TEN YEARS OF CHANGE IN NEW ZEALAND MANUFACTURING EMPLOYMENT

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Abstract

Ten years have now passed since New Zealand began the liberalisation and restructuring of its economy. Basically we have gone from a country where a young person could leave school at fifteen and get a low-skilled job in the freezing works of the electrical assembly industry, to one where few such jobs now exist and there is nearly 10% unemployment. It is now clear that the manufacturing sector has been responsible for about 75% of the net job loss. This paper takes an overview of the research and data now available to document the specifics of the change in manufacturing employment, focusing on the causes, policies, and the results of the changes, and describes the character of the 'lean, mean' sector which has emerged after the ten years of change.

It is fair to say that of all the sectors of the New Zealand economy, manufacturing has been most affected by the restructuring and deregulation policies since 1984. The fall in manufacturing jobs (over 80,000 1980-1990) explains over 75% of the net increase in unemployment. Gone are the days when in New Zealand a young person could leave school at 15 and get a reasonable job in the dairy factory, freezing works or the Ford Motor Company. These jobs still exist, but they are dramatically fewer in number and there has been an upgrading in the 'skill level' required.

In 1982 I visited a small factory making a tourist-market product in a small New Zealand rural town. They then employed 15 workers, only three in sales management, distribution or marketing. Today they still employ about 12 workers in production, but the process is far more mechanised, they produce three times the output and their total labour force has doubled, all the increase being in sales, management, distributing and marketing. Now this increase in employment is actually unusual for New Zealand, but this case illustrates the dramatic increase in productivity and the change in the skills and orientation of employment.

The industrial landscapes of our largest cities lie strewn with the deserted monoliths of a by-gone industrial era. In Wellington for example one can view in relatively close proximity in Petone, the former Gear meatworks, the New Zealand Motor Corporation assembly plant, the Ford Motor Company assembly plant, and General Motors: the list could go on to include many smaller firms that have closed or shifted. This period of unprecedented decline in the manufacturing work force (labelled variously as restructuring, de-industrialisation, or simply industrial change) stands out against three decades of growth in the industrial work force.

Table 1 shows for example that in the 1950s manufacturing employment increased over 37,100 (23.1%); in the 1960s it was over 75,000 (a massive 37.9%); by the 1970s it increased another 45,000 (16.9%); but in the 1980s it declined by over 82,000 (-25.9%).

The obvious question arises: what has produced this cataclysmic change in a relatively short space of time? To answer this question we must examine the historical development of New Zealand manufacturing, and the changing political economy within which it has developed.

New Zealand manufacturing: inefficient, underdeveloped, and overprotected?

A combination of three factors seemed to ensure the early direction for New Zealand manufacturing. Firstly the isolation from major sources of imports in the 19th century meant that we were forced to develop a wide range of industries given our size and population, at a time when the sailing ship voyage from England to New Zealand took on average 110 days. Secondly the small dispersed nature of the cash-strapped colonial economy meant that rampant laissez-faire capitalism never really flourished, and the government always had to pick up the tab for major investments and regulations. Thirdly the prevailing political culture favoured this anyway. The government came to be looked upon as friend and provider. In this political and cultural soil the welfare state flourished at a uniquely early stage, and it was but a short step to full blown Keynesian

Table 1. Historical change in New Zealand manufacturing: full-time equivalents employed 1950-1990 ('000s)

	1950		1960		1970		1980		1990
Food, Bev., Tob.	36.3		45.6		60.5		78.0		51.0
Textiles and clothing.	37.1		39.5		50.4		48.9		25.7
Wood and W.Prod.	21.1		20.7		21.1		22.8		21.9
Paper and Prod.	11.6		18.5		27.8		33.4		32.9
Chem. and Petrol.	9.0		13.4		22.6		28.1		20.4
Non M. Minerals	7.1		8.8		12.1		10.8		7.8
Base Metals	1.7		2.1		3.5		8.1		7.6
Fabricated Metal P.	33.2		45.5		70.8		84.1		66.0
Other Manufacturing.	3.4		3.6		4.0		4.6		3.5
Total Manufacturing.	160.7	23.1%	(+37.1) 197.8	37.9%	(+75.0) 272.8	16.9%	(+46.1) 318.9	-25.9%	(-82.6) 236.3
Total Labour Force	720.6		861.1		1070.9		1266.1		1223.9

Source: Philpott (1990)

economic policies of intervention, regulation, and protection.

Natural isolation meant that the tariff was the main weapon used for industrial protection. This was until the fall in freight costs along with the effects of the Great Depression meant that New Zealand's manufacturing sector was seen to be vulnerable. Import licensing was therefore introduced in 1938, ostensibly to limit imports for balance of payments reasons. But this more absolute form of protection quickly became the accepted way of ensuring the growth of manufacturing employment in New Zealand until the 1980s. Even as late as 1979 Minister of Finance Muldoon restated the traditional view:

> It has been suggested that New Zealand should dismantle the system of import licensing which has operated for forty years. I do not subscribe to that view. I have no intention of letting efficient industries go to the wall for the sake of a theory (Wooding 1989:94).

It is interesting that Muldoon had referred to 'efficient' firms. The irony was that many of the regulations governing New Zealand industry had been introduced in the so called Industrial Efficiency Act of 1936. In reality New Zealand firms were not efficient at all compared to their overseas counterparts. The problem lay in the fact that import licensing was a very absolute form of protection compared with tariffs and therefore New Zealand firms only had to adjust to the demands of local competition, not the international market. This meant that in the period of rapid post-war growth when many advanced economies were shedding industrial jobs in declining industries, upgrading their manufacturing technology, and exporting on a large scale, New Zealand manufacturers remained cosseted in their protected home market without the incentive to change or upgrade to the same extent. Table 2, for example, compares annual average growth rates of output and employment for New Zealand and the Netherlands for the 1960s.

The general picture that emerges is that in the Netherlands, real value added, expanded faster than employment, productivity increased, as traditional industries began to shed labour, and growth industries to absorb it. New Zealand in the 1960s presents the picture of a much more immature manufacturing sector. Net output increased more slowly than employment despite some spectacular increases in industries just beginning.

Of course this is not to imply that New Zealand manufacturers were lazy or incapable of increasing their productivity. Rather that the economic environment did not encourage them to do so, being not only heavily protected, but also regulated and heavily taxed. Investigating the theme of regulation the New Zealand planning council came up with a list of nearly 400 acts of Parliament and 1000 associated regulations, which have significant economic effects for New Zealand firms. In addition it is estimated that there were 127 industry tribunals regulating behaviour and 400 official advisory committees, councils and boards. (Economic Monitoring Group 1985: 21)

A good example of this is data provided to the author by the economist in charge of costing at Todd Motors Motor Assemblers in Porirua for the mid 1970s. He showed that in fact the manufacturer could only influence 40% of the total cost of cars because 60% of the final price to customers was made up of import duties, sales tax, and various other taxes, see table 3.

Not only was the New Zealand manufacturing sector over regulated, but it was also overprotected. Elkan (1972) calculated that we had the most heavily protected manu-

Table 2. Annual average growth rates of output and employment in Zealand and the Netherlands 1958-60 to 1968-70 by manufacturing group.

S.I.C. Group	Output[1] Netherlands	N.Z.	Employment Netherlands	N.Z.
Food and drink	4.3	7.4	0.1	2.9
Tobacco	3.1	-0.6	-3.2	-2.0
Textiles	2.6	3.5	-3.6	4.5
Clothing and Footwear	1.4	-1.9	-1.0	0.1
Leather	1.9	2.7	-1.8	3.6
Wood	9.4	-2.8	0.6	1.0
Paper	8.1	1.2	2.0	6.0
Printing	6.8	1.9	2.1	4.2
Chemicals	14.6	8.5	3.9	10.8
Petrol and Coal	7.2	32.8	0.7	6.2
Rubber	5.6	0.6	1.2	3.1
Non M. Minerals	5.3	-1.3	0.0	2.8
Base Metals	10.1	10.3	3.0	13.1
Metal Products	6.1	5.7	1.4	7.3
Machinery N.E.	7.2	6.2	2.3	6.2
Machinery E	7.1	5.6	2.8	9.6
Transport equipment	2.6	14.8	0.1	4.6
Other	-2.8	-0.9	-3.3	0.5
Total Manufacturing	6.8	2.3	0.8	3.5

1. Output = value added at 1959 prices.
Sources: Netherlands: U.N. Economic Commission for Europe *Structure and Change in European Industry*. pp 124-125. New Zealand: *N.Z. Official Yearbooks* and 1978-79 Manufacturing Census (unpublished) Statistics Dept.

facturing sector in the O.E.C.D., even aknowledging that data on effective rates of protection are notoriously difficult to calculate, especially when import licensing is considered. Table 4 shows that levels of effective protection increased during the 1960s then fell again up to 1979, but were still high in absolute terms.

The safe operation in a protected home market ensured that by and large the New Zealand manufacturing industry was not export-oriented. Table 5 shows that by 1980 some industry groups had begun to increase exports quite considerably, but in some of the large employment groups such as metal products and machinery, the percentage of total output exported was very small. This is highlighted when one compares similar figures for an export-oriented country like Switzerland. A recent figure from the New Zealand Manufacturers Federation claims that exports rose to about 23% of total manufacturing output in 1994.

Now the above analysis is, like all analyses, something of a simplification. Various National Party governments had sought to reduce the coverage of import licenses, but it still basically covered those industries most likely to be affected by foreign competition.

From 1962 to 1978 successive governments acknowledged the need for a more outward looking posture for

Table 3. The government and efficiency. Costs for a 2000cc Japanese car (late 1970s)

		Changes Post 1984
Todd Motors Pay	$2,000	
Freight and Insurance	$250	
Bank and Landing	$70	
Duty 45%	$900	* Removed
Landed costs	$3,120	
NZ Materials	$1,200	
Labour/Assembly	$350	
Overheads	$500	
Total direct cost	$5,270	
Sales tax	$2,200	*Removed
	$7,470	
Retailer	$750	
Freight	$100	
Total	$8,320	* Add G.S.T. but lower tax rate

Source: Todd Motors

Table 4. Estimates of the level of effective protection in New Zealand manufacturing.

Production Group	1956[1]	1965[2]	1979[3]
Food, beverages, tobacco	88.6	8.0	8.6
Textiles, apparel, leather	67.6	338.8	69.2
Wood and wood products	130.8	187.3	28.9
Paper printing and publishing	46.8	67.8	9.8
Chemicals, petrol, plastics	21.6	24.3	48.7
Non M. Minerals	-15.1	13.9	17.1
Base Metals	-5.8	161.8	3.7
Metal products and machinery	560.5	251.2	64.2
Other manufacturing	69	186.4	76.2
Total Manufacturing	**50.0**	**73.4**	**36.1**

Sources: [1]and[2] Elkan (1972:70, 81-82) [3] O'Dea (1980:14)

manufacturing, but tended to see this as being fulfilled by attention to *export promotion*. In this vein various export taxation incentives were introduced meaning that significant numbers of firms began to dabble in exporting if only to get cheap overseas trips. Willis, in a study of 100 engineering firms carried out in 1970, found that in only 20% did exports make up more than 20% of total sales, and for 65% of firms exports made up less than 10% of total sales. In addition over 95% of these firms were exporting mainly to Australia and some 50% under the provisions of N.A.F.T.A. (Willis 1972). This Australia/New Zealand Free Trade Agreement had begun in 1966 and had paved the way for the closer Economic Relationship which developed later in the 1980s.

Also there had been far-sighted government ministers who had realised the importance of industrial change. Brian Talboys for example wrote in 1980

> Successful countries do not cling to outmoded or uncompetitive industries or technologies. They allow them to decline whether through the invisible hand of the market place, or the invisible boot of the planning agency in countries like Japan - and employ their resources elsewhere. The process goes by different names, revitalization, upgrading, rebuilding or restructuring - but the aim is basically the same (quoted in Willis 1982: 78).

Towards the end of the 1970s this view began to hold sway and build upon some earlier landmark decisions such as recommendation 209A from the National Development Conference held in May 1969.

> The manufacturing sector should be accorded a level of protection sufficient to promote steady industrial development, increasing manufactured exports and full employment. This level of protection however should be such as to encourage competition, efficiency and reasonable prices to other sectors and to consumers, and should also have regard to consumer choice and variety. It accordingly recommended that the system of protection should be flexible, *that import licensing should be replaced by tariffs as the main measure of protection*, and that this transition should be carried out in accordance with a clearly defined programme and within a reasonable time (quoted in Wooding 1989: 92).

Therefore ten years after the National Development Conference (N.D.C.) had passed this recommendation the National government embarked on what Wooding calls 'A Cautious Liberalisation' (Wooding 1989: 94) This liberalisation included a wider free trade agreement with Australia, import license tendering, the industries study programme, and the recognition by government of the need to reduce the unevenness of levels of manufacturing protection.

The Industries Studies Programme in particular was interesting because of the political furore it caused; in retrospect it was rather tame compared to what Roger Douglas was to introduce later. Back in 1978 the Tariff Review Committee had identified eleven industry groups for fur-

Table 5. Swiss Exports of Main Manufacturing Industries: 1970s

Branch	Exports as % total output	% of exports
Engineering	80	43.2
Chemicals	90	19.6
Clocks and watches	90	8
Textiles and clothing	80	7.4

Source: Economist survey, 1979.

Table 6. Major economic liberalisation measures in New Zealand 1984-1990.

Deregulation of entry licensing in industry	1984+
Partial deregulation of occupational licensing	1985+
removal of other operating barriers in industry	1984+
Removal of price control	1984-88
Removal of import licensing	1984-88
Significant decrease in import tariffs	1985-92
Revision of town and country planning	1987
Revision in role of producer marketing boards	1987+
Abolition of many quangos and quasi-government organisations	1987
Removal of financial controls (interest rate ceiling, reserve ratio requirements, priorities for various sectors)	1984-86
Removal of foreign exchange controls	1984
Liberalization of foreign direct investment	1985
Floating of the exchange rate	1985
Revision of corporate, personnel, and direct taxation	1986-88
Corporatization of stage trading activities	1986+
Programme of sale of state assets	1987+
Review of education and health provision	1988+
Removal of monopoly rights on state trading	1986
Review of competition regulation: Commerce Act/Bank Act/ Securities Act/Companies Act	1986-89
Deregulation of transport sector	1983-88
Deregulation of financial services sector	1986
Partial deregulation of energy sector	1986+
Removal of concessions for favoured investment (e.g. R&D)	1984+
Removal of concessions for favoured sectors (agriculture, export sectors)	1984+
Establishment of closer economic relations with Australia	1983+
Reorganisation of core government departments	1987+
Reform of local government	1989+
Deregulation of ports and waterfront work	1989
Removal of shop trading hours restrictions	1989
Corporatisation of some local authority trading activities	1989
Partial deregulation of shipping	1990
Resource management law reform	1990

Source: Savage and Bollard,(1990)

ther study because of their need for continuing high assistance. Some of these studies were to be carried out by government departments and others by the I.D.C. (Industries Development Commission), called the Industrial Destruction Commission by the Unions. In effect the Industries Studies Programme was the last attempt at 'planned restructuring' before the market realities of Roger Douglas after 1984. In fact the impact of the Industries Studies Programme was largely obliterated by the wider changes needed under the C.E.R. arrangement with Australia (signed 1982), just as the programme of trade liberalisation under C.E.R. was taken over by more general liberalisation policies post 1984.

In summary the point being made here is that some deregulation/liberalisation had begun prior to 1984 through the Industries Studies Programme, the review of licensing, the C.E.R. agreement and other indirect initiatives such as the deregulation of the freight transport industry. But change was still slow and much of this so called liberalisation took place at the same time as Muldoon's National government imposed a wages and price freeze to try and curb inflation. The real changes were still to come.

What happened after 1984?

Savage and Bollard detail three types of liberalisation affecting the New Zealand economy post 1984 (Savage and Bollard 1990: 37-38).

Firstly there was *macro-economic liberalisation*. This is basically those policies not designed to be industry specific but have impacted on firms by altering the prices of inputs or outputs, or by directly influencing the economic environment in which firms operate.

Secondly there were the *reductions in protection and subsidies* including the phase out of import licensing, moves toward lower tariffs, and withdrawal of various production subsidies both implicit and explicit.

The third major type of change is *deregulation*. This has

Table 7. Change in manufacturing employment in New Zealand 1987-93.

Industry	1987	1993	Actual Change	% Change
Meat processing	36640	27861	-9779	-24.0
Dairy products	8035	7616	-419	-5.2
Other foods	24075	23237	-838	-3.4
Beverages and tobacco	4611	2671	-1940	-42.1
Food, Bev. and Tobacco	**73361**	**61385**	**-11976**	**-16.3**
Textiles	13988	10552	-3436	-24.6
Apparel and footwear	26862	16818	-10044	-37.4
Textiles, Clothing and Footwear	**40850**	**27370**	**-13480**	**-33.0**
Wood Processing and Prod.	**26560**	**21729**	**-4831**	**-18.2**
Paper and paper products	10637	9033	-1604	-15.1
Printing and publishing	19278	16895	-2383	-12.4
Paper, Printing and Publishing	**29915**	**25928**	**-3987**	**-13.3**
Industrial chemicals	5079	4614	-465	-9.2
Other chemicals	7486	5904	-1582	-21.3
Petroleum refining	1082	759	-323	-29.9
Petrol and coal products	570	195	-375	-65.8
Rubber products	3727	1923	-1804	-48.4
Plastic products	7769	7025	-744	-9.6
Chemicals etc.	**25713**	**20420**	**-5293**	**-20.6**
Non M. Metals	**9708**	**6355**	**-3353**	**-34.5**
Basic Metal Products	**6599**	**6104**	**-495**	**-7.5**
Fabricated metal prod.	27446	19459	-7987	-29.1
Machinery	19032	15448	-3584	-18.8
Electrical machinery	13445	10226	-3219	-23.9
Transport Equipment	21382	7816	-13566	-63.4
Professional Equipment	1313	1008	-305	-23.2
Fabricated Metals and Mach.	**82618**	**53957**	**-28661**	**-34.7**
Other Manufacturing	**4739**	**4107**		
Total Manufacturing	**300063**	**227354**	**-72709**	**-24.3**

Source: New Zealand Business Activity Statistics 1987-93.

taken various forms including the removal of price controls, the liberalisation of competition laws and the corporatisation/privatisation of government trading enterprises. Table six below is Savage and Bollard's summary of the major economic liberalisation measures 1984-1990.

The results of change.

There is little doubt about the magnitude of the changes. Table 1 has already shown a net loss of 82,000 manufacturing jobs in the 1980s - nearly 26% of the manufacturing work force. Declines were particularly severe in textiles and clothing (-48%), and food, beverages and tobacco (-35%) while the losses were least severe in wood products (-4%), paper and printing (-2%), and base metals (-6%).

The publication of the New Zealand Business Activity Statistics for the first time in 1987 provided another useful data base from which to assess the changes in employment and output. Table 7 shows changes in employment 1987-

Table 8. Changes in employment and number of enterprises by size group in New Zealand manufacturing 1987 — 1994.

Size Groups	0-5	6-9	10-49	50-99	100+	TOTAL
Employment change 1987-1992						
Actual	2479	-1738	-11746	-7028	-50449	-68473
Percentage change	10.10%	-10.60%	-18.30%	-22.00%	-31.80%	-23.10%
Employment change 1992-1994						
Actual	1211	1271	4066	2844	8057	17419
Percentage change	4.50%	8.70%	7.80%	11.50%	7.40%	7.70%
Enterprises change 1987-1992						
Actual	1919	-226	-516	-101	-125	951
Percentage change	18.20%	-10.00%	-16.30%	-22.20%	-28.20%	5.60%
Enterprises Change 1992-1994						
Actual	1489	253	259	41	28	2070
Percentage change	12.00%	12.40%	9.80%	11.60%	8.80%	11.60%

Source: Business Activity Statistics 1987-92/93.

1993 from this data base, enabling a more detailed industrial breakdown than Philpot's data in Table 1. Here again the worst and best performers are worth commenting upon. The biggest losers in percentage terms were petrol and coal products (-65.8%), transport equipment (-63.4%), rubber products (-48.4%), beverages and tobacco (-42.1%), and apparel and footwear (-37.4%). By far the best performers were dairy products (-5.2%) and other foods (-3.4%).

There is little doubt from the above data that massive changes have taken place in manufacturing employment and that changes to the macro-economic environment, and industry specific protection are obviously involved. One interesting aspect of change is that it has impacted differentially on different sizes of firms and business enterprises. Table 8 shows data for different size categories of manufacturing activity units and several conclusions become apparent.

1. That the fall in manufacturing employment was greatest between1984 and 1992 and it hit the larger enterprises hardest; employment fell by over 30%in the 100 +size category.
2. Even at the time of greatest job loss the small 0-5 person enterprises were still increasing employment.
3. The situation has improved considerably for the period February 1992 to February 1994, with all size groups incresing employment.
4. The same differences by size category emerge in changes in the number of manufacturing enterprises 1987-1992, with only the 0-5 group increasing enterprise numbers; all size groups have increased enterprise numbers 1992-1994.
5. Despite the growing number of very small manufacturing businesses it is the larger enterprises which still provide most of the employment, for example enterprises of more than 50 employees account for 60% of total employment but only 3.7% of enterprises.

The regional impact of manufacturing change.

While the absolute decline in manufacturing employment has been dramatic and absolute across all industry groups it has not been geographically even. Table 9 shows that the northern part of the South Island has held its small share of manufacturing jobs very well, and of the larger regions Waikato has done the best. This may reflect the efforts of a buoyant dairy industry since 1988, a possible cause which is reinforced by the fact that Taranaki's rate of decline is also better than most other regions. Of the metropolitan manufacturing centres Canterbury does best and Wellington worst. Wellington's poor performance may be attributed partly to its dependence on large enterprises in certain key industries which have suffered badly. The motor vehicle assembly industry being a classic example.

It also needs to be remembered that because Wellington's exposure and dependence on manufacturing jobs is less than Auckland's or Canterbury's, the impact of this high rate of decline in industrial employment has impacted less heavily on overall jobs and unemployment.

The impact on particular industries - case study: automobile assembly.

As indicated above, some industries have been more adversely affected by industrial restructuring. In table 7

Table 9. Regional change in New Zealand manufacturing 1987-1993. Regions ranked from best to worst by percentage change in employment.

Region	Absolute Change	Percentage Change
Marlborough	3	0.1
Tasman/Nelson	-5	-0.1
Waikato	-1068	-5.4
Taranaki	-1495	-16.6
Hawkes Bay	-2399	-19.1
Canterbury	-7997	-19.2
Southland	-2145	-20.0
Bay of Plenty*	-3177	-22.5
National average	**-71148**	**-23.7**
Manawatu*	-4087	-24.5
West Coast	-555	-25.9
Auckland	-28628	-26.5
Otago	-4093	-28.0
Northland	-1912	-28.2
Gisborne	-981	-31.1
Wellington*	-10312	-33.1

Source: Business Activity Statistics 1987-1992.
* Estimates derived from former local government regions.

we saw that the transport equipment manufacturing industry had the highest rate of decline of any three digit industrial group. In retrospect this is hardly surprising given the level of protection and intervention in this industry: As Douglas Greer said:

> An auto-assembly industry in New Zealand is essentially artificial. That is to say, its existence is dependent on the assistance regime established and maintained by government (Greer 1990: 107).

He went on to say;

> the cost of landing a fully assembled new car on the dock of Auckland is barely more than the cost of a knocked down kit in need of assembly by New Zealand labour. Thus it is somewhat inconsistent to say (as was said in the 1984 industrial plan) that despite greatly reduced protection it is the governments intention to retain the assembly sector but to have it efficient. It simply cannot be efficient by world standards; without substantial protection it would simply not exist (Greer 1990: 107).

In fact rationalisation in the motor assembly industry has been going on for some time even before 1984. As table 10 shows. The numbers of establishments actually increased through the 1980s but employment fell away dramatically, and labour productivity in terms of numbers of cars per employee also increased dramatically.

The initial round of changes were ushered in with the 1984 Motor Vehicle Industry Plan which removed import licenses for the CKD (Completely Knocked Down) unassembled vehicles, expanded the market for CBU (Completely Built Up) vehicles, reduced tariffs, abolished some sales taxes and removed hire purchase controls.

In 1987 as part of the Closer Economic Relation negotiation with Australia, and as part of general deregulation policy, the plan was revised and the deregulation and abolition of protection processes sped up.

Table 11 shows the eight plants that have closed since 1984 and table 12 gives the remaining automotive assembly plants as of 1994.

The closures also took place alongside, and in some cases associated with a change in ownership structures. This

Table 10. Automobile Assembly Industry Profile

	1975/76	1983/84	1988/89	1992
Establishments	19	23	28	26
Sales ($M at 86/87 prices)	1003.5	1192.2	1064.6[1]	NA
Output (cars, 000)[2]	64	63.2	53.1	52
Employment	7813	5774	3790	2291
Average est. size[3]	411	251	135	88
Labour Productivity[4]	8.2	10.9	14	22.7

[1] March 1986/87. [2] 1983/84 figure is calender 1983, 1988/89 figure is year to the end of August 1988.
[3] In terms of employment. [4] Cars per full time equivalent employee.
Sources: Department of statistics.

Table 11. Auto Assembly Plants that have Closed Since Implementation of the 1984 Plan

Company	Plant Location
Daihatsu NZ	Te Awamutu
Ford Motor Co. of NZ	Lower Hutt
Mazda Motors of NZ	Otahuhu
Motor Holdings Ltd.	Otahuhu
	Waitara
NZ Motor Corp. (Honda)	Auckland
Nissan	Otahuhu
Suzuki	Wanganui
General Motors	Upper Hutt (Car Plant)

Source: Greer 1990: p110

Table 12. Remaining Automobile Assembly Plants in New Zealand 1989

Company	Plant Location
General Motors	Upper Hutt (Truck Assembly)
Honda	Nelson
Mitsubishi	Porirua
Nissan	Wiri
Toyota	Thames (Passenger)
	Christchurch (Commercial)
VANZ (Mazda/Ford)	Sylvia Park (Commercial)
	Manakau City (Passenger)

Source: Greer 1990: p111.

was mainly that Japanese suppliers who had previously left local assembly to New Zealand agents now bought into the assembly business themselves, including Honda, Mitsubishi, and Nissan. Their buy-outs ushered in new manufacturing standards and work-place methodologies such as the celebrated 'Nissan Way' of manufacture.

There is little doubt that as a result of deregulation, lowering of protection, vertical integration, new labour relations and ownership changes, the New Zealand motor assembly industry has become much more efficient, that is in the narrowest sense of producing its output with the lowest cost of inputs. However the industry can never become efficient in the broader sense of international competition because of its small scale. It is common knowledge for example that some plants in Japan produce enough cars to satisfy the whole New Zealand market for all vehicles. The nation must therefore make ultimate decisions on whether it will keep the tariffs in order to protect the remaining assembly plants and the 2,300 jobs in New Zealand.

This raises an interesting point that despite the massive shedding of jobs New Zealand manufacturing *still* has quite high levels of protection. If we compare ourselves with Australia for example, using some selected measures of protection, what becomes clear from table thirteen is that despite greater publicity given to the restructuring process in New Zealand our overall level of industrial protection is still higher than Australia.

The removal of protection began much earlier in Australia, the process of structural adjustment was more gradual and firms had a longer time to adjust to new policy environments. Also import licensing was abolished 20 years earlier in Australia. This has contributed to a kind of 'stored up' effect of postponing change in New Zealand. This thesis is reinforced by looking at longer term comparisons between Australia and New Zealand. Table fourteen illustrates the fact that the cumulative loss of employment has been greater in Australia where as the largest single intercensal loss has been in New Zealand in the last five years.

What is happening today

From the above analysis it would be possible to conclude that all was doom and gloom in New Zealand manufacturing. In many ways this couldn't be further from the truth. The sector has definitely turned the corner and most indicators look good for the next year or so. Basically it appears that those businessmen that have survived restructuring, or set up since, are now much more lean and mean and ready to face the new competitive environment of the 1990s.

Table fifteen shows the trends in key ratios for New Zealand manufacturing since the September quarter 1990, and the turnaround is evident. While the level of export growth has levelled off this is compensated for by growth in domestic sales as the New Zealand economy begins to grow again. Both hours worked and employment began to grow for the first time since the mid 1980s with the sector creating 23,300 equivalent fulltime jobs in 1993. Most dramatic and encouraging of all was the increase in investment, particularly in new plants and machinery.

Table 13. Comparison of selected measures of protection

Measure	Australia	New Zealand
Items free of tariffs (1987) %	37	49
Items below 15% (1987) %	84.4	67
Average level of industry tariffs dutiable	25.2	27.5
(mid-1980s) Total	12.6	16.3
Effective rates of assistance for manufacturing	25%	39%
1981/82		
1989/90	16%	19%
Metal products	31%	69%
1981/82		
1989/90	18%	34%

Source: Duncan Lattimore and Bollard (1992)

Table 14.Longer term employment change in Australia and New Zealand manufacturing 1971-1991.

Full-time equivalents (In 000)	Australia	New Zealand
1971	1304	282
% change 1971-76	-8.3%	9.6%
1976	1195	309
%change 1976-81	-1.3%	-0.6%
1981	1180	306
% change 1981-86	-13.1%	-2%
1986	1052	300
% change 1986-91	-8.4%	-20.6%
1991	963	238
% change 1971-91	-26.2%	-15.6%

Sources: Australia- A.B.S. Yearbook 1991; New Zealand - Philpott 1990.

The above data along with the general euphoria about the strength of the economy and economic growth in New Zealand would lead one to believe that the economy is finally getting out of what Franklin calls the 'commodity trap' - an export-led economy with an over dependence on commodity exports for which the elasticities of demand tend to be low or fluctuating. This leads to large fluctuations in export earnings which is obviously detrimental to both individual producers and the country as a whole. Some data on this front are encouraging for example the latest Manufacturers Federation Survey stresses the growth of what they call 'Elaborately Transformed Manufacturers'.

> The composition of manufacturing exports is moving increasingly towards elaborately transformed manufacturers (ETMs). This group of products which incorporate a high level of domestic design and value added has been growing at a substantially faster rate than other manufactured exports for some 18 months. The major force behind the export expansion of ETMs is coming from the engineering sector. (New Zealand Manufacturers Federation 1994: 3)

However when total exports are examined in more detail the trends are not so good. Table sixteen shows the breakdown of New Zealand merchandise exports 1990-1993. What is clear is that exports increased by over $3.8 billion in that period but that over 75% of this increase was contributed by commodity groups - meat, fish, dairy products, forest products, wool, iron and steel, and aluminium. Now admittedly more of these sectors output are further processed than previously - dairy products for example are now much more value added. But some huge increases came from outright commodities like sawn timber and logs -over $700 million added 1990-1993. It is clear that the price has already begun to fall and these huge increases will not be sustained.

Further disturbing evidence is provided by Kreigsmann in a 1994 briefing paper to the New Zealand Manufacturers Federation. He stresses the importance of increasing the value added content of New Zealand's production but shows that while value added content has gone up in nominal terms, in real terms it has shrunk considerably during the last decade (Kreigsmann: 1994: 11); see figure one.

Conclusion

The New Zealand manufacturing sector suffered a massive shakeout of employment during the late 1980s. In the last three years some of that employment has begun to return wiht manufacturing leading the way in lowering unemployment in New Zealand. There is some case-study evidence which shows that these new jobs are different from the low-skilled process workers characteristic of the old heavily protected pre-1984 manufacturing regime. However the trade statistics are rather contradictory in being able to show whether New Zealand has indeed undergone some kind of structural transformation to develop a more mature manufacturing sector not so dependent on processing commodities and exporting goods more dependent on price rather than high value, research and development.

Future research

More research is needed at the firm level to examine precisely what sort of manufacturing jobs are being created in New Zealand, where the shortages are and what

Table 15. Trends in key ratios for NZ Manufacturing. (% change real Value)

Year ended	Sep-90	Sep-91	Sep-92	Sep-93	Jun-94
Exports	3	8.9	11.9	5.3	12.8
Domestic Sales	-1.6	-11	2	8.6	5.0
Total sales	-0.7	-7.3	4.3	7.8	6.7
Hours worked	-1.5	-7.1	-0.9	5.6	8.0
Full time employment	N.Av.	-5.6	-4.6	3.4	5.6
Investment	-5.1	-24.6	-13.3	34.8	25.2

Source: NZ Manufacturers Federation (1994).

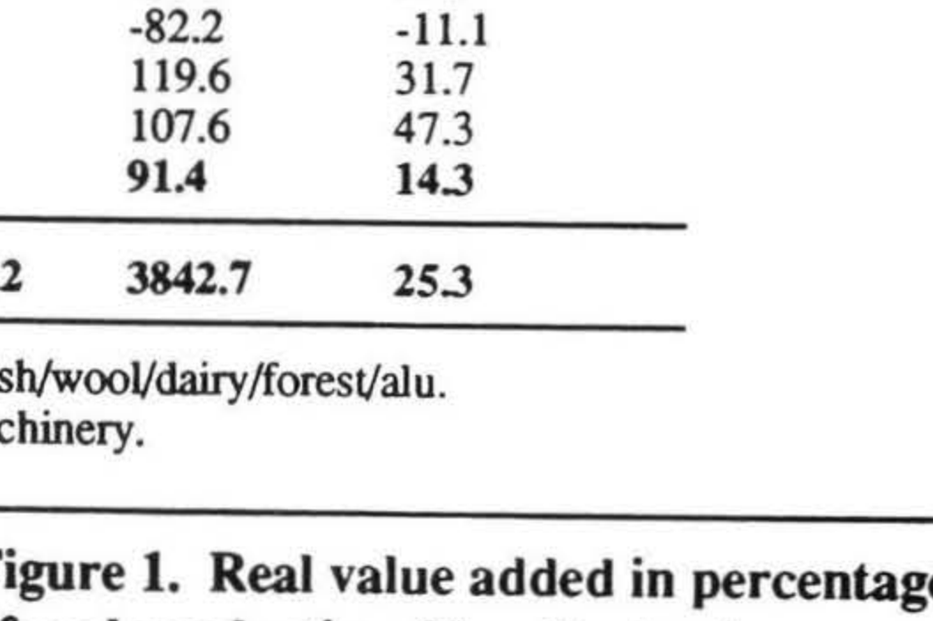
Table 16. Contribution to New Zealand exports 1990-93. (Million $NZ: June years)

Group	1990	1993	Change Actual	%
Live Animals	193.7	172.1	-21.6	-11.1
Beef and veal	1091.6	1418.7	327.1	30
Lamb and mutton	1093.5	1389	295.5	27
Total meat	**2319**	**3057.5**	**748.5**	**32.3**
Fish	503.7	807.8	304.1	60.4
Squid etc.	108.4	140.6	32.2	29.7
Crustaceans	89.4	114.6	25.2	28.2
Milk Cream Yoghurt	998.4	1352.9	354.5	35.5
Butter	710.5	796.5	86	12.1
Cheese	341	497.9	156.9	46
Total Dairy	**2066.9**	**2666.2**	**599.3**	**29**
Sausage casings	105.5	122.9	17.4	16.5
Timber and logs	402.4	1145.9	743.5	704.7
Wood products	207.5	336.3	128.8	62.1
Pulp	387.2	352.8	-34.4	-8.9
Paper and products	352.1	429.2	77.1	21.9
Total Forest	**1361.2**	**2277.6**	**916.4**	**67.3**
Books and papers	32.5	32.3	-0.2	-0.6
Wool	1315.9	900.8	-415.1	-31.5
Carpets etc.	88.3	71.6	-16.7	-18.9
Textiles and Apparel	86.4	211.4	125	144.6
Stones and Jewellery	95.1	267	171.9	180.6
Iron and steel	328.7	433.4	104.7	31.9
Alu. and products	742	659.8	-82.2	-11.1
Machinery and appliances	377	496.6	119.6	31.7
Electrical Products	227.2	334.8	107.6	47.3
Re. Exports	**638.9**	**730.3**	**91.4**	**14.3**
Total Merchandise	**15163.5**	**19006.2**	**3842.7**	**25.3**

75.9% (Commodities) of increase = Meat/fish/wool/dairy/forest/alu.
9.1% (Manufactures) = Textiles/apparel/machinery.

implication this has for the education and training system. We need to know for example whether the 20,000 or so new manufacturing jobs created in the last two years are merely the result of temporary staff being taken on at minimum pay rates under the climate created by the Employment Contracts Act; or are there genuine new long-term positions arising demanding new skills, an updated apprenticeship system and genuine career paths for school leavers?

Figure 1. Real value added in percentage of real production, New Zealand manufacturing



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