 14 Southern North Island            | -.08 | .12  | .17  | -.21 | -.02 | -.03 | -.23 |      | -.34 | .19  | .21  | -.18 | -.17 |      |
| 15 Northern North Island            | -.19 | -.13 | -.16 | -.10 | -.06 | -.19 | -.30 |      | -.30 | .00  | .04  | -.41 | -.19 | .34  |
| 16 Internal Transport costs         | -.03 | -.10 | -.16 | -.03 | .15  | -.15 | -.13 | -.09 | .18  | .02  | -.16 | -.07 | .65  | -.19 |
| 17 Year commenced exporting         | .43  | .08  | .06  | -.17 | .13  | .18  | .05  | .07  | .17  | .25  | -.03 | -.06 | .04  | .09  |
| 18 Product range '72                | .14  | .16  | .18  | -.08 | .09  | .27  | .03  | -.10 | .00  | -.10 | -.16 | -.05 | .17  | .00  |
| 19 Product range '76                | .10  | .11  | .09  | .02  | .28  | .08  | -.08 | -.16 | .37  | -.09 | -.09 | .00  | .54  | -.17 |
| 20 Countries exported to '72        | .12  | .16  | .17  | -.06 | .11  | .22  | .28  | .00  | .07  | .06  | -.08 | -.07 | .06  | -.12 |
| 21 Countries exported to '76        | -.02 | .25  | .23  | -.03 | .27  | .31  | .29  | .04  |      |      |      | -.08 |      |      |

TABLE 36 (cont'd)

| 15                                | 16                        | 17                       | 18                | 19          | 20  | 21 |
|-----------------------------------|---------------------------|--------------------------|-------------------|-------------|-----|----|
| -.10<br>.03<br>.03<br>-.15<br>.25 | .04<br>-.09<br>.32<br>.07 | .27<br>.00<br>.44<br>.25 | .38<br>.22<br>.05 | -.07<br>.08 | .78 |    |

TABLE 37

Correlation Matrix of Export Variables for Dunedin Export Firms, 1977.

|                                     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   |
|-------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1 Age                               |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 2 Employment '72                    | .32  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 3 Employment '77                    | .20  | .16  |      |      |      |      |      |      |      |      |      |      |      |      |
| 4 Percentage growth<br>(employment) | -.76 | -.28 | -.16 |      |      |      |      |      |      |      |      |      |      |      |
| 5 Sales '76                         | -.02 | .69  | .73  | .18  |      |      |      |      |      |      |      |      |      |      |
| 6 Exports '76                       | -.22 | .31  | .43  | .44  | .88  |      |      |      |      |      |      |      |      |      |
| 7 Export performance '76            | -.33 | .14  | .25  | .64  | .53  | .67  |      |      |      |      |      |      |      |      |
| 8 Supply Local                      | -.21 | .14  | .23  | .58  | .44  | .52  | .79  |      |      |      |      |      |      |      |
| 9 Linkages, South Island            | -.29 | -.18 | -.25 | -.23 | -.23 | -.27 | -.29 | -.37 |      |      |      |      |      |      |
| 10 Southern North Island            | .34  | .41  | .25  | -.36 | .32  | .07  | -.23 | -.18 | .26  |      |      |      |      |      |
| 11 Northern North Island            | .31  | .18  | .06  | -.36 | .10  | -.03 | -.28 | -.23 | .31  | .93  |      |      |      |      |
| 12 Demand Local                     | .14  | -.24 | -.29 | .00  | -.40 | -.39 | -.34 | -.32 |      |      |      |      |      |      |
| 13 Linkages, South Island           | .00  | -.13 | -.21 | -.12 | -.32 | -.40 | -.42 |      | .02  | .08  | .06  | -.08 |      |      |
| 14 Southern North Island            | .11  | .26  | .23  | -.08 | .00  | -.16 | -.27 |      | .19  | .18  | .14  | -.37 | .26  |      |
| 15 Northern North Island            | .03  | .09  | .08  | -.39 | -.20 | -.30 | -.19 | -.07 | .34  | -.08 | -.07 | .06  | -.46 | -.11 |
| 16 Internal transport costs         | .20  | -.14 | -.18 | -.10 | -.19 | -.20 | -.38 | -.07 | -.13 | .09  | .06  | .33  | .44  | .83  |
| 17 Year commenced exporting         | .45  | -.10 | -.13 | -.33 | -.09 | -.05 | -.13 | .10  | .03  | -.22 | -.18 | -.04 | -.51 | -.33 |
| 18 Product range '72                | .28  | .12  | .15  | .09  | .40  | .45  | .15  | .40  | -.30 | .46  | -.02 | -.47 | -.08 | .52  |
| 19 Product range '76                | -.53 | .13  | .26  | .77  | .68  | .85  | .78  | .58  | -.30 | .07  | -.14 | -.13 | -.29 | -.22 |
| 20 Countries exported to '72        | .19  | .58  | .62  | .06  | .79  | .71  | .64  | .61  | -.27 | .18  | .02  | -.49 | -.29 | -.14 |
| 21 Countries exported to '76        | -.05 | .55  | .59  | .21  | .42  | .85  | .61  | .58  |      |      |      | -.49 |      |      |



slower the growth rate, therefore the lower the resultant export performance level.

Firms in Dunedin obtaining their raw materials locally are more likely to attain better export performance levels than firms obtaining their raw materials elsewhere  $r = .79$  (Table 37). An opposite finding applies to Christchurch, where a weak coefficient  $r = -.19$  (Table 36) intimates firms obtaining raw materials locally are not expected to export as much of their production. The other low coefficients relating to the supply linkages for Christchurch, suggests that export performance of firms located in Christchurch is dependent on imported raw materials.

Table 37 illustrating the relationship between the variables export performance and sales to the north of the North Island  $r = -.30$  suggests, that the more Christchurch firms export, the less interested are they in the Auckland market. Having established a sound home base firms can afford to gradually pull out of their internal markets and intensify their sales overseas. This process is a direction pursued by the mature exporter whose situation allows him to expand overseas. Mature exporters are scarce in the South Island. Alternatively, export firms may be eager to pull out of the Auckland market because of the large cost involved in remaining competitive in Auckland. The availability of export incentives makes it far more lucrative to market overseas than in the national market. The relationship for Dunedin  $r = -.19$  (Table 37), although decidedly weak points to the same process occurring. However, supplementary coefficients (between the year commenced exporting and the sales to the local markets,  $r = -.51$  and  $-.33$ ) also

add to this conclusion for Dunedin.

Dunedin firms appear to have more diversified product ranges available for export than Christchurch firms. All Dunedin coefficients (Table 37) relating to the variables of diversification, cross tabulated with the variables of employment, percentage growth rates, total sales values, export sales, and export performance, show strong degrees of association compared with those of Christchurch. The evident trends are, firstly, export performance is greater in those firms with diverse product ranges, and secondly, as the South Islands export sales increase, correspondingly the number of countries exported to will increase.

Many subtle locational variations are evident between the two correlation matrices, Tables 36 and 37. Further analysis can extrapolate the particular information required. Admittedly many of the relationships between the variables show very weak correlations. However, the main objective of the matrices, is to show that there do exist several mild and sometimes strong relationships varying between the locations. Whether the differences between the locations are due to structural or locational influences, is still partly open to conjecture.

Another pertinent finding, reflects the maturity of export firms in Dunedin, compared to Christchurch firms. The structural aspects of size, age and so on may be responsible for Dunedin being more export intensive, but the distance away from the national market has also helped to foster entrepreneurial talents, thereby lowering the perceived risk attached to exporting.



The supplementary evidence presented in light of the rejection of the majority of hypotheses has extended the picture of the structural and locational dimensions of exporting in the South Island. The final chapter discusses the implications of the study's findings.

## Chapter 5

CONCLUSIONS AND IMPLICATIONS

The thesis represents an attempt to consider the structural and locational aspects of South Island export growth. Both structural and locational influences have been investigated because they were assumed to be at the heart of government policy, aimed at eradicating New Zealand's spatial inequalities and the balance of payments problem. An examination of the causes of increased export performance levels, in terms of structural and locational factors, could justifiably yield information beneficial to policy decisions in the field of export stimulation and subsequently in the development of a region.

Summary of Major Findings

The most important finding concludes, that apart from one hypothesis, there are no strong relationships between export performance and the structural and locational variables tested. Support for the majority of the relationships investigated is weak. Structural factors tested which were found to bear no marked relationship with export performance included the age of a firm, the number of years a firm had been engaged in exporting, the size of the firm, the ownership (foreign or local, private or public) and company control (branch or head office).

One rather obvious relationship was retained. Firms emphasising growth by exporting tended to have a higher export performance than firms with alternative growth strategies other than exporting.

Although the evidence is indecisive, primarily through

a lack of mature export firms and an absence of foreign owned firms in the South Island, it is possible to conclude from other studies (Deane, 1970; Lloyd 1971), as well as from weak trends in the correlation matrices and contingency coefficients, that foreign owned firms and firms engaged in exporting for a long period of time, tend to be more export oriented than local firms and firms which have not been engaged in exporting for long. As Hoare remarked in a recent study 'foreign investment, seems fairly strongly related to export growth' (Hoare, 1977, 132). Likewise, Stening found in his thesis 'the longer a firm was engaged in exporting the higher its export performance was likely to be'. (Stening, 1974, 197). Consequently, one means of aiding the South Island's slow growth, may be to attract foreign firms in sizeable quantities, thereby increasing the island's export earnings. The implications of such a strategy, however, involve many other complicated issues.

The second major conclusion derived from the weak nature of many of the findings is that the export scene of the South Island is very immature. Is the key to the explanation of the results, the fact that industrialisation in New Zealand has not proceeded very far? The youthfulness of many exporters in terms of the number of years they have been engaged in exporting, their low export performance levels, the insufficient numbers of personnel involved in exporting, the lack of formal research into export markets, and the irregularity of many of the firms export sales, provide an excuse of convenience for the apparent inconclusiveness of many of the findings.

Perhaps excuses are not required. The export performance of manufacturing firms is a very complex phenomenon, and may be conditioned by elements ignored in this thesis. Stening (1974), suggests, it is difficult in many instances to separate cause from effect, that there also may be intervening variables operating between the dependent variables and export performance, which are not covered in the present study.

The third major conclusion, to be drawn from the results of the locational hypotheses, is that export performance in the South Island does not vary significantly over space. With regard to interaction within the internal market, the function of the cost of distance was assumed to dissuade manufacturers from competing in Auckland consequently fostering sales in other markets, namely export markets. The average export performance was expected to increase the further away the firms were located from the national market. However, the results suggest that export performance in firms is not dependent on differences in location.

According to Hoare (1977) export performance is conditioned by two sets of forces.

The first set is external to the firm, controlling economic and political environments..... The other set is internal to the firm, and reflects the export objectives of the company as well as the constraints on its ability to meet such objectives. (Hoare, 1977, 133).

Hoare acknowledged that data to determine the truth of the above suggestions was not available. However, analysis in the form of the present thesis suggests that reasons for

the variations in export performance, may in part lie with the above mentioned sets of forces.

The fourth major conclusion recognises the fact that the geography of South Island manufacturing exporting is predominantly focussed on the metropolitan centres of Christchurch and Dunedin. Exporting is a function of head office management and head office control in the South Island and is concentrated in the two metropolitan centres. The Christchurch area with its large infrastructural advantages and international transport facilities attracts export oriented firms because of the economies of scale available and for the access provided to export markets. Dunedin, on the other hand, while not possessing as many export oriented firms, displays a trend towards a more intensive export orientation from its firms, a reflection of the perceived low risk attached to exporting by the slightly more 'mature' Dunedin firms.

Auckland represents the dominant internal market for South Island export firms. The market linkages of consumer goods from export firms are primarily focussed on the Auckland area, with a large proportion of capital goods being sold in the local markets. It appears a secure home market is still an important prerequisite for most manufacturers engaged in exporting or who are about to, although the more 'mature' firm (with diversified product ranges and overseas markets) can afford to sacrifice the local market in order to expand overseas. While the national market is an important one for initial growth, exporting provides the main expansion valve for South Island production because it experiences a growth rate which greatly exceeds the growth

of the Auckland and domestic markets.

In relation to the most important reasons for firms initial entry into exporting and the most detrimental factors hindering their exporting, it was appropriate to draw the following conclusions. Export incentives are clearly the major factor encouraging firms to engage in exporting. Without export incentives, the number of firms exporting would drop, possibly by as much as a half, and export performance levels could be less than they are at present. It is possible to conclude, that export incentives coupled with regional development incentives artificially support export performance levels among firms in the South Island. The level of assistance available to firms, enables all exporters to develop and plan their expansion on what appears to be an equal footing, and so differences in structural characteristics and location are obliterated. Consequently the weak level of the coefficients in this study may be explained by the widespread use of export incentives. On the other hand, if incentives were a temporary phenomenon and done away with, then a true appreciation may be had of the structural and locational influences affecting export performance.

Constraints constitute the major detrimental factors limiting export performance levels, from which insufficient production capacity is ranked the most detrimental factor. Capacity size is a problem for both small and large export firms.

Finally, the industrial mix of the South Island export industry exhibits a bias towards light engineering and machine oriented industries, a result of the historical

legacy from the nineteenth century gold mining days. It can be concluded, that the innovations developed during the early expansionary dairy and sheep operations, and mining, have fostered an innate ability among light engineering firms throughout the South Island. The quality of exports produced from such firms is very highly regarded overseas. A focussing of resources into the more sophisticated (high priced-low volume) products of the light industrial field could result in the South Island being regarded as the 'Switzerland of the South Pacific'. Products of the above nature could help lessen the burden of transport costs and could be sold in small quantities to a wider range of countries.

### Implications

The thesis has been written at a time when government, manufacturers and laymen alike, are voicing concern over the problems of industrial productivity. According to Turnovsky (1977),

New Zealand had recently experienced the lowest level of productivity increase of the world's 24 Western industrialised nations (Turnovsky, 1977, 5).

Manufacturers have been pessimistic overall about the deterioration of the manufacturing industry and its associated exports, especially after the great expectations given the sector towards the end of the 1960's.

During the year 1977, the rate of export increase has slowed and the domestic market experienced a drop in sales. Liquidity too was affecting small firms producing large strains on their production and forcing premature closures in some firms. The problems were aggravated further still



for South Island export firms.

The grim economic future New Zealand faces, creates an immense task for policy makers trying to resurrect the economic climate of the country. As the economic climate of the country deteriorates, so too will the problems of spatial inequality and the balance of trade deficit deteriorate. As a result, the objectives of regional development relating to the diversion of growth away from core areas in favour of priority regions (Otago, Southland and the West Coast) will be handicapped. Priorities may arise in other socio-economic areas, leading to a depletion of resources available for regional development assistance.

More research similar to the present thesis is required in order to determine, and make aware to manufacturers, the factors responsible for increasing export performance levels. Positive results from research may help foster policy decisions related to the promotion of export activity by individual firms in priority areas. Negative results, however, act as a guide directing further research towards other factors in the field of export stimulation.

Due to the tightening economic situation and the trade restraints imposed or threatened by New Zealand's trading partners, the South Island manufacturing sector as a whole has to be regarded as having export potential. The old view that the manufacturing sector could not be regarded as an export sector because exports comprised only 9 percent of the sector's output, needs to be cast away. If growth is to be promoted in the South Island, then industrial growth should and can be an export led growth.

## A P P E N D I C E S

APPENDIX A

## SURVEY OF MANUFACTURING FIRMS

## Department of Geography

Factory name and address:

Product ranges:

Year factory established (     ) Branch or Head Office:

Ownership: Public N.Z. (     ) Private N.Z. (     )  
 Public Overseas (     ) Private Overseas (     )

Employment: 1972 (     ) 1977 (     )

1. TOTAL SALES VALUE (\$) 1976 \$ \_\_\_\_\_  
 (Please specify) 1972 \$ \_\_\_\_\_  
  
EXPORT VALUE (\$) 1976 \$ \_\_\_\_\_  
 (Please specify) 1972 \$ \_\_\_\_\_
2. Please indicate exports as a percentage of total sales  
 (     ) (%)
3. During the last 5 years did the company emphasise growth  
by. Rank the first 2 please  
  
 Product and marketing extension (     )  
 Product and marketing adaptation (     )  
 Product innovation (     )  
 Marketing innovation (     )  
 Exporting (     )  
 No growth (     )
4. Check (x) on the 1 (high) to 5 (low) scale, the intensity  
of competition in your industry  
  

|                                     | 1       | 2       | 3       | 4       | 5       |
|-------------------------------------|---------|---------|---------|---------|---------|
| Price competition                   | (     ) | (     ) | (     ) | (     ) | (     ) |
| Distribution competition            | (     ) | (     ) | (     ) | (     ) | (     ) |
| Production quality competi-<br>tion | (     ) | (     ) | (     ) | (     ) | (     ) |
5. Please rank in order of importance, the '3' most impor-  
tant influences bringing about product changes in this  
factory in the past 5 years.  
  

|                                | Rank 3<br>only | 1 =<br>(most impt)<br>3 =<br>(least impt) |
|--------------------------------|----------------|---|
| Price competition              | (     )        |   |
| Customer initiative            | (     )        |   |
| Head Office decisions          | (     )        |   |
| Distribution competition       | (     )        |   |
| Production quality competition | (     )        |   |
| Marketed by competitors        | (     )        |   |
| Product life cycle pressures   | (     )        |   |

Size of New Zealand market { }  
 Different regional markets in New Zealand { }  
 Desire to begin exporting { }  
 Plant under utilised { }  
 Desire to continue exporting { }  
 Other (specify)..... { }

6. Please indicate (x), what is the basis of competitiveness of your factory's products in the South Island and North Island.- only one please for each island.

|                            | S.I. | N.I. |
|----------------------------|------|------|
| Price product              | { }  | { }  |
| Product quality            | { }  | { }  |
| Distribution effectiveness | { }  | { }  |
| Company services           | { }  | { }  |

7. Please indicate the location of your three main suppliers of raw materials.

| Location of 3<br>main suppliers<br>(town) | Material<br>supplied | Intra Company<br>Purchases<br>(YES/NO) | Percent total<br>raw materials |
|---|----------------------|--|--------------------------------|
| 1   |                      |  |                                |
| 2   |                      |  |                                |
| 3   |                      |  |                                |

8. Please indicate the location of your three main sales locations or areas.

| Location of 3<br>main markets | Products<br>sold | Intra Company<br>Sales (YES/NO) | Percent total<br>sales |
|-------------------------------|------------------|---------------------------------|------------------------|
| 1                             |                  |                                 |                        |
| 2                             |                  |                                 |                        |
| 3                             |                  |                                 |                        |

9. Please indicate (x) what changes have taken place in the last 5 years in market areas of this factory.

|                         | No<br>Increase | Change | Decrease | Reasons |
|-------------------------|----------------|--------|----------|---------|
| Local Sales             | { }            | { }    | { }      | { }     |
| Otago/Southland         | { }            | { }    | { }      | { }     |
| North/South Canterbury  | { }            | { }    | { }      | { }     |
| Nelson/Marlborough      | { }            | { }    | { }      | { }     |
| Wellington/Manawatu     | { }            | { }    | { }      | { }     |
| Hawkes Bay/Taranaki     | { }            | { }    | { }      | { }     |
| Waikato/South Auckland  | { }            | { }    | { }      | { }     |
| Auckland/North Auckland | { }            | { }    | { }      | { }     |

10. Please indicate whether or not your factory and company undertake research in relation to the following:

|                                     | <u>For N.Z. Market</u> |            |                    |
|-------------------------------------|------------------------|------------|--------------------|
|                                     | By Plant               | By Company | By N.Z. Consultant |
| Research on products                | { }                    | { }        | { }                |
| Research on markets                 | { }                    | { }        | { }                |
| Research on sales methods           | { }                    | { }        | { }                |
| Research on manufacturing processes | { }                    | { }        | { }                |
| Other (specify).....                | { }                    | { }        | { }                |

|                                     | <u>For Export Market</u> |            |                    |                        |       |
|-------------------------------------|--------------------------|------------|--------------------|------------------------|-------|
|                                     | By Plant                 | By Company | By N.Z. Consultant | By Overseas Consultant | Agent |
| Research on products                | { }                      | { }        | { }                | { }                    | { }   |
| Research on markets                 | { }                      | { }        | { }                | { }                    | { }   |
| Research on sales methods           | { }                      | { }        | { }                | { }                    | { }   |
| Research on Manufacturing processes | { }                      | { }        | { }                | { }                    | { }   |
| Other (specify).....                | { }                      | { }        | { }                | { }                    | { }   |

11. Please indicate what percentage of total product costs are accounted for by transport costs

Goods sold in N.Z. (    %)    Goods exported (    %)  
 Basis of transport charges in exports.....  
 .....

12. On the basis of the needs and requirements of this factory, rank the 3 factors in RAIL SERVICE that are most detrimental to marketing your products in the North Island.

|                                       | Rank 3 only |
|---------------------------------------|-------------|
| Time in transit                       | { }         |
| Frequency of transit                  | { }         |
| Regularity of service                 | { }         |
| Links to all parts of N.Z.            | { }         |
| Ability to handle bulky items.        | { }         |
| Ability to handle perishable items    | { }         |
| Ability to handle fragile items       | { }         |
| Minimising risk of damage             | { }         |
| Minimising need for special packing   | { }         |
| Minimising handling and transshipment | { }         |
| Minimising risk of pilfering          | { }         |
| Ready access to terminals             | { }         |
| Ease of pickup/delivery               | { }         |
| Ready traceability of consignments    | { }         |

13. Please indicate nature of building expansions in last 3 years:

|      | Approximate value \$ | Description (sq') |
|------|----------------------|-------------------|
| 1974 |                      |                   |
| 1975 |                      |                   |
| 1976 |                      |                   |

14. Were the above additions for export production? (Check x)

|      | Wholly | Partly | Not used for<br>export<br>production |
|------|--------|--------|--------------------------------------|
| 1974 | { }    | { }    | { }                                  |
| 1975 | { }    | { }    | { }                                  |
| 1976 | { }    | { }    | { }                                  |

15. Please indicate the approximate value of machinery added to factory in the last 3 years:

|      | <u>Replacement</u> of existing machinery | <u>Additions</u> to existing machinery |
|------|--|--|
| 1974 | \$                                       |  |
| 1975 | \$                                       |  |
| 1976 | \$                                       |  |

16. Please check (x) the main reasons for your capital expenditures;

| Rank only 2 please in each of<br>the categories | Buildings | Machinery |
|---|-----------|-----------|
| Increase production                             | { }       | { }       |
| Extend number of production lines               | { }       | { }       |
| Convert to new product lines                    | { }       | { }       |
| Utilise raw materials more efficiently          | { }       | { }       |
| Reduce labour costs                             | { }       | { }       |
| Reduce maintenance costs                        | { }       | { }       |
| Replace outdated equipment                      | { }       | { }       |
| Other (specify).....                            | { }       | { }       |

17. Year commenced exporting ( )

Who is responsible for exporting .....

Number of different product  
ranges exported: 1972 ( ) 1977 ( )

Number of countries this  
factory exports to: 1972 ( ) 1977 ( )

Location. \_\_\_\_\_

18. Please rank in order of importance, the 3 most important reasons for your initial entry into the export field:

|  | Rank 3 only |
|--|-------------|
| Market saturation  | { }         |
| Excess capacity  | { }         |
| Approached by overseas company                               | { }         |
| Research carried out into export potential                   | { }         |
| Opportunity by devaluation                                   | { }         |
| Visit by firm to foreign country                             | { }         |
| Export incentives  | { }         |
| Regional development incentives                              | { }         |
| NAFTA arrangements   | { }         |
| Test marketing of a product                                  | { }         |
| Internal transport costs reducing<br>competitiveness in N.Z. | { }         |
| Other  | { }         |

19. Please rank in order of importance, the 3 most important factors that were detrimental to your export performance last year:

|  | <u>Rank 3 only</u> |
|--|--------------------|
| Availability of raw materials            | ( )                |
| Transport (local)                        | ( )                |
| Transport (overseas)                     | ( )                |
| Labour                                   | ( )                |
| Domestic market demand                   | ( )                |
| Liquidity (domestic)                     | ( )                |
| Liquidity (in buying country)            | ( )                |
| Lack of export experience                | ( )                |
| Insufficient production capacity         | ( )                |
| Company restrictions on exports          | ( )                |
| Unsuitable product(s)                    | ( )                |
| Other internal influences (specify)..... | ( )                |
| Other external influences (specify)..... | ( )                |

20. Please indicate (x) which incentives were used by this factory last year:

|  |     |
|--|-----|
| Export promotion taxation incentives             | ( ) |
| New markets export development grants            | ( ) |
| New markets increased exports incentive scheme   | ( ) |
| Increased exports taxation incentive             | ( ) |
| Exports incentive scheme for qualifying services | ( ) |
| Services export development grants               | ( ) |
| Export suspensory loans                          | ( ) |
| Others (specify) .....                           | ( ) |

21. Please indicate how many special runs for export were made last year ( )

Are export orders given priority over domestic orders (YES/NO).

Is as much as possible of production exported? (YES/NO).

Are export orders secured on a regular basis? (YES/NO).

Please specify what company organisation changes have been made to aid exporting 1..... 2.....

Please indicate how company's involvement in exporting is viewed:

low risk ( ) Short term ( ) low return ( ) little commitment( )

high risk( ) long term ( ) high return( ) large commitment( )

22. What mode of transport is used when exporting?

Sea ( ) Air ( )

Reasons.....

.....

23. What circumstances would have to prevail before you would call your factory export oriented?.....

.....

.....



APPENDIX B

## COVER LETTER TO QUESTIONNAIRE

The cover letter was mailed with the questionnaires as presented here. The letter was sent only with follow up questionnaires.



Department of Geography.

5 September 1977

Dear Sir/Madam,

Having visited your company on a personal basis within the last two months with a questionnaire which, when answered, provides valuable information relating to the South Island manufacturing scene, I am now writing to please remind the appropriate person(s) regarding the urgent completion of the enclosed questionnaire. It is vital to have returns from all companies visited in order to gain a representative and complete picture of manufacturing for the Masterate Thesis I am writing.

I thank you for your anticipated cooperation and valuable time.

Yours faithfully,

Brett Sloan  
Post Graduate Student.

BAS:pad

APPENDIX C1

## ANNUAL INDEX OF INCREASE IN RAIL FREIGHT RATES 1963-77

|                     |     |
|---------------------|-----|
| As at 31 March 1963 | 100 |
| 1964                | 100 |
| 1965                | 103 |
| 1966                | 108 |
| 1967                | 108 |
| 1968                | 108 |
| 1969                | 115 |
| 1970                | 126 |
| 1971                | 156 |
| 1972                | 156 |
| 1973                | 156 |
| 1974                | 156 |
| 1975                | 156 |
| 1976                | 202 |
| 1977                | 253 |

For classified goods (does not cover contract rates)

Source: Courtesy, New Zealand Railways, Wellington.

APPENDIX C2SUMMARY OF INCREASES IN AIR FREIGHT RATES 1965-1977

|            |          |
|------------|----------|
| May 1967   | 4%       |
| June 1970  | 7½%      |
| Feb 1971   | 10%      |
| July 1974  | 1.3c/Kg  |
| April 1975 | 1.0c/Kg  |
| Jan 1976   | 1.3c/Kg  |
| April 1976 | 1.0c/Kg  |
| Jan 1977   | 30% max. |

|                         | <u>1965</u> | <u>1977</u> |
|-------------------------|-------------|-------------|
|                         | cents/Kg    |             |
| Invercargill - Auckland | 29.0        | 50.3        |
| - Wellington            | 19.7        | 36.2        |
| Dunedin - Auckland      | 23.5        | 43.5        |
| - Wellington            | 14.2        | 28.6        |
| Christchurch - Auckland | 18.0        | 33.9        |
| - Wellington            | 8.6         | 19.8        |
| Nelson - Auckland       | 16.1        | 31.7        |
| - Wellington            | 6.7         | 16.6        |

Source: Courtesy, Hoffman, A.A., New Zealand National Airways Corporation, Wellington.

APPENDIX D

AVERAGE TRANSPORT COSTS BY INDUSTRIAL CATEGORY  
FOR SOUTH ISLAND EXPORT FIRMS

| Industrial Category  | Average Freight Cost<br>as a Percentage Total<br>Production Cost |
|----------------------|--|
| Food                 | 10.5   |
| Beverages            | *  |
| Tobacco              | *  |
| Textiles             | 3.1  |
| Footwear             | 5.3  |
| Wood                 | 15.6   |
| Furniture            | 5.0  |
| Paper                | *  |
| Printing             | 2.0  |
| Leather              | 2.5  |
| Rubber               | *  |
| Chemicals            | 6.5  |
| Petroleum and Coal   | 0  |
| Non Metallic         | 3.0  |
| Basic Metal          | 1.0  |
| Metal                | 6.3  |
| Machinery            | 5.8  |
| Electrical Machinery | 3.6  |
| Transport Equipment  | 4.3  |
| Miscellaneous        | 6.4  |

Note: \* Figures unavailable.

APPENDIX E

## EXPANSION OF TERMS MOST FREQUENTLY USED

## IN TRANSPORT COSTING:

- c.i.f. Cost, insurance, freight (the completed cost including pre-paid insurance and freight).
- c. & f. Cost and freight (represents the completed cost of the consignment plus pre-paid freight)
- c.i.f. & e. Cost, insurance, freight, and exchange (the completed cost including pre-paid insurance and freight also exchange, if applicable).
- f.a.s. Free Alongside Ship (the completed cost including cartage to a specified wharf. On-loading costs freight and all charges thereafter are for the buyer's account).
- f.o.b. Free on board (the completed cost including cartage to a specified wharf and on-loading to carrying vessel. Freight and insurance are for buyer's account).
- f.i.s. Free into store. The seller is accepting liability for all such charges as freight; documentation; insurance; transportation to the exporting port and from the importing port to destination; landing charges, and Customs duties and taxes. Exporters should be aware of possible charges and of other matters which might erode profit during the period of the quote, such as inflation, exchange fluctuations, or the possibility of a strike, necessitating off-loading at a more distant port.

Source: Trade Promotion Council, 1976.

APPENDIX F

## SPECIAL INCENTIVES AVAILABLE TO EXPORTERS

Special Incentives are available for the development and expansion of exports in the following forms:

(1) Export Promotion Taxation Incentives

Under Section 129A of the Land and Income Tax Act a taxpayer may claim a special deduction in respect of export market development expenditure.

The deduction which may be claimed is an additional 50 percent of the 'prescribed outgoings' (as defined in the Act) over and above the 100 percent deduction ordinarily available. This means that for each \$1 spent on approved export promotion, a taxpayer is entitled to a deduction from assessable income of \$1.50, i.e. \$1 as the deduction ordinarily allowable for expenditure on export promotion and 50 cents as the additional deduction.

(2) New Markets Export Development Grants

Cash grants are available through the Department of Trade and Industry to assist exporters in developing new markets.

Grants will be available at the rate of 40 percent of qualifying promotional expenditure incurred on or after April 1, 1975 and on or before March 31, 1978 the terminating date.

The combined effect of the grants scheme when coupled with the ordinary tax saving on deductible expenditure is to give exporters up to an overall Government contribution of 85 percent (depending on tax rates).



(3) New Markets increased Exports Incentive Scheme

Under the scheme, companies which export qualifying goods in more than token quantities on or before March 31, 1979, the terminating date, to new markets (as approved by the Secretary of Trade and Industry) will qualify for a 15 percent deduction from assessable income for increases in export sales to a new market in each of the first two years of the market development. The deduction will be in addition to the basic 25 percent allowance for increased export sales and it will also apply to the same range of goods that qualify for that basic incentive.

This scheme is an alternative to the export promotion taxation incentive. Both cannot be claimed for the same expenditure.

(4) Increased Exports Taxation Incentive

Under Section 1298 of the Land and Income Tax Act, a taxpayer may claim a deduction from his assessable income for increased export sales of qualifying goods during the income year. In general, all manufactured (i.e. goods incorporating a significant degree of domestic processing) qualify for the incentive but there are specific exclusions.

The amount of the deduction allowed is equivalent to 25 percent of the value of qualifying F.O.B. export sales over and above the annual average level of export sales made in the base period.

(5) Exports Incentive Scheme for Qualifying Service

These encourage the supplying overseas of professional and technical services. The incentive will be a deduction from assessable income of five percent of the gross fees earned from qualifying services overseas.

(6) Services Export Development Grants

Services export development grants are intended to assist existing and potential exporters of professional and technical services in undertaking the investigations, preparatory studies and feasibility studies necessary in order to participate in the opportunities provided by overseas projects.

Grants of up to 50 percent of the estimated expenses incurred in the pre-contractual phases of securing an approved overseas contract will be made to organisations or individuals by the Minister of Overseas Trade on the recommendations of the Services Export Development Grants Advisory Committee.

(7) Export Suspensory Loans

This assistance is available to manufacturers for the production of goods qualifying for the increased exports taxation incentive.

Suspensory loans are available for up to 40 percent of the capital cost of plant, machinery and certain other developments. This loan, which will be subject to interest at normal commercial rates, will be converted to a grant, i.e., written off in full, if 40 percent of the project is exported within a specified period of time.

The scheme for manufacturers is administered by the Development Finance Corporation.

(8) Increased Exports Taxation Incentive

Once a manufacturer begins selling in an overseas market, he can benefit from the increased exports taxation incentive. This affords him a 25 percent deduction on

income from exports, calculation on the amount of increased exports over the base period.

The base period comprises the first three of the seven years immediately preceding the income year in respect of which a deduction is claimed. Until a base year is established, exporters can claim on the full amount of exports in any income year within the terms of the incentive. This obviously applies to new exporters and provides a substantial incentive.

Source: New Zealand Manufacturers Federation, 1975.

APPENDIX F (cont'd)Extension of Export Incentives

The range of export incentives was extended in 1976 to include an investment allowance to encourage specific export production. In addition, all existing export incentives were extended until 31 March 1980 to allow exporters to plan for future expansion.

To encourage increased domestic content in New Zealand's exports the present minimum added value criterion of 15 percent required to qualify for the increased exports and new markets increased exports taxation incentives was increased in three stages as follows:

From 15 to 25 percent for the 1977-78 income year.  
From 25 to 30 percent for the 1978-79 income year.  
From 30 to 35 percent for the 1979-80 income year.

The development grants scheme for new markets is providing a substantial measure of direct financial assistance for exporters looking to market and product diversification. At the same time this scheme has allowed a greater measure of in depth market penetration in some existing markets.

The Government contribution to this scheme was modified in the 1976 Budget and now provides that the export promotion taxation incentive is allowable only on the balance of eligible expenditure remaining after deduction of the development grant.

Services Export Development Grants

In the 1976 Budget changes to the scheme were announced, effective from 30 July 1976. Under the current scheme, the committee can recommend a non-refundable grant of up to 40

percent of an applicant's estimated and eligible pre-contractual expenditure.

Source: Courtesy, Department of Trade and Industry, 1977.

Ministerial Budget Statement, 1977

The existing range of export incentives will continue to operate in their present form until their terminating date of 31 March 1980, with the exception of the new markets increased exports taxation incentive which effectively expires on 31 March 1981.

Source: Department of Trade and Industry, 1977: Export News, 21, 6.

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