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THE SMALL SCALE HIGH VALUE
MANUFACTURER IN NEW ZEALAND

A Thesis Presented in Partial Fulfilment of
the Requirements for the Degree of
Master of Arts in Geography
at Massey University.

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ABSTRACT

The interest in the development and restructuring of the New Zealand economy with increasing emphasis upon industrial development has seen the emergence of what has been termed the 'Small Scale High Value' concept. The dichotomy of firms which are small scale and producing high unit value products would seem appropriate to the New Zealand economy which is characterised by smallness.

Two major considerations are involved. First there is the conceptual problem of small scale firms. This necessitates the evaluation of the small scale concept and the recognition of the main characteristics and advantages of small scale operations. This evaluation builds a conceptual framework within which small scale firms in New Zealand can be assessed and their contribution and potential contribution to the New Zealand economy placed in perspective. This raises the second major focus, that of an empirical study identifying and examining small scale firms within the New Zealand context. The need is to ascertain the contribution of the Small Scale High Value firms to the New Zealand economy and the extent to which government or industrial policy should be directed to their assistance.

A number of authors have promoted Small Scale High Value firms as worthy of special attention due to their characteristics and advantages being suitable to the structural development and growth of the national economy. These special features or characteristics associated with Small Scale High Value firms include: flexibility and versatility, good labour relations, export orientation, technology orientation, inventiveness and innovation as well as being footloose. The combination of these 'special' qualities is seen to provide the small scale firms with comparative advantages. Discussion centres upon establishing the validity or otherwise of these qualities.

Small Scale firms have also been applied to an urban hierarchy framework focusing on their spatial

location within New Zealand and the implication these hold for Industrial and Regional development policy.

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CHAPTER 1

SMALL SCALE HIGH VALUE, MANUFACTURING AND THE NEW ZEALAND ECONOMY

The failure to sustain long term economic growth in New Zealand could lead to important repercussions on the standard of living and the welfare of New Zealanders. Such failure could also lead to widening socio-economic disparities between the regional economies of New Zealand. A future of this nature was one of four possible futures projected by Franklin. (1975). To avoid this future Franklin and others (Blyth, 1965; Brash, 1976; Philpott, 1976; Rose, 1969; Sutch, 1957) have argued New Zealand should produce increasing quantities of non-traditional exports (i.e. especially manufacturing products). A successful export programme is the only basis for regularly increasing total wealth. (Franklin, 1975.) An export strategy of economic development of this kind demands rising productivities and a re-allocation of resources.¹ Industrial policy does not require a simple choice between growth and no growth but rather between indiscriminate growth and intelligent, more allocative, growth. (Franklin, 1978; Philpott, 1976.)

A major problem facing the development and growth of the New Zealand economy is the alarming low productivity rates. A number of different causes of low productivity have been cited, including indifferent management, inefficient scales of operation, under-utilisation of expensive capital and unsatisfactory employer-employee labour relations. (Blyth and Hamer, 1963; Franklin, 1978; Holmes, 1976.) The debate over productivity exposes the critical issues central to New Zealand's contemporary development problems.² These issues include the best use of resources, the emphasis is on traditional and/or non-traditional exports and also economic and social priorities and values. Blyth and Hamer recognised that a major factor in New Zealand's slow productivity

growth was that too great a proportion of resources was being invested in industries with low levels and slow growth in productivity. This wastage of resources applied a brake to fast growth and the expansion of the economy.

The dichotomy of re-allocation and rising productivity requires intensive and careful assessment of respective efficiencies in the existing industrial sectors. (Blyth, 1963; Franklin, 1975.) The fundamental requirement of New Zealand manufacturing is to ensure the structural growth of highly productive firms.³ However, the dynamics of manufacturing has resulted in a wide range of productivity growth and efficiency in and between manufacturing firms and industries. This has led to the search for a specific component of the New Zealand manufacturing structure which display efficiency and high productivity rates or at least the potential to grow at above average rates. In this respect the qualities and advantages of Small Scale High Value firms have been propounded as a component of New Zealand industrial structure worthy of special consideration. (Coffey, 1976; Datson, 1977; Holmes, 1976.) This apparently unique component is seen to possess comparative advantages and characteristics favourable to New Zealand conditions. The concern or interest in Small Scale High Value has been a development of the mid 1970's.⁴

The decade 1960-1969 witnessed a sustained period of expansion in manufacturing output and as an employer of the labour force. Manufacturing was to achieve many benefits for the New Zealand economy including the reduction of the dependence on fluctuating exchange receipts, the saving of foreign exchange and the creation of a fuller and richer society. (Franklin, 1978.) The policy of industrialisation in its formative years was basically centred on import substitution rather than as a foreign exchange earner through exporting.

The recognition by National Development Conference in 1969 of the contribution and potential contribution of

manufacturers in promoting and establishing export activities marks the turning point away from the early infant industrial stage of the New Zealand economy. (Rose, 1969.) The development of a manufacturing export sector through the N.D.C. was seen to be necessary, even inevitable, and as a result there arose a need for an industrial policy. The N.D.C. felt that whatever happened the expansion of traditional exports would be insufficient to maintain a desirable level of imports. This can only be achieved if non-traditional and especially manufacturing exports contribute a significant proportion of total exports.

The call for a change in the structure of exports means that manufacturing must become internationally competitive. To achieve this New Zealand will need to accept an open type economy and instill the necessary changes in both the economy and society. (Brash, 1976; Franklin, 1978; Rose, 1969; Willis, 1973.)

The almost universal call for structural change and development of the New Zealand economy emphasising exports during the 1970's was highlighted by the general acceptance of two influential trends:

- 1) that the growth in demand for non-agricultural products has outpaced and will continue to outpace the growth in demand for agricultural products.
- 2) deteriorating terms of trade for agricultural produce must be assumed for the future. (Blyth, 1965; Franklin, 1978; Holmes, 1976; N.D.C., 1969; Rose, 1969.)

The Task Force Report on Economic and Social Planning released in 1976 called for the

promotion of industry with export potential and the capacity to serve domestic markets efficiently, the greater use in manufacturing output of domestic resources, including primary products, encouragement and assistance to industry to reorganise and rationalise, adequate protection of the home market as a base for export and maximum freedom for producers to respond to market conditions.

(Holmes, 1976, 311-312.)

Under the banner of the much used slogan 'a more efficient and flexible economy' Holmes has recognised the vital role of a special type of firm incorporating specific qualities, supporting the call that the

thrust for future expansion has to be in the export field, and that, because New Zealand cannot hope to compete in many spheres of mass production, development will need to be based on skill and the manufacture of technically advanced products.

(Anon, 1973b, 15)

It is this desired need of flexibility and versatility which has led to the association of the catchphrase an efficient and flexible economy with small scale activities. The economics correspondent of the Manufacturer (1976) believes that flexibility and versatility hold the key to the survival of firms in the economy and that they will become even more important in the future. Further that even during recessions, the smaller scale firms uncover the true quality of entrepreneurship and their ability to adapt technology and find new markets to continue exporting. "Only the entrepreneurs and innovative survive" (Anon, 1976a, 9). Consequently "we must cultivate a healthy mixture of small and large scale enterprise. We must make room for enterprise and new ideas." (Anon, 1976a, 13.)

The preoccupation with the notion of economies of scale has dominated thinking and research in the manufacturing sector since the 1950's. (Blyth, 1961, 1963, 1965; Blyth and Hamer, 1963; Franklin, 1975, 1978; Sutch, 1957.) In association with the need for economies of scale a number of other assumptions pertaining to the alleged advantages of bigger size are commonly held.

1) Productivity is higher in bigger units because they can afford large scale and sophisticated investment.

2) Larger firms have more resources for research and therefore generate and utilise more technological developments to achieve faster growth.

- 3) Long run production is more efficient than short run.
- 4) Small businesses block progress.
- 5) Small businesses duplicate resources and need to be rationalised.
- 6) Small firms are not efficient exporters.

(Coffey, 1976, 28.)

These assumptions do not necessarily stand up to examination both in the New Zealand and international context. Blyth and Hamer (1963) and Franklin (1978) both conclude that it is not always the bigger or biggest firms which are the most efficient or productive. Similarly the Galbrathian thesis relating large size with innovation and invention has been severely questioned and contested as has the notion that small firms impede development. Willis (1973) concluded that export performance was independent of size.⁵

The 'skill thesis' first coined by Sutch (1957) but developed by Willis asserts

that the small size of the New Zealand market limits the competitiveness of export industries based on economies of scale, that this country should rather exploit the resources of a skilled and technically highly educated labour force and export goods of a high unit value ... (involving highly skilled labour) which are largely immune from the dictates of scale for their competitive appeal.

(Willis, 1973)

Franklin (1978) airs a similar proposal with the additional role of efficient management and scientific and industrial research.

These various and briefly discussed ideas in the New Zealand literature were brought together in a more specific paper presented by Datson (1977) entitled Small Scale High Value. Here he has brought together the ideas presented above relating flexibility and versatility, innovation and invention, skill,

entrepreneurship and management with the role of small scale activities. Datson enquired into the relative advantages of small scale and the potential they offer the New Zealand economy.

The treatment of the small scale concept in the New Zealand context bridges at last the prominent bogey of New Zealand economic thinking - the overriding demand or need to achieve scale economies to promote and develop exports and the New Zealand economy at higher or faster growth rates. In the light of this Datson argues the relative merits of specially selected manufacturing firms which are described as being technically-orientated and typically export orientated. While the dichotomy of small scale and high value forms the crux of the paper Datson fails to elaborate explicitly what 'small scale' means. Consequently it is open to interpretation.

Datson believes that the small scale firm can and will play a lifeline role in the New Zealand manufacturing economy. In the future small scale on a number of points are seen to display special characteristics which distinguish them from other firms, and as a result form an especially desirable component of the industrial structure.

Such features include:

- 1) The generally environmentally compatible nature of the small scale technically orientated industries.
- 2) Labour problems are rare in small scale industries. Smallness invariably implies good labour relations, good labour practices such as low labour turnover, little or no absenteeism and high labour productivity.
- 3) Small scale technically orientated industries do not necessarily mean fewer employment opportunities for those without advanced educational qualifications.

- 4) Small scale technically-orientated firms tend to be footloose.

In economic terms Datson asks

- 5) can these industries operate or survive in the absence of protection? Datson concludes that generally the smaller scaled industries only need a modicum of protection.
- 6) Is the activity likely to be permanent or merely a flash in the pan? As long as enterprise keeps up with technological developments the activity will be long lasting.
- 7) Is the activity likely to be export orientated or saving overseas funds by import substitution? The answer was an 'unqualified yes', with the emphasis increasingly on the export orientation of the small scale firms. Also the New Zealand component of small firms products is high.
- 8) Small scale industries generally have low energy consumption. The energy cost is minimal and at best a minor production cost.

(Datson, 1977)

In concluding Datson expresses the belief that "given the right degree of support, I predict that the small sized technically orientated company can show a very much greater rate of growth than has occurred in the manufactured sector."

(Datson, 1977, 39)

With smallness a major feature of the New Zealand economy it would appear to be ideally suited to the emergence of small scale firms and production units. The applicability of the small scale high value firm to the New Zealand economy and future industrial planning is highlighted by the conclusion offered in the Task Force Report:

higher priority should be accorded to the

promotion of productivity, invention and innovation and imaginative design, the improvement of industrial training, the application of science and technology to industry, dissemination of techniques of efficient management and assistance to efficient enterprise to overcome financial problems impeding development.

(Holmes, 1976, 276)

The implications of the task forces conclusions make it apparent that conceptually, small scale firms are an integral and vital part of the New Zealand industrial structure and would help achieve the goals established by the Holmes Report.⁶ Many of the qualities emphasised by Holmes are seen to be inherent in small scale activities. Therefore in theory they have an ability and potential ability to make a significant contribution to the growth and development of the industrial economy.

On the less positive side Devlin and Le Heron (1978) have noted that "small scale firms are producing a declining share of Gross National Product". This aside there is little evidence of any body of opposition against the small scale concept in New Zealand.

SMALL SCALE FIRMS IN THE NATIONAL ECONOMY

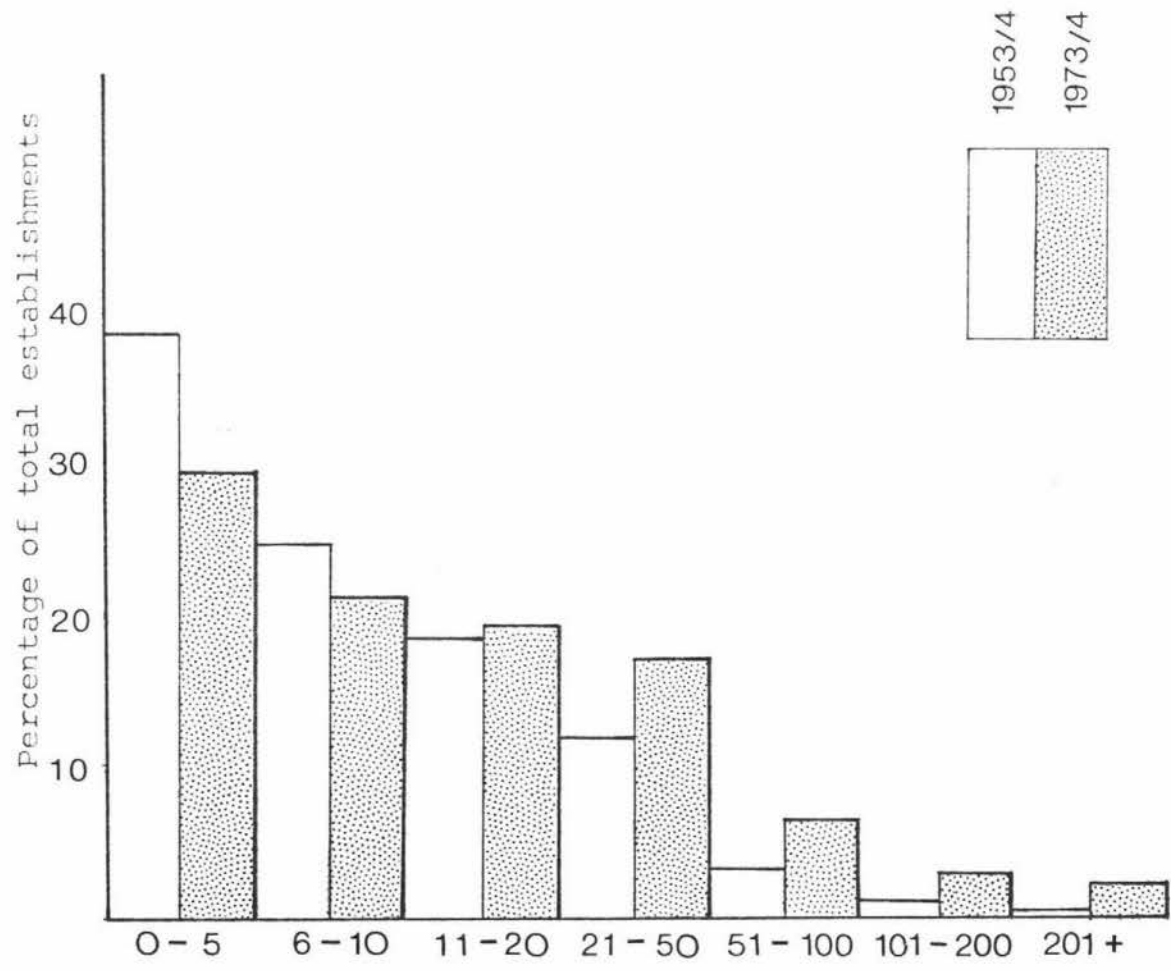
An overview

Table 1.1 displays the total number of manufacturing establishments and the proportion of these which employ less than fifty employees. In 1973/4 small firms accounted for 87.46% of all manufacturing activities, a 6.4% decline over the twenty year period 1953/4 - 1973/4. Graph 1.1 depicts the percentage change of factory numbers according to factory size by persons engaged for the same period.

Of more importance is the decreasing number of people employed in small scale activities relative to the national totals. (Table 1.2)

Graph 1.1

PERCENTAGE CHANGE OF FACTORY NUMBERS
ACCORDING TO FACTORY SIZE
BY PERSONS ENGAGED
1953/4 - 1973/4.



Factory size by number of persons engaged.

Source: Industrial Production Statistics.

In 1953/4 just over half of the work force were employed by small scale firms, however, by 1973/4 this had declined to about one third of total employment. The decline has been more pronounced in the 1970's. Graph 1.2 shows the percentage of employees according to factory size as well as the absolute employment numbers for the 1953/4 - 1973/4 period. The scalar growth in manufacturing units and growing importance as an employer of the work force becomes clear.

Bringing the number of establishments and numbers employed together results in an average firm size of 17.48 employees per factory in 1953/4. By 1973/4 this had reached 31.8.

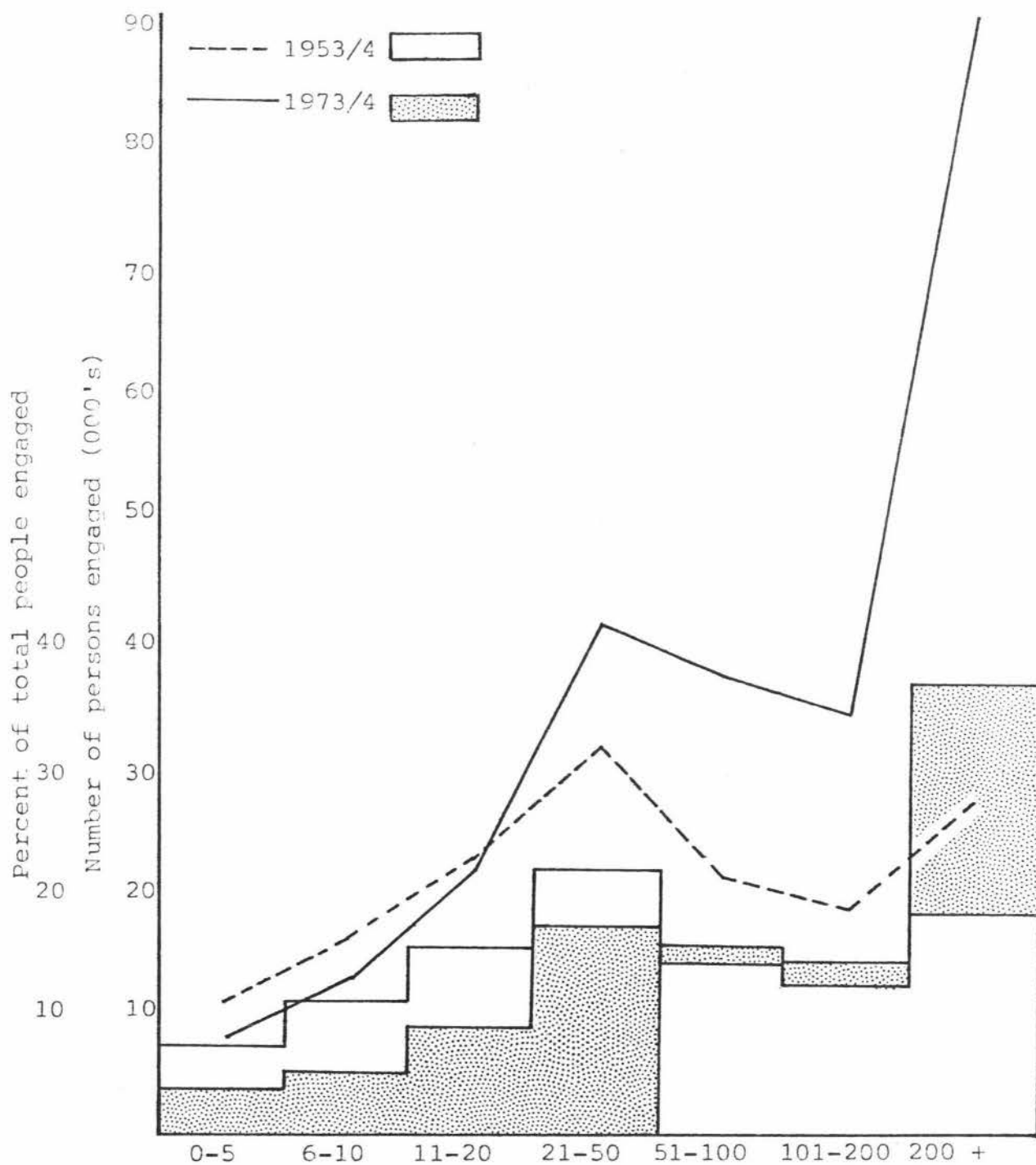
When considering value of production, value added and salaries and wages as percentages of national totals, the proportional contribution has declined from approximately one half to one third. (Table 1.3.) These figures further exemplify the overall growth in the size of industrial activities.

This very brief review of basic data reveals that small firms are earning a declining share of returns in the national economy. This trend has become a continuous one and as such there seems little likelihood of it being reversed.

Can a sector of the economy whose contribution to the national economy is declining be expected to play an important role in the growth and development of that economy? Irrespective of the decline, small scale firms still contribute over 30% of production and employment, by no means an insignificant contribution. The absolute growth in the contribution of these firms is still a very important factor because of the diverse range of activities involved and the geographical spread and location of these firms throughout New Zealand. They are dispersed throughout most urban and city centres irrespective of size and in some small regional towns as well. The contribution of small scale firms could be foremost to the regional economies and secondly to the

Graph 1.2

PERCENTAGE OF EMPLOYEES ACCORDING TO FACTORY SIZE
 1953/4 - 1973/4
 ABSOLUTE EMPLOYMENT NUMBERS
 1953/4 - 1973/4.



Factory size by number of persons engaged.

Source: Industrial Production Statistics.

Table 1.1

NUMBER OF SMALL SCALE FIRMS

	<u>Under 50 Employees</u>		
	<u>1953/4</u>	<u>1973/4</u>	<u>Differences</u>
A Total Number of establishments	8,377	7,690	- 687
B Number of establishments employing less than 50	7,864	6,726	- 1138
B as a percentage of A	93.88	87.46	- 6.4

Source: 1973/4 Industrial Production Statistics

Table 1.2

NUMBERS EMPLOYED IN SMALL SCALE FIRMS

	<u>1953/4</u>	<u>1973/4</u>	<u>Differences</u>
A Total Employment	146,426	244,522	+ 98,096
B Number employed in firms employing less than 50	80,511	83,451	+ 2,940
B as a percentage of A	54.98	34.13	- 20.85

Source: 1973/4 Industrial Production Statistics

Table 1.3

OUTPUT, VALUE ADDED AND SALARIES OF SMALL SCALE FIRMS

<u>Firms employing less than 50</u>	<u>1953/4</u>	<u>1973/4</u>
Value of Production as a percentage of total production in manufacturing.	52.59	32.3
Value added as a percentage of total value added	51.42	33.1
Percentage of Salary and Wages	52.78	32.11

Source: 1973/4 Industrial Production Statistics

national economy. The implications of small scale firms to regional development could be of some consequence.⁷

RESEARCH FOCUS

There are two major considerations which are fundamental to this research. The first is the conceptual problem of small scale firms. This involves the evaluation of the small scale concept and the recognition of the main characteristics and advantages of small scale operations. This evaluation builds a conceptual framework within which small scale firms in New Zealand can be assessed and their contribution and potential contribution to the New Zealand economy placed in perspective.

This raises the second major focus that of an empirical study identifying and examining small scale firms within the New Zealand context. The need is to ascertain the actual and/or potential contribution of a particular set of firms (i.e. Small Scale High Value) to the New Zealand economy, and the extent to which Government or industrial policy should be directed to their assistance.

Datson and others have promoted Small Scale High Value firms as worthy of special attention (allocative growth) due to their characteristics and advantages being suitable to the structural development of the New Zealand economy. This thesis endeavours to provide further insight into the characteristics and contribution of Small Scale High Value manufacturing firms to the national economy.

RESEARCH DESIGN

The thesis is organised in three broad stages. Defining small scale was the first requisite both in international terms and more specifically in New Zealand terms.

Bolton includes two necessary characteristics for inclusion as small scale -

- a) that a small firm is managed by its owners or part owners in a personalised way and not through a medium of a formalised management structure.
- b) the small business is independent in that it does not form part of a larger enterprise and similarly that the owner-managers should be free from outside control in making their principal decisions.

(Bolton, 1971, 1)⁸

A small scale firm is further defined as a firm employing less than fifty employees. The delimiting of small scale to less than fifty in the New Zealand context can be critically questioned. Firms under this definition account for 87.5% (1973/4) of total manufacturing establishments. However the criteria of less than 50 maintains continuity with the Small Business Agency's definition of small firms and for this reason is accepted in this thesis.

An inconsistency in the New Zealand literature on small scale is the general lack of definition. Coffey (1976) defines small scale in similar terms as utilised above but Datson rather vaguely refers to small scale as being technology-orientated and typically export orientated. Even though a precise definition by employment numbers is arbitrary it would ensure a common understanding as to exactly what is small scale. The establishment of a Small Business Agency⁹ and the associated limit on less than fifty employees should keep the term small scale in context in the future.

The second stage considers the concept of small scale activities. Can small scale activities compete efficiently or be competitive with other economic activities? Similarly can they be successful exporters? This approach necessitated an evaluation of the concept as understood in the international and national context. This entailed the identification of the positive and

negative characteristics of small scale activities. Earlier reference was made to such characteristics as flexibility and versatility, innovation and invention, productivity, technical expertise and research and development, management, labour relations and in terms of industrial location footloose. The discussion of the concept seeks to establish the authenticity or otherwise of these assumptions, and therefore provide a framework within which the small scale firms in New Zealand can be appraised. Some doubts exist as to whether all of the above 'facts' are accurate.

The third step involves the empirical problem and incorporates the identification of a set of small scale firms in New Zealand and an examination of these firms in an attempt to assess their actual and or potential contribution to the New Zealand economy. Figure 1.1 summarises those factors which were seen as relevant to the contribution of small scale.

A very important element in the structure of the thesis is the urban-hierarchy framework within which the small scale firms are placed according to town or city size. (Figure 1.2.) An urban-hierarchy framework was included as opposed to a regional framework because of the small population of firms designated Small Scale High Value. The hierarchy was utilised to enable the necessary aggregation of data into subgroups for comparative purposes between small town and city economies and also the geographical dispersion throughout New Zealand.

METHODOLOGY

Datson included in his work a directory of what he labelled Small Scale High Value firms and it was decided to utilise this listing. While noting that the listing was probably underrepresenting the number of Small Scale High Value firms Datson believed that it was understated only by about fifty percent.

Government support +
assistance D.F.C.,
S.B.A., etc.

Entrepreneur
Management

Contribution of
Small Scale

Environmental

Small land
requirements

Compatibility
low pollution

low energy requirement

Economic

Import replacement

Export Earnings

Inter + intra
regional flows

Salary + wages

Social

Employment Opportunities

Labour relations

Research +
Development

Inventiveness

Innovation

Figure 1.1

THE CONTRIBUTION OF SMALL SCALE FIRMS

Figure 1.2

URBAN HIERARCHY FRAMEWORK

Level 1	Auckland			
Level 2	Christchurch	Dunedin	Wellington	
Level 3	Invercargill	New Plymouth	Palmerston North	
	Hastings	Napier		
Level 4	Blenheim			
	Pukekohe	Temuka	Waihi	Paraparaumu
	Eltham	Winton	Paremata	Linton

Altogether there were only 112 such firms. It was necessary due to the small number involved to include all 112 firms in the survey.

LOCATION OF SMALL SCALE FIRMS

The spatial distribution of these firms encompasses most of New Zealand with major exceptions being the East Cape (North Island) and West Coast (South Island) regions. Figure 1.3 displays the geographical dispersion of the firms including the number of firms in each centre as well as the number which completed the questionnaire.

The concentration of small scale firms in the major centres was expected especially in the Auckland, Wellington-Hutt and Christchurch urban areas. Importantly some very small centres are also included, i.e. Linton, Marton, Waihi, Eltham, Temuka and Winton.

DATA COLLECTION AND RESPONSE

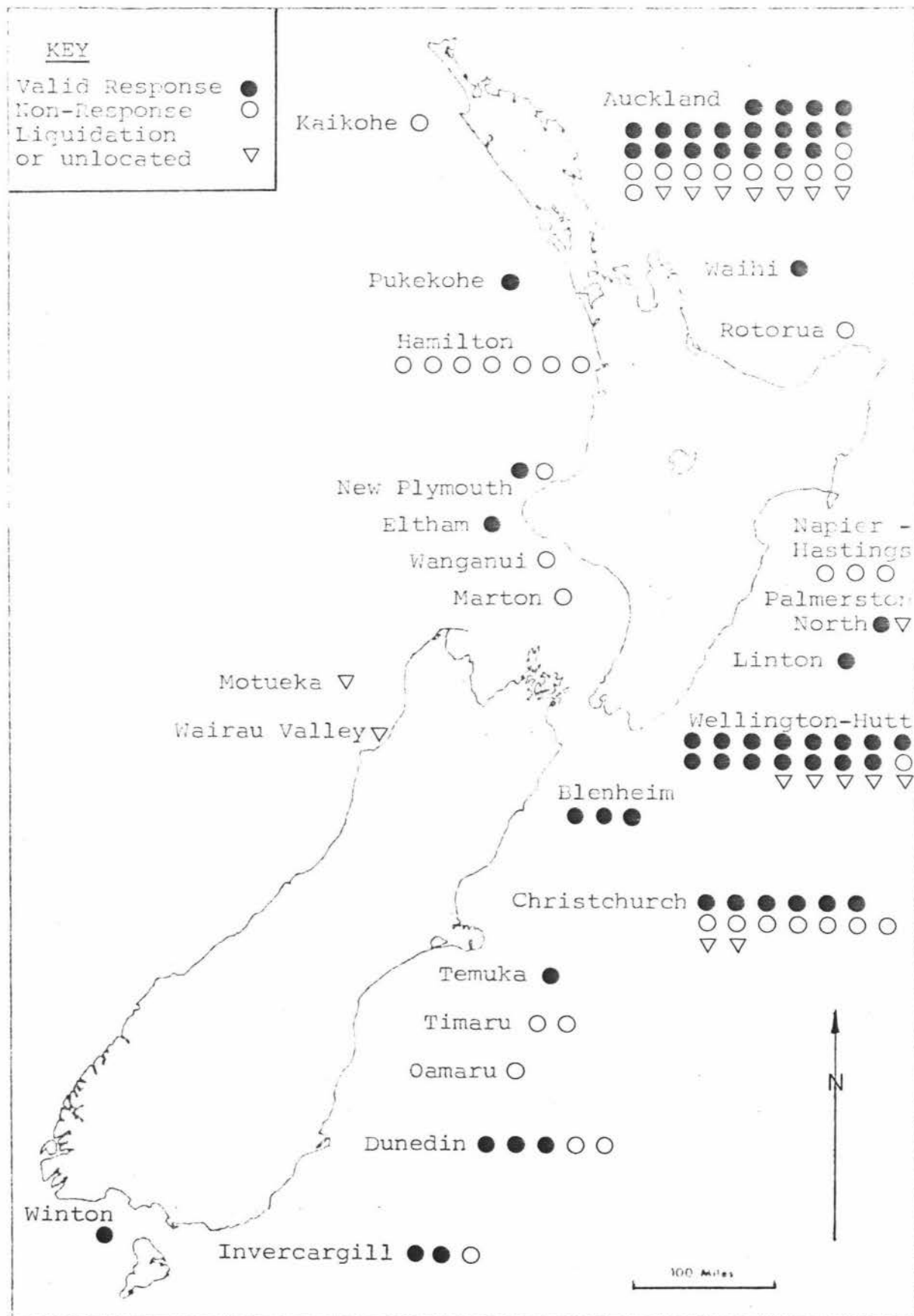
With such a wide dispersal of a limited number of firms, data collection involved a postal questionnaire¹⁰ in conjunction with a personal approach. All South Island firms and the more isolated North Island firms were all mailed questionnaires. A total of 39 (35.45%) were approached in this manner. Addresses for three firms in the postal survey could not be traced.

Personal interviews were employed in the Wellington-Hutt, Manawatu and Auckland-Hamilton areas. This involved 71 firms (64.55%). Many difficulties were encountered in conducting personal interviews with the major problem being one of time. Many managers pointed out that the scarcest resource of a small scale manufacturer was time. Very few declined to complete the questionnaire, however the majority requested that the questionnaire be left for them to complete when time permitted, and a collection date set.

The response rate is set out in Figure 3 and in summarised form in table 1.4. The total response rate

Figure 1.3

THE GEOGRAPHICAL LOCATION OF SMALL SCALE HIGH VALUE FIRMS.



was close to 50 per cent. The response rate to the mail questionnaire was 46.15% and 53.52% for the personal interviews.

An unforeseen factor caused many questionnaires to be returned uncompleted because quite simply they did not consider themselves to be small scale activities. These firms employed in excess of 100 employees. The existence of relatively large firms in the population was not anticipated.

Column E in table 1.4 accounts for those firms in liquidation (3 known), and 4 firms which do not produce a product and therefore are not manufacturers. The remaining 10 firms could not be located and it is assumed that a number of these may have gone out of business. Fourteen large scale enterprises have been included by Datson in his study. This is due to the existence and operation of small scale units within the corporate structure. To qualify as small scale outside of the size requirements they would need to display relative independence in the decision making process as well as being budgeted for and run as an individual unit. Additional covering letters were posted or provided to these firms seeking an assurance that such independence existed. Six firms did not reply at all and of those that did two indicated that they did not function separately or independently. The manufacturing process and overheads or cost structure were shared with other activities associated with the large scale enterprise. Six private firms excused themselves from answering the questionnaire on similar grounds.

The remaining six firms completed the questionnaire. Of these only three employ less than fifty employees. However one of these has a formalised management structure. As a consequence only two out of eight can be considered within the small scale concept, and even this contains problems as information, finance and management flows between subsidiary and head office overcome or neutralise many of the difficulties faced by small firms which do not

Table 1.4
RESPONSE RATE

Area	A Number of firms	B Number of responses	C Invalid firms ₁	D Refusals	E Firms not located ₂	F Valid Replies	G Statistical response Rate ₃ %	Response Rate ₄
Auckland-Hamilton	44	20	6	17	7	14	31.8	45.4
Wellington-Hutt	21	15	3	1	5	12	57.1	71.4
Christchurch	15	6	0	7	2	6	40.0	40.0
Other	32	15	3	14	3	12	37.5	46.9
Total	112	56	12	39	17	44	39.3	50.0

Source: Field Survey 1978

- 1 Invalid firms refers to those who replied but were not small scale. Questionnaires were not completed.
- 2 Firms not located includes 3 firms known to be in liquidation and 4 firms which are not manufacturers. Ten firms could not be traced.
- 3 Statistical Response rate excludes column C
- 4 Response rate includes column C

have access to similar services.

NON-RESPONDENTS

Out of the 56 respondents 26 or 46.5% are small scale firms. Of the non-respondents, either those visited and who declined to formerly complete the questionnaire, or as a result of a separate enquiry, it was found that the split between those which are large and those small was slightly different to those which responded. This would indicate that small scale firms are underrepresented but only to a very minor degree. Of the non-respondents 55.2% were small scale. Totalling overall this would mean that 49.4% or about half of the population were small scale firms.

NOTES ON THE PRESENTATION OF TABLES

The tables used extensively in Chapter 3 have three main components. These are (1) total sample results, (2) the appropriate results for the small scale firms only and (3) any relevent data drawn from research studies conducted in New Zealand and/or industrial production statistics. It is important to note in this respect the heavy reliance upon the "Report to the Development Finance Corporation on Dimensions of New Zealand Small Business" headed by M. Devlin and R. Le Heron. This is one of the few research papers providing extensive coverage of the dimensions of small businesses and therefore offering comparable data. Appendix C provides the main table from which comparisons were drawn. Also in relation to the tables it is necessary to point out that not all respondents answered all questions and this accounts for the variation in sample numbers' (n) for the tables provided in Chapter 3.

FOOTNOTES

- 1 This raises the age old question of the reallocation of resources away from agriculture to the manufacturing sector. The relative importance of the traditional export sector is neither denied nor contested. Rather reference is aimed in the main to the misuse of resources within the manufacturing industries.
- 2 Increased productivity is often seen as a cure for the two main economic problems facing New Zealand, namely inflation and slow economic growth. However productivity levels are only one factor amongst others, albeit an important one involved in coming to terms with inflation and slow growth problems.
- 3 Ross (1974) however warns that productivity growth in itself should not be made a goal as there is the danger of the misallocation of resources by stimulating those industries with high levels of productivity whether the goods produced are wanted or not.
- 4 Anon 1976a; Coffey 1976; Datson 1976; Datson 1977; Devlin 1976; Devlin and Le Heron 1977, 1978; Franklin 1978; Gimpl 1975; Hart 1978; Holmes 1976; Le Heron and Devlin 1977; Willis 1973.
- 5 These assumptions are considered in more detail in Chapter 2.
- 6 The Flexible and Efficient Economy.
- 7 Small scale firms are believed to be footloose and therefore free to locate where they choose. Therefore the possibility of national or regional policies directing through incentives and the like, the location of such firms in problem areas.
- 8 See Chapter 2 for a wider discussion on the definition of small scale.
- 9 See Appendix A for an outline of the criteria for inclusion under the Small Business Agency.
- 10 The questionnaire is set out in Appendix B.

CHAPTER 2

A REVIEW OF THE SMALL SCALE CONCEPT

The intention of this chapter is to provide a conceptual framework upon which following discussions can be based and or compared. It involves examining the small scale concept with the intention of highlighting the major characteristics or features either positive or negative of small scale firms. An understanding of the structure and organisation of small firms is imperative if the New Zealand situation is to be understood and evaluated with and against international experience.

Large companies have been extensively studied from many points of view, so that their activities, share in national production, organisation and the like are relatively well understood. Little information has in the past been gathered on small firms despite the fact that on any reasonable definition, small firms account numerically for the vast majority of business enterprise.

After many years of neglect the subject of smaller firms is again coming to the fore. This is largely the consequence of an increasing suspicion of the giant corporation. The theory of 'economies of scale' reinforces what is seen as an "irrestible trend dictated by modern technology for units to become even bigger" (Schumacher, 1973, 58.) In order to be prosperous a country had to be big - the bigger the better. Schumacher (1973) points out that by listing the prosperous countries in the world the majority are small whereas, most of the biggest countries in the world are poor. Further to this he suggests that there is an increasing trend for larger units to break up into smaller units. The number of these smaller units is growing and many are highly prosperous. As a result there is a new awareness and willingness to explore the role of the smaller units in the economy. In fact there have been some signs of a

positive reaction in favour of smallness. (Clarke, 1972) What Schumacher (1973) has described as the "evolution of small scale technology, relatively non-violent technology - technology with a human face." (Schumacher, 1973, 18)

There is a strong economic case for this revival in interest. Small firms as normally understood are still responsible for an important proportion of output and employment in a number of industrial economies. (Adam, 1970; Bolton, 1971; Wiltshire, 1971). Conversely, the number and performance of small firms have been associated with poor economic performances.¹ The less efficient and dynamic small firms are seen to act as barriers or impede growth and structural development. (Clarke, 1972).

The small firm sector has been expected to nurture that resource many consider to be indispensable to the economy, the continual supply of entrepreneurs. They are meant to create new activities which are willing and capable of taking risks, innovating and to be agents of radical change. Some authors (Boswell, 1973; Clarke, 1972) have suggested that the supply of new entrepreneurs is inadequate or at risk and that those acting as entrepreneurs are economically discouraged. Whether the above claims are true and if so what can be done about them is of critical importance and needs to be resolved. (Clarke, 1972.)

A number of important studies have been made in recent years investigating the role of small firms and associated problems. (Bolton, 1971; Wiltshire, 1971; Small Business Administration 1969.) These contributions have provided a wide range and depth of material fundamental to gaining an understanding of small businesses which had previously been lacking. Further they provided the basis for continued in depth specialised investigation. These reports stimulated economists and other academics alike to investigate the role of small firms in the economy. More and more the small business contribution and potential contribution to the Gross

National Product is being investigated as a means of stimulating and promoting growth in regional and national economies.

DEFINING SMALL SCALE

The task of defining small business accurately and precisely is a difficult one. In practical terms definitions utilise some readily measurable criteria such as management function, employment, assets, turnover, output and other arbitrary single quantities. Definition in these terms alone is not sufficient. Generally a more flexible definition is used which lays emphasis on the loose association of key features as opposed to definitive criteria. (Devlin and Le Heron, 1977.)

In this respect Kaplan has defined small firms in that

small business means typically an identity of management and ownership, an absence of specialised staff for separate functions and facilities designed specifically for research and analysis, an inability to finance itself through sources such as investment bankers, a personal relationship between owners and employees and customers, the affiliation of the firm with a local community, and chief dependence for its market on the local area.

(Kaplan, 1948.)

In addition to the above Bolton (1971) included independence, in that the firm does not form part of a larger enterprise and similarly that the owner-managers should be free from outside control in making their principal decisions. Clarke (1972) adds a simple definition, that major policy decisions are taken by one or two people who usually own, manage and risk their own money in the business.²

The above definitions are usually associated with an employment number criteria to enable the collation of statistical information. This number varies from country to country according to the size and structure of the relevant economy. Bolton (1971) specified less than 200 employees while the New Zealand Small Business

Agency considered less than 50 employees to be a small scale firm.³

SMALL BUSINESS AS AN ECONOMIC ACTIVITY

Boswell (1973) suggests that much of the existing knowledge about small firms is biased. His belief is that prejudice and mythology have reigned for too long in the small business field. Boswell outlines three basic stereotypes held with regard to small scale activities. The first is the classical model with its simple themes of the entrepreneur, competition and profit maximisation. The theory sees the businessmen as, uniting ownership and control, as economically motivated to pursue profit, and as both stimulated and controlled by market forces and competition. Boswell adds that the mainstream of economic thinking about firms has left this theory far behind.

The second is the romantic stereotype. This version merely glorifies the small entrepreneur. It feeds on the small business as a source of economic utility 'enterprise', 'innovation' and 'competition' and its social virtues of 'independence', 'good human relations', completely to the exclusion of any darker side. Typically the small businessman is portrayed as a suffering hero competing against Big Companies and especially Big Government.

The final stereotype is a modern one, based on "a series of half truths and misunderstandings". As many small firms appear to be inefficient, traditionalist and family centred this is reflected onto the small firm sector as a whole and consequently as inimical to progress. (Boswell, 1973.) Similarly it is believed that large companies are necessary or essential to compete on the international market. This ignores small firms which export directly onto foreign markets and similarly the important indirect support small firms offer large exporting companies.

Two extreme views concerning the place of small scale firms within the national economy exist. One

suggests that the future viability of small business is in doubt, due to a lack of understanding of the problems facing small businessmen. The other view recognises that as a result of small size small firms can realise marked advantages in relation to large companies and that these are exploitable. (Bolton, 1971.)

To identify problems and or advantages in a clear cut manner is no easy task. There is no universal checklist against which small businesses can be compared. (Cohn and Lindberg, 1974.) Bolton concluded that small firms provided the following: a productive outlet for enterprising and independent minded people; the most efficient form of business organisation in industries where the optimum size of the production unit, or the sales outlet, is small; contributing to variety and consumer choice in many markets; often producing specialist supplies to large companies more cheaply than the latter; and providing an important source of innovation in products, techniques and services. (Bolton, 1971.)

Conversely in comparison with larger firms small businesses are at a disadvantage in terms of raw material prices, ability to hold stocks; technical and market information and various management techniques in association with limited accessibility to financial resources. (Clarke, 1972.)

MANAGEMENT AND LABOUR

The management function is an often quoted criteria for inclusion as small scale. (Bolton, 1971; Clarke, 1972; Kaplan, 1948; Love, 1977.) Business decisions concerning production, marketing, financing and management are concentrated in the hands of one or two managers. There is then a lack of a specialised management function as displayed by larger enterprises. The fact that small firms are often owned and managed by the same people has a great many practical consequences, in particular it helps to explain the

flexibility of the small firm, its special role in innovation and risk taking, its vulnerability to high rates of direct taxation and its reluctance to seek outside finance and assistance.

The concentration of managerial functions and power in the small firm provides certain distinct advantages. Clearly the more personal approach to management avoids the negative side effects of a bureaucratic structure. The involvement and motivation of management in the small firm ensures fewer problems than in larger concerns. Evidence also suggests that there is an inverse relationship between organisational size and worker satisfaction. (Kelly, 1972.) If there is a positive relationship between morale and productivity the small firm gains the advantage. Through the absence of a managerial hierarchy small firms are likely to be more flexible and decisions can be made quickly and decisively.

Efficiency and productivity can be enhanced through management following industrial relation policies even though their industry and or firm has seemingly first class employer-employee relations. Baumbach et al (1968) illustrate various ways in which a small firm can exist without actually encouraging worker support. Characteristics of minimal labour turnover and low rates of absenteeism may be a result of an employer being lenient in his supervision and demands for worker efficiency (productivity). Employees recognise this and are content to enjoy the easy going. Firms in this category through the active pursuit of a sensible employee relations policy could convert their concerns into more profitable and growing company's, to the mutual benefit of all concerned, including the regional and national economies.

The dominant influence of the manager means that the nature of the firm will depend to a marked extent on his personality and operating style. (Kelly, 1972.) If a small firm appears for instance to have good

employee relationships without using any organised personnel procedures, the reason probably lies in the personality of the owner - something very difficult to duplicate. (Baumback, 1968.) A continuum along which firms are located reflecting the relationship between the character of the manager and the type of firm he is likely to produce has been hypothesised. The polar positions of the continuum are occupied by what Smith (in Kelly, 1972) called the 'craftsmen-entrepreneur' and the 'opportunistic-entrepreneur'. Figure 2.1 displays the associated characteristics of each entrepreneur type. Bolton clearly depicts the small businessman as tending towards the craftsmen-entrepreneur. Clarke (1972) on the other hand points to a 'new breed' of entrepreneur the scientist entrepreneur who closely parallels the characteristics of the opportunistic entrepreneur. 'Bolton man' is typically the businessman of the 1960's and earlier while Clarke's scientist-entrepreneur is of more recent origin, a product of the 1970's.

Woodruff and Alexander (1958) in a comparative study of successful and unsuccessful small manufacturing firms concluded that unsuccessful firms exhibited signs of mismanagement. Unsuccessful firms failed to maintain adequate financial records, placed less emphasis on the marketing function, paid less attention to research and development and were generally inept in their internal administration. (Kelly, 1972.) Inadequate or misleading financial records was found to be the most common and serious deficiency in management organisation. It was concluded that managerial incompetence is the primary underlying cause of business failure. (Dun and Bradstreet, 1970.)

Conversely, it has been suggested that given good management, financial problems are relegated to a low priority or problem because good management demands the efficient handling of finances and also lenders are usually anxious to invest money in a well managed business. (Baumbeck, 1968.)

Figure 2.1

CHARACTER OF MANAGER AND TYPE OF FIRM

<u>Craftsmen entrepreneur characteristics</u> ('Bolton man')	<u>Opportunistic entrepreneur characteristics</u> (Clarke's scientist-entrepreneur)		
<ul style="list-style-type: none"> -<u>Limited and narrow education</u> -<u>Low social awareness and involvement</u> -<u>Lack of flexibility and confidence</u> -<u>Time orientation to the present and past</u> 	<ul style="list-style-type: none"> <u>Broad education</u> - <u>High social awareness and involvement</u>- <u>Flexibility and confidence</u> - <u>Acute awareness and orientation to the future</u> - 		
<ul style="list-style-type: none"> -<u>Reluctant to utilise external sources of finance</u> -<u>Had no aggressive marketing strategy</u> -<u>Did not participate in any long term planning of the company's future</u> 	<ul style="list-style-type: none"> <u>Exploits a variety of external sources of finance</u> - <u>Aggressive marketing approach</u> - <u>Involved in long term planning of the firms development</u> - 		
<p>A formal organisation characterised by <u>rigidity</u>.</p>	<p>Tended to evolve an <u>adaptive</u> and <u>flexible</u> organisation.</p>		
Pole	Pole		
Pre 1950's	1960's	1970's	1980's and beyond

Relationship of time and progress.

(Source: Adapted from Kelly, 1972, 50; Bolton, 1971; Clarke, 1972.)

Labour, Firm Size and Productivity

Empirical evidence suggests that industrial relations as measured by the incidence of strike action, deteriorates as the size of the firm increases. (Kelly, 1972.) The plant atmosphere engendered by small size is seen to contribute to industrial harmony through the close contact, and the provision of a large variety of personal services available to the staff. (Kelly, 1972.) Further to this Revans (1956) has argued that confidence in the boss is the most valuable asset of any industry, and in the larger unit it is the most difficult to foster.

Absenteeism normally accepted as a good indicator of worker dissatisfaction and low morale is seen to be inversely related to size. Absenteeism is lower the smaller the size of the firm. (Revans, 1956.) Empirical evidence has not established a similar relationship between size and labour turnover. Worker morale, little strike action and low absenteeism rates are all positive factors contributing to higher productivity levels. This is a result of resources being utilised more fully through less 'down time'. (i.e. machines not being used and lost man hours through absence or strike.) Cohn and Lindberg (1974) in fact go further by stating that "the leading advantage in being small is the capacity to achieve levels of productivity beyond the reach of large companies". (Cohn and Lindberg, 1974, 1X.)

It is often asserted with respect to small firms that they pay lower wages than larger firms. Evidence shows clearly that wages and salaries per employee increase with the size of the firm. (Baumback, 1968; Bolton, 1971; Boswell, 1973; Clarke, 1972; Kelly, 1972.) This is seen as largely a result of the higher number of female employees and a lower skill mix. Larger firms employ a higher proportion of qualified scientists, engineers and technicians. (Bolton, 1971.) Smaller firms also have a lower incidence of overtime.

In summary, it is suggested by Kelly that while the optimum size of the firm reflects a whole range of factors, managerial and organisational considerations tend to favour the smaller unit. (Kelly, 1972.) Bolton also concludes that "our analysis provides no evidence for assuming that small firms are, in general any less efficient than large or vice versa". (Bolton, 1971,47.)

RESEARCH AND DEVELOPMENT: INNOVATION AND INVENTION

Technical progress through innovation and invention holds the key to economic growth and development of any economy. (Lasuen, 1969; Perroux, 1971; Thomas, 1975.) Further to this "the innovation theory of competitive advantage suggests that firms exporting new products might enjoy a higher export performance than those exporting other products". (Hirsch, 1972,49.)

Clearly the role of Research and Development (R & D) and innovation and invention are important ingredients in structural change and growth. Two distinct sides emerge which contest the role of small firms in R & D.

A common argument is that the greatest amount of technical change and innovativeness takes place in big firms. (Galbraith, 1957; Schumpeter, 1950.) This statement has been severely questioned and many are not convinced of the validity of such a relationship. (Adams, 1970; Baumbach, 1968; Bolton, 1971; Clarke, 1972; Freeman, 1971; Kelly, 1972; Thomas, 1975; Thomas and Le Heron, 1975.) Small businesses are seen to be important sources of innovation. While large firms may be more important in absolute terms, essentially due to the scale of economic activity at which they operate, the relative involvement in R & D is not necessarily any greater than that in many small firms. Large size or bigness is not seen as a prerequisite for involvement in R & D. This is in contrast to Galbraith (1957) who maintains that technological change depends on major research and development programmes that cannot be undertaken by the small firm.

Technical development has long since become the preserve of the scientist and engineer, (Scientist or opportunistic entrepreneur?)⁴ Most of the cheap and simple inventions ... have been made ... (and development) can be carried on only by a firm that has the resources which are associated with considerable size.

(Galbraith, 1957, 86-87)

However empirical evidence fails to verify the Galbraithian thesis and leads to the conclusion that invention and innovation are not solely the province of the large firm.

Adams (1970) after studying the relationship of firm size and R & D activity in both America and France concluded that a medium sized industrial economy (i.e. France) is not hampered in its research effort either by small numbers of large firms or by small average size. (Adams, 1970.)

The attitude of management towards innovation and adaption is very important. This is recognised in several classification schemes of firm innovative behaviour. For example, firms have been divided into active firms where management is "deliberately searching for new markets and techniques (an offensive strategy - opportunist or scientist entrepreneur) and passive firms where management merely responds to direct market pressures such as excess demand or increasing competition or falling profit margins (an absorptive or defensive strategy - typical of the craftsmen-entrepreneur). (Thomas and Le Heron, 1975.) Through this offensive strategy, active firms show a much greater propensity to innovate than passive firms. Management may be active or progressive in one time period and passive or defensive in another.⁵

Thomas and Le Heron offer four tentative conclusions on the effect of firm size on technological innovation:

- 1 Independent inventors and small firms are prominent contributors to technological innovation.
- 2 Large size is not necessary for innovation.

- 3 Larger firms utilise innovations faster than small firms.
- 4 The importance of larger firms in innovation is increasing overtime.

(Thomas and Le Heron, 1975, 237.)

The first two conclusions are straightforward. However the latter two hold implications for small scale activities. Thomas (1975) points out that the continuous change in techniques is allied to a slow adjustment process caused by the durability of capital equipment. A feature of small scale firms in theory is their ability to shift resources quickly, in other words versatility and flexibility. Small firms are also less capital intensive than large firms. In the light of this the third conclusion of Thomas and Le Heron stands out, that larger firms (despite durability of capital equipment) utilise innovations faster than small firms. Importantly Cohn and Lindberg (1974) have omitted greater flexibility and responsiveness as characteristics of small firms as they have found that they are at variance with experience and are part of the small firm mythology. The fourth conclusion further emphasises the growing dominance of large scale enterprises, in all spheres of economic activity.

The critical notion relating small scale to research and development still stands, that in spite of relatively low expenditure on R & D by the sector as a whole, small firms are an important source of invention and innovation.

THE SMALL FIRM AND FINANCE

The prominence or degree of financial problems in small firms can often be associated with the state of the national economy. Inevitably small firms are susceptible to economic recessions or downturns in the economy. In nearly all research financial problems are found to be an important barrier to growth.

(Baumback, 1968; Bolton, 1971; Boswell, 1973; Clarke, 1972; Kelly, 1972.) The financial capabilities of a business affects the ability of firms to survive and to exploit new opportunities. Most important was the shortage of liquid capital and a deteriorating cash flow situation, as well as difficulty in arranging both short and long term loans.

Boswell (1973) found that over half of the firms studied made no mention of finance as a constraint on expansion. Boswell conceded however that young firms following an expansionist and ambitious (offensive strategy - active) policy complained more frequently about finance. Rapid growth within small firms frequently generates liquidity problems.

Much of the concern over financial problems can be seen as a result of management decisions. Evidence suggests that a lack of capital is not a primary cause of failure and that a shortage of working capital although present in almost all bankruptcies, is symptomatic of some inadequacy of management and not the basic cause.

CONCLUSION

With respect to the argument about big and small the fundamental point has to be made that if an attempt is being made to draw up some sort of national balance sheet of the strengths and weaknesses of large and small business they are in many ways opposite sides of the same coin. (Clarke, 1972, 39.) Schumacher (1973) stresses the duality of the human requirement when it comes to the question of size. To suit his various needs man requires many different structures, some small and some large. It is a question of what scale is appropriate? There is no single answer. Bolton concludes poignantly, that "if small firms did not exist it would be necessary to invent them". (Bolton, 1971.)

FOOTNOTES

1 In Britain for instance small businesses have been at the centre of a controversy for some time in regard to Britain's poor economic performance. The major concern is that there is a large number of small firms in many of Britain's less prosperous and declining industries. As a result many have concluded that in these industries the less efficient and dynamic small firms act as barriers to growth and change.

2 Similar to Clarke (1972) the Small Business Act of 1958 in the United States identified the small business as "one which is independently owned and operated and which is not dominant in its field of operation". (Love, 1977.)

3 In a number of European countries, Austria, Belgium, France, Sweden, and Switzerland, small and medium size businesses are understood to be those employing less than fifty. In Denmark and Norway less than twenty, while in Germany and Italy it is 100 and in Japan less than 300 employees. (Clarke, 1972.)

4 This author's inclusion.

5 Adam (1970) established that both large and small firms can be progressive (active) and equally important, that not all firms in either size group are progressive. Adam stressed the importance of small firms being as progressive relative to their size as large firms.

CHAPTER 3

THE CHARACTERISTICS OF SMALL SCALE HIGH VALUE FIRMS IN NEW ZEALAND

To consider and discuss small scale firms in New Zealand it was essential to provide a foundation upon which small scale firms in New Zealand could be assessed and placed in perspective. Having established the framework in Chapter 2 this chapter describes the characteristics and features of a sample of small scale high value firms.

Legal Status and Firm Size

The legal status of firms consisted predominantly of private firms. Of the 44 firms, 35 were private and the remaining 9 firms were public companies. Control of these firms was evenly balanced with 21 firms being owner-operated and 22 appointed managers.¹ Small scale firms (employing less than 50 people) have ten appointed managers and 16 owner-operator's. With the exception of three public companies, all are private businesses.

Including the 3 firms which employ less than 50, the average size of the 9 public companies in 1979 was 153.4 employees. Contrary to the general requirements for inclusion as small scale, the public companies also exceed the normally accepted maximum of two management personnel. A public company through associations as subsidiaries to larger companies has access to a range of management skills. Such avenues enable a great deal of interaction at the management level and therefore professional advice is available from a number of management specialists. This very lack of management skills is seen as one of the major problems facing the small businessman. Likewise with reference to finance, public companies are in a much more powerful bargaining position than the smaller firm, access to which small

firms find difficult to gain. On all counts a strong case can be made for the exclusion of all public companies from being entitled small scale.²

Those activities which employ managers had an average size of 82.5^{3,4}, in 1977. Important differences emerge when considering owner-managers and the size of the firm. The average firm size was much lower at 30.6 (National average 1973/4 31.8.) Nineteen of 21 owner-operated firms or 90 percent are small scale while only 7 of 22 (31.8%) appointed manager firms are small scale. The average size of the small scale firm in 1977 was 17.4 employees.

Product Ranges

The responding firms were dominated by the engineering and electronic industries with the main products ranging from heavy machinery to electronic sound systems. Some examples from the engineering industry include hydro-turbines, forklifts, tractor based equipment, aircraft parts, hospital beds, industrial thermometers and harbour sector lights. Electronic components consist of computer software, colour television and radio receivers, inverters, rectifiers and other assorted scientific instruments.

Other products from unrelated firms include sports equipment, medical products, fine chemicals, optics, rennet and cheese as well as frozen and dried foods.

In the engineering field a number of firms are general engineers which can best be described as 'jobbers', but may produce a side product which they market.⁵

Age Characteristics of Firms

Some of the firms incorporated within the population have their origins over 50 years ago. Table 3.1 displays the age characteristics of all the firms as well as those specifically termed small scale.

For those firms that are small scale there is a

clustering in the 1970's, however, it is also important that a number show that they have been small for some time and are perhaps likely to stay small. This does not necessarily reflect an inability to grow or expand. (Hart, 1978.) Le Heron and Devlin (1977) note in fact that "even after the fight for survival and the drive for growth, most will remain throughout their life, small sized enterprises".

(Le Heron and Devlin, 1978.)

MANAGEMENT FUNCTION

The results shown in Table 3.2 indicate that the management positions are stable and within the small scale sample the stability reflects the number of owner-operators.

Despite the length of time management has been employed within their present occupations, a high standard of qualification is evident. (Table 3.3) This perhaps indicates a closer association to the scientist entrepreneur rather than the 'Bolton Man' typical of the 1950's and 1960's, even though over 50 percent of the firms were established prior to 1967. The dominance of University and Professional qualifications are a feature of management control of these firms. This contrasts with Willis (1973) where management were on the whole less qualified than the Small Scale High Value manager.

Previous employment revealed that seven managers had been employed in a similar role as they now occupy. Three had risen to the management position from within the firm. The remainder had moved from a practicing position into a managerial job, a number establishing themselves in their own business. This is a typical or common progression where people with high expertise work initially within a firm and after a period of time leave to establish their own business, often going into competition with the previous employer.

Table 3.1

AGE CHARACTERISTICS OF FIRMS

Age in Years	Total Sample		Less than 50	
Under 5 years	5		5	
5 - 9	12	17	9	14
10 - 19	10		5	
20 - 49	8	18	4	9
50 - 99	6		1	
100 +	2	8	0	
	43	43	24	24

Source: Field Survey 1978

Table 3.2

LENGTH OF MANAGERIAL CONTROL

Length of Control	Number	Less than 50
0 - 2 years	6	4
3 - 5	6	5
6 - 10	14	7
10 + years	13	8
	39	24

Source: Field Survey 1978

Replacement and Succession Problems

A very real problem of small scale businesses which are owner-operated is the question of succession. What happens to a firm when the motivating force behind it can no longer continue? Devlin and Le Heron (1977) found that planning for the future of the business in terms of succession and growth in manufacturing was considered important by 32 percent, ranking it as the third most important problem facing manufacturing firms.

The degree of succession problems is set out in Table 3.4. Almost half of the owner-operated firms are faced with a somewhat insecure or uncertain future. The death or inability of an owner-operator to continue could well entail the closure of the firm. For appointed managers, succession is less important due to the very nature of their condition of employment. A search for a suitable replacement would be undertaken by the interested parties, an action unlikely to occur under owner-operated status.

Contrary to the findings of Devlin and Le Heron and overseas experience, the small scale firms see succession as less important. Over 50 percent of owner-operated small scale firms have either a replacement or somebody capable of continuing the business on hand.

VALUE OF PRODUCTION

Turnover categories were included to establish in general terms the value of production. Table 3.5 depicts the frequency of results according to category.

The rise in turnover/sales is especially important in categories J and K where the numbers have doubled since 1973. Similarly an important feature of the small scale firms is the increase from 1 firm earning \$500,000 plus in 1973 to 9 in 1977. Three small scale firms had turnovers in excess of \$1 million. In all turnover figures were obtained for 32 firms. This established an aggregated value of production at

Table 3.3
MANAGERIAL QUALIFICATIONS

Qualifications ¹	Appointed Manager		Owner Manager	
	Sample	Less than 50	Sample	Less than 50
University, Professional	12	6	13	9
Technical	8	4	9	7
Secondary School	2	2	3	3

Source: Field Survey 1978

- 1 It was possible to hold both University/Professional qualifications as well as technical skills. Secondary school only shown if no other qualifications were indicated.

Table 3.4
MANAGERIAL REPLACEMENT
(Succession)

	Appointed - Manager		Owner - Manager	
	Number	Percent	Number	Percent
Firm has a suitable replacement to take over as manager	5	22.7	4	20.0
Firm has an employee with the required skills or is capable of running the firm	12	54.5	9	45.0

Source: Field Survey 1978

Table 3.5
 TURNOVER/SALES 1973 + 1977

Category	Turnover/Sales \$	1973		1977	
		Sample	Less than 50	Sample	Less than 50
A	under 10,000	1	1		
B	10,000 - 19,999				
C	20,000 - 39,999	3	3	1	1
D	40,000 - 99,999	5	4	2	2
E	100,000 - 199,999	7	7	7	7
F	200,000 - 499,999	8	6	7	7
G	500,000 - 599,999	1	1	1	1
H	600,000 - 799,999	2		3	3
I	800,000 - 999,999	1		3	2
J	1,000,000 - 1,999,999	4		9	3
K	2 million +	6		11	
TOTAL		38	22	44	26

Source: Field Survey 1978

\$65.3 million. This represents 1.24 percent of the national total value of production. Nine firms with turnovers in excess of the minimum \$2.0 million totalled \$48.3 million. Add the minimum \$4 million for the remaining 2 firms and over \$52.0 million is accounted for by 11 firms, equalling 79.6 percent of the total value of production. Critically important is the fact that none of these 11 firms are small scale operations.

Table 3.6 clearly reveals that the firms included within this sample live up to their inclusion as 'high value'. However for the small scale firms the situation is less clear. Devlin and Le Herons' (1977) result closely mirror the figures of the Industrial Production statistics. Against this the small scale firms show a greater concentration in the $\$ \frac{1}{2}$ - 1 million category than do the national statistics. Two major considerations in dealing with this information should be noted. Firstly with reference to the small scale firms is the limitations imposed by the smallness of the sample. In more general terms, the role of inflation can not be omitted when considering monetary values as indicators either of size or economic performance.

A tentative conclusion could be that Small Scale High Value firms have higher performance levels than their counterparts in the New Zealand manufacturing economy.

THE ROLE OF LABOUR

The average size of all the sample firms in 1973 was 49.4. By 1977 it had risen to over double the national average (31.8) to 71.5. The Small Scale High Value firms constituted 1.07 percent of total manufacturing employment in 1973. An increase in gross terms of 512 jobs over the four year period was offset by the loss of 65 jobs, through the reduction in numbers employed by 7 firms. This leaves a net increase of 447 positions.

Of the small scale firms in 1973 only 3 experienced employment growth to such an extent that they passed

Table 3.6

VALUE OF PRODUCTION

Value of Production	Less than 50 ¹ %	Sample %	Devlin + Le Heron ² %	New Zealand ³ %
Less than 500,000	50 (8)	38.6	80.1	78.8
5000,000 - 999,999	31.2 (5)	15.9	8.5	9.7
1 million plus	18.7 (3)	45.5	11.3	11.5

Source: Field Survey 1978; Devlin and Le Heron 1977;
Industrial Production Statistics 1973/4.

- 1 Actual number of firms shown in Parenthesis.
- 2 Data from Devlin and Le Heron, (1977). 94.5 percent of the firms in the sample of Devlin and Le Heron employed less than 50.
- 3 Data from Industrial Production Statistics 1973/4.

beyond the maximum of 49 employees. Of these, 2 employed in 1977 50 and 52 respectively. No firms declined in employment numbers therefore qualifying for inclusion as small scale.

Over the next 5 years, 21 indicated that they envisaged very little expansion or growth if any, in terms of employment numbers. Fourteen of these were small scale firms actually employing in all cases less than 30 people. It would seem likely on this basis that only a very small number of employment opportunities would be created by small scale firms over the next five years.

Of those 21 firms that did not anticipate any growth, 5 (out of 12) were from level 1, 10 (out of 17) from level 2, 1 (3) from level 3 and 5 (10) from level 4. Table 3.7 displays the total number of jobs offered and the average size for each urban level. While levels two and four are seen to be unlikely to grow much, they offer the most important opportunities at present. Those firms in level four offer quite important employment opportunities within their respective geographical locations.

Firms at all four levels of the urban hierarchy were faced by a shortage of skilled labour and this was the main common element. Level 1 and 2 firms were very similar with equal distribution of owner-operators and managed firms and they were free from labour turnover problems. Level three firms had no problems with regard to labour turnover and only a very minor shortage of skilled workers. Level four firms on the other hand had very clear labour turnover problems as well as major difficulties in attracting skilled labour.

Labour Turnover

Only a small proportion of the firms (16%) considered labour turnover a problem. Two of these seven firms were small scale units. More importantly six of these firms also experience difficulty in attracting and retaining skilled labour. All bar two of these firms

Table 3.7

NUMBERS EMPLOYED ACCORDING TO THE
URBAN HIERARCHY

	Number of Jobs	Average Size
Level One	550	45.8
Level Two	1,111	65.3
Level Three	62	20.6
Level Four	658	65.8

Source: Field Survey 1978

employ a large number of skilled labour and it would seem likely that the labour problem is one of retaining skilled employees. The seventh firm has only a very small number of skilled staff and therefore the labour turnover is one of unskilled labour.

In terms of location two firms are found in the small regional centres and it is likely that the nature of their location, impedes their ability to attract and compete successfully for skilled labour. Overall, the more serious problem of attracting and retaining skilled labour existed in 16 firms with a further 3 firms having difficulty in attracting but not retaining skilled labour. The attraction of skilled labour was ranked as the fourth major problem by manufacturing firms. (Devlin and Le Heron, 1977.)

An attempt was made to compare the number of skilled workers within the group which experienced difficulty in attracting skilled labour with those firms which did not have such a difficulty, but almost no difference was found. The first group had an average of 45 percent skilled workers per firm while the latter group had an average of 44 percent. In other words those firms which faced difficulties in attracting and or retaining skilled staff did not have a higher component of skilled staff than the other firms.

A partial explanation for these problems was the general recognition of a national shortage of skilled personnel within the engineering and electronic industries.

Smaller firms, as noted in Chapter 2, found that they were unable to pay salaries and wages equivalent to larger companies, which restricted the bargaining power of the smaller firm and it is a distinct disadvantage in trying to attract skilled technicians into the smaller firms and the smaller urban centres.

Industrial Relations

A number of authors have stressed the apparent harmony between employers and employees as an important

feature of small firms.⁶ This same quality of industrial harmony is a feature characteristic of the Small Scale High Value firms, especially relevant to the New Zealand context. Thirty nine firms have never had a serious strike or stoppage. Only 1 firm has had such a strike and that was a public company employing in excess of 300 employees. Under any criteria such a firm could not be considered small scale.

Table 3.8 compares the nature in general terms of union membership. For the sample as a whole about 67.5 percent of employees are either all or mostly members of a trade union. For small scale firms this is less at 58 percent. Small scale firms account for all six firms which have no union involvement. Absence of union membership cannot be promoted as a major factor in explaining industrial harmony.

A characteristic is then the relative calm which exists and always has existed between employers and employees, irrespective of the various policies instilled by management. Despite what Rudman (1977) has to say, there seems through the general lack of an acceptable explanation for this calm, that in the small firms at least industrial harmony is inherent in small scale activities and is a direct consequence of smallness.

Few firms in the sample were able to adequately explain industrial relations within the firm. Very few specific policies aimed at improving management-worker relations or productivity came to light although 7 firms endorsed policies of worker participation in the decision making process, and 5 firms used profit sharing or incentive schemes.

Labour Skills

The level of qualifications held by the workforce in the sample shows the predominance of skilled and professionally qualified people. (Table 3.9.) This is reinforced by small scale firms where 78 percent of the employees are either skilled or semi-skilled.

Table 3.8

UNION MEMBERSHIP

	Sample		Less than 50	
	Number	Percent	Number	Percent
All	12	27.9	6	23.1
Most	17	39.6	9	34.6
Some	8	18.6	5	19.2
None	6	13.9	6	23.1
	43	100.0	26	100.0

Source: Field Survey 1978

For every one unskilled worker in small scale firms there are 4.5 semi-skilled or skilled workers.

The high ratio of skilled and professional employees to unskilled labourers is an interesting characteristic of the firms studied. (Table 3.10.) This is in keeping with the high technical content of the engineering and electronic industries. Differences are even more noticeable in the small scale firms. For every two skilled workers there is only one unskilled worker. This means that smaller firms have a more important specific labour demand for skilled rather than unskilled workers. Small scale firms on this evidence offer only very limited employment opportunities for unqualified members of the labour force.

The proportion of labour with skills to unskilled workers was calculated for individual firms. Aggregated into percentage groups twentyfour firms had an unskilled labour component of less than 25 percent of total numbers employed. Only two firms had an unskilled component comprising over 75 percent of those employed. Skilled labour however held over 75 percent of total employment in eleven firms while thirteen firms had skilled labour providing less than 25 percent of total employment. In contrast Willis (1973) found that the level of skills were not high in exporting firms in Wellington. In over 75 percent of all firms, skilled managerial and technical personnel made up less than 10 percent of total labour force. (Willis, 1973, 165.)

Training for employees was not a very important problem according to the results of the Devlin and Le Heron (1977) research. In this sample 21 firms offered and held apprentices, 10 of which were small scale firms. Nine firms encouraged staff to participate in external technical training courses.

Salaries and Wages

The total salaries bill for the sample in 1977 was \$15.3 million. This represented only a very minor

Table 3.9

LEVEL OF SKILLS OF EMPLOYEES

	Total Sample			Less than 50 Employees		
	Number	%	ratio to total	Number	%	ratio to total
Unskilled	936	35.6	1:2.8	83	22.0	1:4.5
Semi-skilled	671	25.5	1:3.9	140	37.0	1:2.7
Skilled- Professional	1023	38.9	1:2.5	155	41.0	1:2.3
Total	2630	100.0		378	100.0	

Source: Field Survey 1978

Table 3.10

SKILL RATIOS

	Sample			Less than 50		
	Unskilled	Semi-skilled	Skilled	Unskilled	Semi-skilled	Skilled
Unskilled		1:0.72	1:1.09		1:1.7	1:1.9
Semi-Skilled	1:1.39		1:1.52	1:0.6		1:1.1
Skilled	1:0.9	1:0.66		1:0.5	1:0.9	

Source: Field Survey 1978

(less than 0.01 percent) of the 1973/4 salary and wages cost.

The rising cost of salaries and wages is becoming an increasingly important factor in the production costs of firms regardless of size. For those firms which have remained stable in the number of staff employed, salary and wage costs have increased at an average of 1.6 times over the period 1973-77. For those firms which have declined in size, salary and wage costs have increased 1.3 times since 1973. Those firms experiencing growth in employment numbers have seen a massive 4.45 times increase in the cost of labour.

On the evidence of Table 3.11 the average wage paid to the sample employees is considerably higher than the national average in 1973. The only exception in both 1973 and 1977 is the wage averages for firms employing less than fifty employees. Bolton, Clarke, and Kelly among others all identify an inability of small firms to compete successfully with larger firms in wage and salary scales.

INNOVATION AND TECHNOLOGY: RESEARCH AND DEVELOPMENT

Blyth (1963) noted that "at present the type and quantity of research effort needed for a continuously successful exporting of manufactures does not exist in New Zealand. New Zealand manufacturing is still heavily dependent on imported techniques and ideas and the result of overseas research". (Blyth, 1963, 23.) Cunningham (1975) and Le Heron (1978) both provide evidence that New Zealand is still dependent upon the adaptation or adoption of foreign technology. Both do, however, note the successes of some small firms "who have chosen an active stance as far as innovation is concerned". (Le Heron, 1978, 17.)

The population of firms from which evidence is drawn were interpreted as having outstanding features, one of which was being technically orientated. This claim is supported by the high ratio of skilled to

Table 3.11

AVERAGE WAGE PER EMPLOYEE

	1973	1977
Engineering	4714	7158
Electronics	5116	7032
Other	5221	7125
Less than 50	4164	6377
Total Average	4951	7104
National Average 1973/4	4262	1

Source: Field Survey 1978; Industrial
Production Statistics 1973/4.

¹ Up to date information was not available.

unskilled workers. Likewise the high number of skilled and professional people is in keeping with the advanced nature of these activities technically and their involvement in industrial research and development.⁷

In 1973/4 there were 1,484 people employed in industrial research and development. This represented 0.60 percent of the total numbers employed in manufacturing activities. The chemical (4.6%), machinery (1.4%) and electrical (1.6%) industrial groups all have above average numbers employed in R & D, with the latter two being well represented in the sample. With a total of 148 people employed in research in 1977 a high 4.9 percent was calculated for the sample. 36 people were employed by small scale firms accounting for 9.05 percent of employment. Small firms are then very active in the field of research and development.

Taylor (1977) notes that inventiveness in New Zealand is highly localised and concentrated in the main population centres.⁸ On the basis of his evidence, Taylor (1977) has suggested that "there is an urban hierarchy effect in inventive activity with increasing size bringing a disproportionate increase in rates of inventiveness". (Taylor, 1977, 336.)

Taylor also found that private inventions which account for 69 percent of all manufactured inventions tended to be less strongly polarised than institutional inventiveness, especially in the North Island. For the South Island institutional activity predominates while private inventive activity was of only minor importance.

Results from the small scale survey show that by far the majority of firms are involved in R & D, irrespective of size and location (including South Island firms) and through this medium the generation of invention and technological change play important roles in promoting and stimulating the regional and national economy.

Small urban centres (level four firms) and small scale firms can be and are important perpetrators of technological change, innovation and invention.

Firms within the sample have been described as technically advanced or technically orientated. Table 3.12 illustrates this quite clearly. Nearly 70 percent of the sample firms manufacture products unique to the firm, while small scale firms have just over 80 percent of products unique to the firm. In Willis (1973) 60 percent of the firms had designed their own export products (or significantly modified other designs). Sixty-nine percent of the sample products are technically advanced with small scale firms having a higher 80 percent technically advanced.

In the same manner Table 3.13 reveals important variations between the nature of the product and the production process. Only 34 percent for the sample and 36 percent for small firms have unique production processes. Further to this only 46 percent are technically advanced. The emphasis is rather on production processes which are up-to-date rather than advanced.

Reasons were sought as to why firms did not have technically advanced production processes. The most logical reply was that it is not necessary to have advanced technology to satisfy a customer's needs. Also research and development costs into both new products and techniques are prohibitive especially to the smaller firms and as a consequence effort is centred on product invention or innovation.⁹ As a result a number of firms utilise standardised procedures which are up-to-date but not advanced. Many firms are involved in constantly keeping up-to-date but not in the extra step of inventing or innovating advanced techniques.

Furthermore especially in engineering firms, heavy plant and equipment is made to last and with the high replacement costs of new and improved machinery, financial constraints severely restrict the manager from employing new and advanced techniques.¹⁰ Established methods which are perceived to be relatively efficient are consequently retained.

Also important is that the market size does not justify heavy capital investment in highly advanced

Table 3.12a

UNIQUENESS OF FIRM PRODUCTS

	Number of firms	%	Yes + No ¹
Sample firms with unique products	26	68.42	6
Less than 50 firms with unique products	20	83.3	2

Table 3.12b

UNIQUENESS AND TECHNOLOGICAL CONTENT OF PRODUCTS

	Sample		Less than 50	
	Number ²	%	Number	%
Products unique and technically advanced	22	47.83	14	58.33
Products not unique but technically advanced	5	10.87	3	12.5
Some products unique and some not but are technically advanced	5	10.87	2	8.33
Total technically advanced	32	69.57	19	79.17
Up-to-date but not advanced	14	30.43	5	20.83
		100.00		100.00

Source: Field Survey 1978

- 1 Yes and No refers to some products that are unique while others are not.
- 2 Similarly some products were given dual rankings i.e. some products were technically advanced while some were up-to-date but not advanced.

Table 3.13a

UNIQUENESS OF FIRM PRODUCTION
PROCESS

	Number of firms	%
Production Process Unique	14	34.15
Less than 50 firms with unique process	9	36.0

Table 3.13b

UNIQUENESS AND TECHNOLOGICAL CONTENT OF PRODUCTION
PROCESS

	Sample		Less than 50	
	Number	%	Number	%
Process unique and technically advanced	11	26.83	8	30.77
Process not unique but technically advanced	8	19.51	4	15.38
Total Processes Technically advanced	19	46.34	12	46.15
Process unique and up-to- date	3	7.32	2	7.69
Process not unique and up-to-date	17	41.46	12	46.15
Total process up to date	20	48.78	14	53.84
Not up to date	2	4.88	-	-
		100.00		100.00

Source: Field Survey 1978

techniques and this is associated with in many cases the limited quantity of throughput of most small firms.

By examining the role of R & D it becomes clear why there is a large proportion of unique and technically advanced products being marketed. A concentration of effort by research staff in producing technically advanced products is a feature of the nature of R & D work undertaken.

Table 3.14 indicates that an almost continuous search for new and improved products is being carried out by nearly every firm. Small scale firms show a definite emphasis on developing new products. The same situation does not exist in relation to the production process. A significant decline in effort takes place both in the lower number of firms active in R & D and also in the concomitant drop in the number of firms employing full time and part time researchers for this purpose.

In general terms firms are much more concerned with the invention and innovation of products rather than the processes of production. The need to attain an advantage of product design or quality is seen as fundamental to success.

Is the ability of a firm to achieve the lead time advantage a vital factor in committing resources to R & D regardless of size? The role of small firms in invention and innovation is highly contested. The response to the survey provides some evidence that small scale firms are not only technically advanced but also important sources of invention and innovation. The question of size in R & D is not their involvement as such but their ability or capacity to invent and innovate. Small firms do not have enough resources available to invest heavily in R & D, unlike the larger firms which can absorb R & D costs and concentrate on and persevere over longer periods of time. Thus small firm R & D programmes are limited by cost and equally important by time.

Table 3.14

PRODUCT AND PROCESS RESEARCH AND DEVELOPMENT

Firms involved in:	Sample		Less than 50	
	Number	%	Number	%
Developing new products	38	86.36	22	84.62
Modifying existing products	34	77.27	16	61.54
Developing new processes	21	47.73	11	42.31
Modifying existing processes	22	50.0	12	46.15

Source: Field Survey 1978

Table 3.15

INNOVATION AND INVENTION

The number of firms involved in:	Sample		Less than 50	
	Number	%	Number	%
Adopting or adapting technology that is already being used in New Zealand	21	48.84	12	46.15
Adopting or adapting technology into the New Zealand context	37	86.05	20	76.92
Developing totally 'new' technology in both a national and international context	12	27.91	7	26.92

Source: Field Survey 1978

According to Table 3.15 just under 50 percent of the firms involved modify in one way or another existing technology to accommodate their own specific demands. For 86 percent of the firms product and or production processing techniques have been borrowed from overseas activities and introduced often in a modified form to the New Zealand context. (Process of innovation.)

Twelve firms have been responsible for the invention of totally 'new' technology.¹¹ Seven of the twelve firms were small scale activities. In suggesting this association with invention it should be considered within the context that as far as the inventor or firm utilising such invention is aware, it is new.

LIMITATIONS TO GROWTH

The main factors which were perceived to be limiting the growth of the firm were ranked by respondents. Very generalised factors were used and they are included in Table 3.16.

Problems associated with marketing were seen as primary constraints on growth. Inherent in the small scale concept is the absence of a specialised management structure. Successful marketing is a specialist function and can not be easily done while trying to carry out at the same time a number of equally important functions, not the least of which is continuing to run the firm. Marketing problems were also found to be important by Duffey (1976) and Willis (1973). Marketing was ranked seventh in the main problem areas by Devlin and Le Heron (1977).¹² Improved export management was ranked as the most important reason for increasing export sales. (Bedkober, 1972.) Marketing is then a very real problem, further complicated by the fact, that small scale operators are seen to be characterised by a reluctance to consult or enlist outside assistance from suitably qualified people. (Bolton, 1971; Devlin and Le Heron, 1977.)

The cost of transporting finished products and the cost of raw materials and physical locations are all

Table 3.16

MAIN PROBLEM AREAS LIMITING GROWTH

	Sample	Less than 50	Sample	Less than 50
	Weighted Score ¹	Weighted Score ¹	Ranking	Ranking
Marketing Problems	74	44	1	1
Cost of transporting finished products	53	19	2	3
Cost of Raw Materials	35	17	3	4=
Physical location	29	15	4	7
Cost of labour	25	16	5	6
Lack of access to financial resources	24	21	6	2
Other ²	23	17	7	4=

Source: Field Survey 1978

- ¹ Weighted Score: The three main limitations were ranked. Those ranked one, two and three were given a score of 6,4 and two respectively. Where limitations were indicated but not ranked a score of 1 was given.
- ² Other, included such limitations as, limited size of the local market for specialised products (firm was located in Auckland), availability of raw materials, time needed to have products accepted, shortage of skilled tradesmen, competition and the need to improve efficiency and quality of products.

interrelated and were ranked second, third and fourth. Small scale firms differed with the notable exception of physical location which earned the lowest or least important ranking. These three factors can be seen as a result of three important conditions. Firstly, the cost structure of the internal and external freight charges, secondly the physical location of the production centre and the destination of products (market location) and thirdly the nature of the product (or raw material) in terms of size and weight. All three are interrelated and interdependent.

Despite government assistance in meeting the high transport charges incurred in South Island centres, a number of firms still find the costs prohibitive. In conjunction with the South Island firms, activities located either in relative isolation and/or small town centres in the North Island, also suffered from the high cost of transport. High transfer costs in North Island firms was largely one of bulk, while in the South Island it was one of geographical location and the cost of bridging Cook Strait.¹³ As a result physical location was a limiting factor on growth. Four North Island and five South Island firms felt their location was unsuitable in the light of their activity and the cost structure of the firm which has evolved. Two firms felt their location in New Zealand was a problem. Both export their entire production.

Lack of access to financial resources overall was relatively minor. However, for small scale firms it was ranked second. Devlin and Le Heron found for manufacturing firms that finance for plant and machinery, finance for large orders and raising day to day working capital were important problem areas. This further testifies to the almost universal 'fact' that small firms have a great deal of trouble in gaining access to financial resources. The New Zealand situation is no different.

One final comment raises the question of quality of

management as a limitation on the success of the firm, a quality which is difficult to measure. Two respondents attitudes were firstly the lack of interest in promoting the firms products due to the uncertainty of profitability in return for required effort to increase output. The second was quite simply 'I couldn't care less' attitude. The success of the small scale firm inevitably rests upon the character of the owner or entrepreneur and his ability or competence in administrative procedures as well as dealing with labour relations, his perception of business and production techniques, role of efficiency and productivity and especially in recognising marketing opportunities.

PLANNING FOR THE FUTURE

Manufacturing firms are dynamic and the births and deaths of firms is a constant 'fact of life', especially for small scale units. The success or otherwise is largely a consequence of managerial ability. It was established in Chapter 2 that the demise of many firms was a result of inadequate financial management, the keeping of incomplete financial records and a lack of budgeting or planning for the future. This lack of planning for the future, is an important problem area. (Coffey, 1976; Devlin and Le Heron, 1977; Willis, 1973.) It appears that there are few people or organisations available to assist those small firms that want to grow, in budgeting and planning, for the future. (Duffey, 1976.) Operating in the short term (i.e. month to month) can severely limit the firms growth potential. (Duffey, 1976.) Table 3.17 shows that 9 firms, 7 of which are small scale, did not have any written plans or budgets for the next financial year. A number of these typically owner-operated activities pointed out that they survived by the month or week. Planning for the future in these instances were seen as futile as they fought for survival. Thirty-four firms had written plans or budgets for a period ranging from one to five years. In general the firms are engaged in planning their future, an important

ingredient in successful management and survival.

Using employment as an indicator of growth 22 respondents (15 were small scale firms) suggested that they did not expect to be markedly different in five years time, and they predicted that employment numbers would be within plus or minus nine of the current number employed. The last group (Table 3.18) expecting to increase employment by 50 or more were fast growing firms and this prediction was consistent with the growth in employment numbers from 1973 to 1977. Eleven firms expected fairly substantial growth. Small scale firms expected only a little growth although 2 firms expected to increase by 50 employees or more.

INDUSTRIAL PROTECTION AND GOVERNMENT INCENTIVES

Associated with the call for industrial diversification was the recognition that protection of the manufacturing sector would be necessary. As a result, New Zealand opted for a heavily protected industrial environment. (Rose, 1969.) Elkan (1972) calculated that the effective protection of manufacturing rose from 50 percent in 1965-8 to 73.4 percent in 1964-7. It was concluded that "the average level of effective protection has been found to be much higher in New Zealand than in any industrialised country. (Elkan, 1972, 83.)

The import protection received by the import substitution industries plays an important role in increasing the costs of exporting firms, which as a result necessitates the provision of assistance and incentives in some form to these firms. (McLean, 1978.) It has been clearly established that government subsidies and grants play an important role in promoting exports. (Bedkober, 1972; Crisp and Huges, 1972; Sloan, 1977; Willis, 1973.)

A fairly high degree of exporting has been found to exist amongst the sample of firms. Altogether 27 firms, of which 15 are small scale, received government assistance in some form. Sixteen qualified for the

Table 3.17

PLANNING FOR THE FUTURE

Written Plan or Budget		Owner	Manager	Public	Total	Less than 50
		Manager	Manager	Public	Total	50
	None	8	1	-	9	7
A	Next financial year A	8	8	1	17	13
B	Next 2-5 years A + B	5	8	4	17	5
C	Next 6 plus years A + B + C	1	3	-	4	1

Source: Field Survey 1978

Table 3.18

ESTIMATED CHANGES IN EMPLOYMENT

Increase in Employment Numbers	Number of firms	
	Sample	Less than 50
± 9	22	15
10 - 19	5	6
20 - 29	3	2
30 - 49	5	-
50 +	6	2
	19	10

Source: Field Survey 1978

Export Incentive, 6 for the Development Finance Corporation loans (D.F.C.), 5 each for the Industrial Research and Development grants, and export tax incentives. High Priority status was awarded to New Zealand Pharmaceuticals, a small scale firm located in Linton.

Between 1972-76 762 projects received the approval of D.F.C. for financial assistance. 68 percent went to small scale businesses. Half of the loans were for \$50,000 or less. (Franklin, 1978, 215.)

INTER-URBAN AND INTERNATIONAL FLOWS

The total contribution of exports was valued at \$7.3 million in 1977. The export earnings of the small scale firms was \$2.8 million. The average export value (as a percentage of turnover) was 19.9 percent overall and 31.05 percent for the small scale firms. These results were highly influenced by the presence of two firms whose total production was exported. (Both are small scale firms.) Nine firms had exports representing less than five percent of turnover.

Exports expressed as a share of production shows similar results. On average the firms exported 19.4 (22.3 for small scale) percent of total production. Important implications of this are that only a few firms reach the required level of exports to qualify as an 'export orientated' firm. Export orientation was expressed as a feature of these firms. It is generally accepted that about 30 percent of production needs to be exported to enable a firm to qualify as being export orientated. Based on this criteria only 8 out of 41 firms are export orientated. Sloan (1977) found only two firms which could be labelled as export orientated. Similarly Willis (1973) concluded that most firms in his study were not export orientated.¹⁴ 65 percent of firms exports made up less than 10 percent of total sales. Three firms exported over 50 percent of sales.

Of the total, 33 firms (19 small scale) are involved in exporting some portion of their production. This

does mean that the sample of firms has a very high involvement in exporting. Nine firms of which six are small scale fail to export anything at all.

The interaction and flows of supply and demand (forward and backward linkages) of these firms offer an opportunity to consider the impact in generalised terms of the firms on their local urban centres. By reworking the supply and demand information into the respective hierarchical urban centres the following conclusion can be drawn. The lower down the hierarchy (from large centres to small) the greater the demand for raw materials drawn from outside the local area. In other words the provision of the firms raw materials cannot be met through local resources. Thus the smaller the centre the higher the dependence on imports for raw materials. Two important aspects follow from this. Firstly, through the inter-urban connectivity for raw materials there is an outward flow of capital resources. (Leakages to the system.) Secondly it can be inferred that many manufacturing firms located in these lower order centres do not exploit local resources.

In these small urban areas 90 percent of production is exported outside the local area. The predominance of basic activities creates an important inflow of capital resources.

At the top of the hierarchy, level 1 displays different characteristics as a result of the size of the local economy. A much larger proportion of raw materials required are available within the local area. Consequently they are less dependent on imports than the level four firms. However, due to the size of the market a great deal more of the production is sold within the local area, therefore exports are less important in level one than they are in the lower levels. As a result a larger flow of resources circulates within the local economy (i.e. non-basic activities).

Due to the size of the local economy this sector is less important as it holds only a minor place relative to

the size and the variety of the industrial base of that economy. At level four the economic health of a local region is much more dependent on fewer industrial activities.

The New Zealand Component

The mean for the New Zealand component was 74 percent. For small scale firms it was 75 percent. The modal values for both the sample and small scale firms is 80 percent.

Consequently the firms involved display a large New Zealand content in the products they produce. This is important in that these firms are exploiting New Zealand located resources.

This contrasts to both Crisp and Hughs (1972) and Scott (1978) who suggest that it is generally true that New Zealand manufactured goods have a high import content.

Constraints on Exporting

The main constraints on firms exporting were considered similar to those which limited growth in general. This is seen mainly as a result of managerial policy or attitude. Firms regard exports as an extension of the home market rather than as an alternative growth specific strategy at the expense of the home market. (Bedkober, 1972; Willis, 1973.)

Marketing and finance were the major limitations experienced by exporting firms. Instrumental in the marketing problem is a lack of contact or communications with reference to obtaining export information and engaging in the export field. Anon (1976b) notes the importance of fast and efficient communications as the key to successful exporting. Similarly Devlin and Le Heron (1977) found that obtaining export information and the actual involvement in exporting were major problems faced by manufacturing firms.

Financial considerations covered the need for capital to replace and up date machinery and equipment to improve

efficiency and to permit the expansion of production capacity. A number of small firms had received export orders which were beyond their financial capacity. Willis (1973) notes that constraints of this sort posed serious disadvantages to small firms.

CONCLUSION

This presentation of results with reference to Small Scale High Value firms in New Zealand provides some insight into the contribution of this component of the small business sector to the New Zealand economy. In nearly all cases this contribution is a relatively small one if not a minor one. However, a number of features are evident which are normally associated with firm growth and economic growth. Overall the distinguishing feature of the Small Scale High Value firm is their technological orientation.

The regional and industrial policy implications of these points is the subject of the last chapter.

FOOTNOTES

- 1 Appointed Managers refers to management without a legal interest in the firm. It is important to note that unless appointed manager is specifically indicated 'manager' refers to owner-operators as well.
- 2 Under the Small Business Agency criteria a public company cannot utilise the services offered by that agency.
- 3 111.5 if Public Companies are included.
- 4 1973/4 National Average 31.8.
- 5 A 'jobber' is basically a firm which produces a product to the customers specifications rather than for the market at large. Some electronic firms were also of this nature.
- 6 Bolton, 1971; Clarke, 1972; Kelly, 1972, and others refer to Chapter 2.
- 7 Hereafter referred to as R & D
- 8 Inventiveness is measured by applications to patent inventions.
- 9 See Table 3.14.
- 10 Ranked as the second most important problem facing manufacturing firms in Devlin and Le Heron (1977).
- 11 Examples of these inventions are included in appendix D.
- 12 Besides marketing and selling the two most important problems were engaging in exports and obtaining export information.
- 13 Further disrupted with the removal of the Lyttelton-Wellington ferry.
- 14 Both Sloan (1977) and Willis (1973) studied export firms specifically.

CHAPTER 4

INDUSTRIAL AND REGIONAL POLICY IMPLICATIONS

Structural change and the development of the New Zealand economy are seen as important if not imperative to the welfare of New Zealanders. The contribution manufacturing can make to the achievement of these aims is under scrutiny. There is much demand for a concerted and decisive industrial policy. At this stage no such industrial policy exists. The relative merits of the components of the industrial sector need to be assessed and the difficulties or problem areas inhibiting development recognised. The Small Scale High Value firms comprise a very small component of the industrial sector. Having established the relative merits and features of small scale high value operations, this sector can be assessed from national and regional policy perspectives. Discussion in this chapter centres upon the management function, the labour factor, technological content, and the economics of the Small Scale High Value firm. Finally the regional growth of Small Scale High Value firms and the importance of decisive management and marketing strategies in the promotion of exports and economic growth and development are commented upon.

MANAGEMENT FUNCTION

One of the major problems associated with small scale and the matter of management is the concern over definition. The management function is an important ingredient in determining and identifying small scale firms. In the light of this a three-way classification relating management to firm status is suggested. The three components are firstly owner-operators, secondly appointed managers and thirdly those small scale units which are associated with the large scale corporate enterprises. This classification was deemed to be

necessary because of the differing approaches to the administration and functioning of firms according to the 'type' of ownership and control. The relative importance of problems in small firms differ according to the legal status and form of management. The complexities of a diverse role of small scale is accentuated by the form of managerial control. The problems of small scale owner-operated firms are in stark contrast to the problems of small scale firms which are subsidiaries of larger firms. Under most definitions this latter group would be excluded, but the three way classification enables it to be incorporated while identifying it as being beset by conditions at variance with owner-manager or appointed manager firms. The differentiation between owner-operators and appointed managers is a fine one. The reasoning is two-fold, firstly the business drive associated with running ones own firm (the entrepreneur) and secondly the appointed manager's responsibility to financial investors in the firm. The entrepreneur is free to make his own decisions while the appointed manager must consider the attitude and reaction of his employers.

But what of some of the major problems facing managers of small scale firms. Undoubtedly the two most important at least to owner-operators and managers are marketing and the availability of or access to finance. The lack of marketing expertise can severely restrict the growth and success of the small firm. (Duffey, 1976.) This is especially true if the firm is marketing a new product. Allan Parker makes two observations which are relevant to small scale operators and inventers. Commenting on the invention of the spintiller, he notes that "inexperienced in the ways of commerce John (the inventor) then proudly set about marketing his new product - and almost went bust". (Parker, 1976,41.) John McCoomb recognised now that "there is nothing more dangerous than an inventor's enthusiasm for his own product". (Parker, 1976,41.) It was Big Company finance and know-how which enabled the product to 'take off' and has lead to patents in 38 countries.

It can be suggested that this sort of experience is wide spread and would lead to a similar conclusion as Datson that the development and marketing of inventions should be taken over by a larger company with the necessary resources and know how, or at least placed in the hands of a professionally established company who specialise in marketing.

Evidence was produced in Chapter 2 that financial mismanagement was a major cause in the collapse of small firms. Similarly the Reserve Bank identified inadequate management, particularly financial mismanagement, as well as a lack of financial planning in bringing about the downfall of firms in New Zealand. (Coffey, 1976.) The professional qualification of many of the managers was generally a technical expertise rather than an administrative or commercial qualification. Kaniuk (1975) found that 85 percent of the firms studied were established by people with engineering skills while 60 percent had no managerial skills. Small scale firms tend to be product orientated. The entrepreneur sets up a business not because he is a businessman but because they have a working knowledge of a production process even though they may know little about the buying and selling functions of the firm. (Duffey, 1976; Lee, 1973.) The administrative shortcomings of entrepreneurs and managers alike needs urgent attention if the small scale firms are to play an important and continuing role in the development of the New Zealand economy. In this respect a further important point relating management and labour relations policy is raised later under the sub-heading economics with regard to firm productivity. Both Frankin (1978) and Burdon (1978) suggest that the entrepreneur in New Zealand is inhibited by the social values of society against the making of profit. The association of success with materialistic exploitation act against the continued development and expansion of an entrepreneurial class. More important is Burdon's belief that the entrepreneur is not in a position to make a significant contribution to the development and restructuring of the New Zealand

economy.

The social climate and the pace of technology, all conspire against him. Of course you will continue to get entrepreneurial successes but taken overall, I cannot believe they will be of significant consequences and relatively speaking will be of declining importance.

(Burdon, 1978, 58.)

Entrepreneurial skill and a great deal of luck are the two most important factors determining the growth of owner-operated manufacturing firms. (Burdon, 1978; Lee, 1973.)

THE LABOUR FACTOR

The very small number of firms identified as small scale and the very slow growth in employment numbers between 1973-1977 by the majority of firms can lead only to the conclusion that any role that they might play in coming to terms with a rising unemployment situation in New Zealand will be minor, if not insignificant.

To compound the situation the sample firms main employment opportunities are for skilled tradesmen. This is also true for small scale firms. Employment opportunities therefore remain very limited. The 'skill thesis' propounded by Sutch (1957) and taken up by Willis (1973) offers further consideration of the skills of the New Zealand work force. Willis (1973) noted that

a large number of firms had no graduates, no professional or technically trained people on their salaried staff which would seem to make a case that some firms are not harnessing the benefits of New Zealand's educational system.

(Willis, 1973, 165.)

Brash (1976) on the other hand points to New Zealand's advantage of possessing a highly skilled labour force. The firms within this sample certainly support this claim. However it also belies the important problem of a shortage of skilled labour.

TECHNOLOGICAL CONTENT

As found in a number of studies, the sample of firms displayed a high technological content, especially in the production of high technology goods. This is by necessity associated with a skilled labour component and an emphasis upon industrial research and development. Small firms were found to be innovative and inventive. This feature of 'high technology' or technical progress is seen as essential in promoting exports and industrial and economic growth and development.

ECONOMICS

The sample firms display a relatively high value content or contribution to the New Zealand economy. Labelled 'Small Scale High Value' they appear to uphold this description relative to other small firms. As such, high value would infer high productivity rates essential to any economy aiming at increasing growth rates. Despite the claim that small scale firms tend to be very productive, the evidence suggests that these firms are neither more productive than other industrial components nor any less productive. The claim of high productivity can be at best described as unproven rather than unfounded.

What is seen as a vital factor in the industrial scene is the question of unused potential productivity. Stuart (1972) called for

employee involvement - 'real consultation' - at all levels and training in man management and industrial relations must be an integral part of any training programme in industry and commerce.

(Stuart, 1972, 27.)

Baumbeck (1968) and Rudman (1977) as previously mentioned have already stressed the need for management to promote productivity through sensible and responsible industrial relations strategies promoting worker involvement. The main problem is convincing management for this need when they can point to low absenteeism,

generally low labour turnover and the almost non-existence of strike or union action. All are seen and do promote increased productivity through the lower down time. However these attributes do not dispel the potential increase in productivity that could be gained from positive industrial relation policies. In this respect the growth of 'productivity groups' incorporating worker involvement and discussion about work procedures and habits within firms have met with general approval from both parties, management and employees.¹ This kind of approach should be fostered and stimulated in all spheres of industrial activity and especially in small scale concerns where the problem would seem to be essentially managerial attitude and unawareness.

The combination of high technology and inventiveness in relation to the innovation theory of competitive advantage already mentioned would suggest that the firms surveyed should be successful exporters. The claim of these firms to be export orientated would appear to be unfounded on the findings in Chapter 3. The majority of small scale firms were involved in exporting to varying degrees but the actual and total contribution was minimal.

Industry in terms of import substitution can no longer be considered in the infancy stages, the development promoted by extensive protection policies has evolved to the growth stage whereby emphasis turns towards exports.

A general conclusion with regards to exporting in New Zealand and certainly supported by the firms in this study is that exporting in the main is considered merely as an extension of the local market. The majority of firms consider the New Zealand market as the first priority and exporting of secondary importance. This is a result of an immature export sector heavily influenced or retarded by the industrial protection policies of the past.

The smallness of the New Zealand market it is argued necessitates the entry into exporting to achieve scale

economies. Firms which treat exports as an extension of the local market, are those firms with excess capacity. They are often seen to utilise marginal cost pricing policies. Under this scheme only the additions to total cost (marginal cost) are charged to the export price. As a result, firms are seeking to recover, against the New Zealand market, an increasing amount of their fixed costs so enabling them to lower their export costs and compete overseas. Marginal cost pricing policies as a basis for substantial expansion of exports is limited. It has its uses in allowing small export gains by utilising a firms excess capacity. (Crisp and Huges, 1972.)

Willis (1973) found that the firms which were the most successful exporters were those most interested in exporting. The re-orientation of the thrust from the home market to foreign markets is necessary if exporters are to gain maturity and the economy to become more efficient and self-sustaining.

REGIONALISM

While the nature of the New Zealand market and the structure of the New Zealand economy make it very unlikely that the American situation or experience (horizontal and vertical decentralisation)² can be imitated in New Zealand the firms incorporated in this study display a spatial distribution which takes in a number of regional and sub-regional centres. With Auckland's growing primacy as the population centre (market domination) and industrial centre of the New Zealand economy it attracts the majority of activities. This increasing concentration of activities in the metropolitan areas has lead to growing regional disparities especially significant in the South Island. Therefore the identification of a component of the industrial sector such as footloose, high technology and innovative firms holds important regional implications. Government policies, such as tax incentives and so on could be used to persuade these Small Scale High Value

firms to locate in those areas needing some sort of industrial stimulus. Although it was concluded that only limited employment opportunities were offered by small scale firms this takes on a new significance if they are located in small regional centres. The dispersal of a number of small firms throughout a region or regions is likely to be more advantageous than heavy investment in one large firm within a region. The Department of Trade and Industry Regional Development Programme

is designed to provide encouragement for the establishment in provincial centres of industries which, once they become established will be self-supporting and not dependent upon long term subsidies.

(Department of Trade and Industry, 1974)

Regional policy promoting the dispersal of small firms through the small centres appears to be an attractive proposition. However this proposition depends almost completely on the claim that they are footloose. The location of small scale firms is largely dependent upon personal preferences. (North in Lee, 1973.)

Similarly personal preference, personal residence and historical accident play a much greater role in the location of factories of smaller firms than in the location of factories which are part of large multi-plant firms.

(Mueller and Morgan in Lee, 1973)

This association of place of residence with business location is especially important. A policy requiring the budding entrepreneur to relocate himself in a depressed regional area becomes less agreeable. It would seem highly likely that firms set up in such areas as Winton or Marton, will have originated through the preferences of a local resident.

More importantly though, even for footloose firms is where is the optimal location? Which location is the most efficient? Despite the claims of Shirtcliffe (1977)³ for industries to decentralise to the provincial cities, the larger cities especially Auckland offer the most efficient sites due to the size of the market and

the derivation of transport savings. (Market orientated firms.)

The discussion of constraints to growth reveal the problems associated with various locational sites. In general terms the smaller centres do not fare well. Small scale firms ranked physical location as of least importance. This again is a management attitude, happy with his lot, but not necessarily an indication of efficiency. Small scale firms have been shown to be reserved in terms of the firms prospects and content to grow at relatively slow rates.

The small firms in the small regional centres are usually connected with agricultural servicing activities. This includes general engineering firms which specialise in repair and jobbing contracts with a side product of which they have gained the rights to, or have developed themselves.

Basically the argument reduces down to a core-periphery debate over spatially balanced or unbalanced growth. If the promotion of productivity and efficiency are seen as prerequisites to industrial growth the incentive for firms to locate at or in areas other than optimal locations would surely impede the achievement of this goal. The question then becomes growth and development at what costs ?

If Small Scale High Value firms are to play a leading role in the attainment of higher productivity rates and the established goal of an efficient and flexible economy, location becomes of major importance and they cannot in this light be considered footloose.

The problem remains in fact that Small Scale High Value firms contribution to the economy is probably more important in regional terms than in national terms due to the minor nature of export earnings and potential export earnings. However they offer good possibilities as regional industries capable of fostering or injecting declining small town and regional economies.

The only source of self-sustaining growth for regional development is local entrepreneurs. Local entrepreneurs if successful will keep the power and decision making base in the regional development area. (Gimpl, 1975, 5)

The importance of this is supported by Le Heron (1977).

Concluding, the location of Small Scale High Value firms is dependent upon the chosen strategy either as important exporting firms (and therefore not footloose if they are to maximise potential returns) or as regional concerns focusing on the New Zealand market and possibly some minor involvement in the exporting field.

POLICY IMPLICATIONS

Two strategies are apparent in formulating policies to promote industrial and economic growth. These consider the introduction of measures to stimulate exports and their allocation. Should they apply over the whole field of industries or should they select particular firms or industries (i.e. Small Scale High Value) for special consideration and concessions? The latter raises extensive difficulties in that first such identification would be to some extent arbitrary. Secondly and more importantly the problem is accentuated by the existence of fast and slow productivity growth firms side by side in all parts of the economy. The dynamic nature and the consequent possibility of changes over short time spans make such high productivity firms largely unpredictable. Irrespective of this both Blyth and Hamer (1963) and Franklin (1978) support the view that "policy should encourage the profitable enterprise, with a fast rate of growth of efficiency, wherever it is found in the economy". (Blyth and Hamer, 1963.) Small Scale High Value features a number of characteristics as already established but the evidence provided does not warrant or justify the realistic inclusion of Small Scale High Value firms as exhibiting a fast rate of growth of efficiency. In this respect they can not lay

claim to special consideration or incentives in an attempt to stimulate and promote growth.

New Zealand's industrial programme has been noted for the absence of any concerted industrial policy. The call however is for two especially important strategies, firstly the improvement in modern management techniques. "A successful programme of manufactured exports will require a level of economic management and direction far above anything so far achieved". (Franklin, 1978, 95.) Secondly the "implementation and direction of a soundly based export marketing strategy". (Willis, 1973, 171; Scott, 1978.) In other words the provision of extensive and intensive management training facilities as well as an aggressive marketing approach. Small Scale High Value firms would certainly benefit from such policies albeit in the long term.

Franklin (1978) clearly identifies where future growth is most likely to eventuate

Managements have now begun to recognise and accept the social responsibilities of their firms, responsibilities they cannot escape because the large firm is both the instrument of modernisation and the vehicle which must carry out the major part of the drive for non-traditional exports.

(Franklin, 1978, 228)

This stresses the role, contribution and significance to the New Zealand economy of the evolving corporate structure. The evidence on small scale firms does not contradict this point of view.

CONCLUSION

The value of studying the population of firms entitled 'Small Scale High Value' was almost negated by the fact that only about 50 percent were small scale. This major limitation restricts the confidence or accuracy of any conclusion. It does however indicate the dangers of subscribing to the Small Scale High Value concept as an integral component of the industrial structure. Of the total 112 firms, an estimated 56 were Small Scale High Value. Even if this is doubled it only

represents 1.7 percent of all manufacturing firms that employ less than 50 persons. In all probability Datson's population is severely understated. The Small Scale High Value firms have a number of distinguishing features, notably high technological content and an involvement in exporting, albeit in many cases a relatively minor one. The claim is that these characteristics are likely to be found in much greater proportions than the 1.7 percent identified. The most important conclusion is that rather than isolating on the strength of an idea a sub-component of the small scale activities in New Zealand for special attention, it would be realistic to carry out in the first instance, more exhaustive studies of all small scale activities in New Zealand. By studying the total component of those firms employing less than 50 people, a more comprehensive and accurate measurement of a Small Scale High Value sub sector, if it can be distinguished, would be possible. This approach warrants further investigation in terms of the aggregate role and contribution of the small scale sector as they are an integral component of the industrial structure in the New Zealand economy.

The belief that the Small Scale High Value population is understated is that nearly half of the firms studied were engineering firms and it is difficult to accept that only a very small number of these display characteristics which are not widely applicable to other engineering firms often involved in similar operations, namely the gearing of engineering activities to the demands and needs of the agricultural sector.

Finally there exists doubts as to the validity of some claims made of these firms. These are the flexibility of the firms (in management yes, but not in operation or product range), the levels of productivity, growth rates and the export orientation of these firms. These are countered by the contribution in terms of invention and innovation which are vital to stimulating and promoting growth.

The doubts however exist in those areas which are fundamental to the small scale concept. It would appear unlikely that the Small Scale High Value firm as currently recognised on the New Zealand scene can contribute to the structural and economic development at rates or levels disproportionate to their relative size within the total manufacturing economy. If the general characteristics as found to exist in this sample are found to be replicated throughout the sector then the concept would definitely warrant a re-evaluation.

The foregoing conclusions are tentative especially when the sample is small though representative. What is clear, however, is that Datson's model of the Small Scale High Value firm is more fiction than fact. The actual and potential role of this type of manufacturing concern appears to be overstated and little understood by many and not substantiated by evidence to hand. A comprehensive re-assessment of the theoretical and empirical aspects of the Small Scale High Value concept would seem essential.

FOOTNOTES

1 See Productivity and Technology 1/75 for firm experience in the Hamilton Productivity Group.

2 Baumbach (1968) discusses the role of horizontal decentralisation and vertical decentralisation. Further, they have suggested regardless of method (either vertical or horizontal) that one large plant is likely to be less efficient than several small plants with the same total output. In summary the decentralisation movement has made it possible for large firms to realise many of the operating advantages of small firms, while retaining all of the financial, managerial, technical and other advantages of large scale operations.

3 Following the relocation of Biscottes to Palmerston North from Auckland, Shirtcliffe (1977) claimed the following advantages of provincial locations:

- 1) Lower production costs.
- 2) Lower rent or rates.
- 3) A more stable work force.
- 4) Greater enthusiasm towards their work for people living in smaller centres.
- 5) Better living conditions for management and staff.
- 6) Less labour turnover.
- 7) Easier parking facilities.

(Shirtcliffe, 1977, 54.)

APPFNDIX A

To be eligible to gain assistance and to utilise Small Business Agency services manufacturing firms had to meet one of the following criteria:

- 1) The firm must employ less than fifty people
- or 2) If it is personally owned and managed
- or 3) The owner-manager makes most of the decisions and
- 4) It does not have other specialist staff at the managerial level and
- 5) It is not part of a larger business or enterprise or one of a group of companies with access to managerial expertise from within that group.

APPENDIX B

QUESTIONNAIRE

M A S S E Y U N I V E R S I T Y

DEPARTMENT OF GEOGRAPHY

PALMERSTON NORTH

SURVEY ON THE CONTRIBUTION OF SMALL SCALE MANUFACTURING FIRMS TO THE NEW ZEALAND

ECONOMY

The following questions will provide information for statistical analysis only, and are completely confidential.

Most questions are answered by simply ticking the appropriate box.

Factory name and address _____

Product Ranges _____ Year factory established _____
Owner-manager
Manager

Type of Company (Private etc) _____

1. How long has the business been under your control? _____ years

2. What was your occupation prior to going into business? _____

3. Do you know at this stage who will succeed you as manager of the firm?
Yes No

4. Is there anyone in the firm capable and/or as skilled as yourself in running the firm?
Yes No

5. Has the firm ever had a serious strike or stoppage since you have been in control?
Yes No

6a. If NO are there any particular reasons which account for this? _____

6b. If YES what were the main reason/s why it/they occurred? _____

7. How many of your employees belong to a trade union?
All Most Some None

8. Is labour turnover in anyway a problem in your business?

Yes No

9a. If YES how many of your staff have left in the past year? _____

9b. If No what factors or conditions exist which are attractive to and hold employees? _____

10. Do you have any difficulty in attracting and retaining skilled staff?

Yes No

11a. If YES why is this? _____

11b. If NO what reasons or conditions account for this? _____

12. Does the firm provide on-the-job training? Yes No

If yes please describe _____

13. Could you please provide the following?

	1973	1977
Number of employees		
Salary and Wages Bill (note rounded figures only)		

14. As manager what are your qualifications?

Secondary school

University

Technical

Professional

Other skills or experience _____

None

15. Level of qualification of employees? (excluding on-the-job training)

Number _____ Unskilled _____ Semi-skilled _____ Skilled _____ Professional _____

16. Do you have any apprentices? Yes No

17a. From where do your supplies originate?
 _____ % imported _____ % local _____ % outside local region (please
 specify i.e. Wellington, Auckland) _____

17b. In approximate terms what is the New Zealand content of your product/s? _____

18. In what locations do you sell your products?
 _____ % exported _____ % local _____ % outside local region (please
 specify i.e. Wellington, Auckland etc) _____

19. What was the value of your exports in 1977 \$ _____
 Exports value as a percentage of total turnover in 1977 _____ %

20. Are your product/s unique to the firm? Yes No
 Are they a) Technically advanced?
 b) Up-to-date but not advanced?
 c) Not up to date?

If b) or c) please state reasons _____

21. Similarly is your production process unique to the firm? Yes No
 Is it a) Technically advanced?
 b) Up-to-date but not advanced?
 c) Not up to date?

If b) or c) please state reasons _____

22. Has your firm been involved in
 adapting or adopting technology that is already being
 used in New Zealand?
 adapting or adopting overseas technology into the
 New Zealand context?
 developing totally 'new' technology, in both a
 national and international context? Examples please

Yes	No

23. Do you undertake research on

- developing new products?
- modifying existing products?
- developing new processes?
- modifying existing processes?

YES	NO	FULL TIME	NUMBER	PART TIME	NUMBER

24. Does your business benefit from Government incentives, subsidies etc?

Yes No

If YES please specify. _____

25a. What proportion of the costs were energy requirements in 1977? _____ %

25b. What was the cost of your firms annual energy requirements in 1977? \$ _____

26. Could you please provide the following?

	1973	1977
Sales/turnover		

(note - please use scale provided i.e. a, b, c, d etc.)

27. Do you have a written plan and/or budget for the business for

	YES	NO
a) next financial year?		
b) next 2 - 5 years?		
c) next 6+ years?		

28. How big do you expect the firm to be in 5 years time?

- a) _____ number of employees
- b) _____ sales/turnover
- c) Same as now

29. From what source do you hope to finance this expansion? _____

30 a. If you export - would you like to increase the proportion of production exported?

Yes No

What factors constrain your ability to export? _____

30b. If you do not export - please indicate reasons _____

31. Do you see any limitations which are restricting the growth in general of the business? (Rank the first three).

<input type="checkbox"/>	Marketing problems
<input type="checkbox"/>	Cost of Raw Materials
<input type="checkbox"/>	Cost of transporting finished products
<input type="checkbox"/>	Cost of labour
<input type="checkbox"/>	Physical Location
<input type="checkbox"/>	Lack of access to financial resources
<input type="checkbox"/>	Other (specify) _____

Finally the above information will be entirely confidential and I would like to thank very much those responsible for completing this questionnaire, for their time and cooperation. It is greatly appreciated, thank you.

Yours faithfully,



A.L. Wilton

SCALE FOR QUESTION 26TURNOVER

- | | |
|----|-----------------------|
| a. | under 10,000 |
| b | 10,000 - 19,000 |
| c | 20,000 - 39,000 |
| d | 40,000 - 99,000 |
| e | 100,000 - 199,000 |
| f | 200,000 - 499,000 |
| g | 500,000 - 599,000 |
| h | 600,000 - 799,000 |
| i | 800,000 - 999,000 |
| j | 1,000,000 - 2,000,000 |
| k | 2 million and over |

APPENDIX C

PROBLEMS BY INDUSTRY GROUP

INDUSTRY GROUP

(percent of each problem type nominated by
each industry group.)

Problems	Manufacturing, Agriculture Mining and Other	
Day-to-day working capital	37.3	(23.0)
Finance for plant, machinery	34.3	(38.8)
Finance for land and buildings	21.2	(24.8)
Finance for large orders	27.8	(29.3)
Attracting skilled staff	31.1	(31.5)
Attracting semi-skilled staff	7.6	(28.7)
Attracting unskilled staff	4.0	(25.5)
Internal production	20.2	(33.2)
Controlling administration	13.1	(23.5)
Marketing and selling	24.5	(27.2)
Planning for future	32.0	(23.1)
Changes in industry	19.5	(22.2)
Locating appropriate help	15.7	(27.1)
Training for self	7.8	(17.6)
Training for employees	12.4	(27.7)
Managing own time	16.9	(22.8)
Dealing with government	23.2	(25.1)
Financial Management, budgeting	19.1	(21.3)
Control of debtors, cash flow	28.7	(23.7)
Controlling stocks	11.3	(18.6)
Maintenance of equipment	7.6	(24.0)
Engaging in exporting	19.9	(63.7)
Obtaining export information	16.8	(53.3)

Source: Devlin and Le Heron, 1977, Table 50.

Figures in parentheses refer to percent in each industry group having each problem type.

APPFNDIX D

Twelve firms laid claim to having developed totally 'new' technology in both a national and international context. Examples of these inventions are contained below.

- Sector light optics (DSIR design).
- Designed and built machines using New Zealand made microprocessing units and or mini computers.
- Blast freezer funnel.
- Harvesting machinery.
- L.P.G. Field energy conservation on steam raising plant. Pulvarising coal firing.
- Advanced uses for microprocessors.
- New fuse switch patented in New Zealand, Australia, United Kingdom and others.
- Development of process for the production of Rennet from frozen vells.
- The making of aspheric condenser lenses by their own technique.
- Development of the vaccine Salmonella.
- Bistro meal indicators and motel distribution systems.

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