

NON-PASTORAL EXPORTS

INTRODUCTION

Non-pastoral exports, or exports other than meat, wool and dairy products, have progressively assumed greater importance over the last two decades. Although pastoral export receipts have grown steadily over this period the growth rate for non-pastoral items has been considerably higher in most instances. Table 1 demonstrates the increasing share of total exports gained by the various non-pastoral sectors. Total non-pastoral receipts have increased from 6.4 per cent of total export receipts in 1959/60 to 16.3 per cent in 1969/70, and to 31.8 per cent in 1979/80.

In general, government policy over this period has encouraged diversification away from the earlier position of almost sole reliance on the traditional agricultural sector for generation of export income. To some extent this diversification policy has been forced upon New Zealand by increasing reluctance on the part of our major trading partners to allow unrestricted access for most traditional agricultural exports, while barriers against free trade of non-pastoral products have been less inhibiting. Government policy has also been influenced by the desire to produce import substitutes by the development of manufacturing industries, expected stabilisation benefits to the whole economy from easing the heavy reliance on traditionally unstable agricultural export income, and by concern to encourage the most efficient use of resources, bearing in mind that agricultural production was almost static for most of the 1970's.

The non-pastoral sectors listed in table 1 are dealt with separately in this article. The relationship between the exports of each sector and total exports are described along with trends that have emerged over the last two decades.

MANUFACTURED EXPORTS (1)

The growth in manufactured export receipts over the last two decades is illustrated in table 1 where it can be seen that as a percentage of total exports, manufactured goods have increased from 0.5 per cent in 1959/60 to 16.0 per cent in 1979/80. This growth is a reflection of both development of new export industries and growth in output of existing industries while output of the traditional pastoral exports showed little growth in the 1970's. Government policy over this period has been directed towards development of the manufacturing sector in recognition of the growing problems of continued heavy reliance on the primary sector for generation of export income. More recently, the major role played by manufacturing as an employer, particularly of unskilled labour, has reinforced the need to maintain the growth of manufactured output, while the depressed state of the domestic economy has meant that export markets have had to be developed to allow growth of output. The Manufacturing Committee of the National Development Conference in 1969 considered that in order to achieve the highest possible level and rate

(1) The description 'manufactured exports' as used in this article refers to commodities defined by the Standard International Trade Classification (S.I.T.C.). Sections 6, 7, and 8 excluding exports of forest products i.e. divisions 63 (wood and cork manufactures, excluding furniture) and 64 (paper, paperboard and manufactures thereof.)

of growth of real national income the manufacturing sector must grow faster than the economy as a whole. A wide variety of export incentives have been implemented over the last two decades in order to achieve export growth. In addition the protection afforded domestic industry by import licensing has been maintained and adjustments in New Zealand's exchange rate have generally assisted exporters. The formation of NAFTA (New Zealand-Australia Free Trade Agreement) and the expansion of overseas Trade Commission posts are other factors that have influenced the growth of manufactured exports in the last twenty years, and the last ten in particular.

Production

The manufacturing sector in New Zealand consists of a wide variety of production enterprises, most of them very small by world standards. Approximately half of New Zealand's total manufactured exports are, however, accounted for by ten of the largest manufacturers. The development of larger manufacturing enterprises such as New Zealand Aluminium Smelters Limited and New Zealand Steel Limited has significantly influenced the growth of manufactured exports, both with their own exports and exports of down-stream industries that have expanded following the availability of domestically produced aluminium, iron and steel. A move toward resource-based manufactured exports has recently emerged with less emphasis on imported raw materials or semi-manufactured inputs. This trend is likely to be encouraged by the new export incentive scheme which rewards manufacturers of goods with a higher domestic content. The proportion of total manufactured output exported has increased from an estimated 0.6 per cent by value in 1959/60 to over 10 per cent in 1979/80.

In the past, many manufactured exports were not competitive overseas without the aid of the domestic market base to cover fixed costs (or the aid of import controls to stifle competition). In these circumstances, which still persist in some cases, export production is residual to domestic market requirements in the sense that excess domestic capacity is being utilised. The emergence of manufacturers who export a large percentage of their production has meant that domestic costs are a more important determinant of export volume, especially where capital outlay is required to add to productive capacity.

Reference to table 3 shows that manufactured export volume growth has been significantly faster than the growth achieved by the other export sectors since 1971. The average growth for manufactured export volume has been 14.8 per cent per year compared with 1.2 per cent for agriculture and 8.7 per cent for forestry. Export prices for manufacturers over the same period have risen by an average 12.5 percent per year compared with 15.5 per cent for agriculture, 13.3 per cent for forestry and 12.6 per cent for fishing. Although agricultural export price growth has exceeded manufactured export price growth over this period, prices for manufactured goods have generally been more stable. Fluctuations in export prices can be attributed to exchange rate adjustments and inflation in the major economies, but unlike agricultural commodity exports, changes in overseas supply and demand generally have little impact on prices.

The rise in manufactured export prices in the mid-1970s paralleled accelerated inflation rates in the major economies and devaluation of New Zealand's dollar. The reduction in the rate of growth of manufactured export volume in 1974 and 1975 followed the sharp downturn in world economic growth, but recovered in 1976 in line with the general economic recovery. Apart from a similar downturn in world demand in 1978 manufactured export volume growth has largely been sustained by export incentives and favourable exchange rate variations. In general manufactured export growth has become much more sensitive to overseas economic conditions as the size of the sector has increased.

Commodities

All manufactured export commodities have shown substantial growth in the last decade, none more so than non-ferrous metals for which the development of the Bluff aluminium smelter in 1971 was responsible. In fact the biggest single influence on the level of manufactured exports in the last ten years has come from aluminium exports (see table 2). Exports of non-ferrous metals have increased from \$2.7 million (f.o.b. value) in 1970/71 or 4 per cent of total manufactured exports, to \$168.7 million in 1979/80 or 21 per cent of manufactured exports.

The commissioning of New Zealand Steel's Glenbrook plant in 1968 was largely responsible for the development of iron and steel exports as well as the substitution of previously imported iron and steel products. Iron and steel is exported in many different forms, the most important being various extrusions, plates and sheets.

Although not classified as a 'manufactured' export, considerable quantities of iron sand concentrate are also exported from mining operations undertaken at Taharoa and Waverley. Exports of iron ore and concentrates have

increased from 31,000 tonnes worth \$161,000 in 1969/70 to 3.5 million tonnes in 1979/80 worth \$29.2 million. Manufactured metal exports (division 69) have also shown considerable growth, reflecting the availability of aluminium and steel for development of down-stream industry.

The major items exported under the chemicals category include dyes and paints; pharmaceuticals and cosmetics; fertilisers; and miscellaneous weedkillers, fungicides and insecticides. Increased exports of pharmaceuticals and cosmetics to Australia have contributed significantly to the growth of chemical exports in recent years.

Export of leather and furs have also increased significantly over the last few years, especially since 1973. Export earnings have increased from \$1 million in 1969/70 to \$81.6 million in 1979/80, due largely to exports of semi-tanned leather, especially lamb pelts which were previously exported unprocessed.

Textile products (division 65), of which wool carpets and wool carpet yarn are the largest items, have represented a significant but gradually declining proportion of total manufactured exports. Prior to 1973 this was the leading export category which at its peak in 1970/71 comprised 21.6 per cent of total manufactured exports. Since the growth of aluminium exports, textile products have slipped to 11.8 per cent of total exports despite an absolute increase in earnings of 360 per cent from 1973 to 1980.

Exports of machinery and transport equipment have grown steadily, especially since development of the Australian market for various whitegoods, in particular refrigerators. Australia has been the most important market for commodities from these divisions with 62 per cent going to that market in 1977/78. The largest single item in the year was exports of refrigerators worth \$12.5

TABLE 1
NON-PASTORAL EXPORTS
EXPORT RECEIPTS

Overseas Exchange Transactions \$NZ millions¹

Year Ended June	Forest Products		Fish		Fruit, Vegetables, Honey, Seeds		Manufactured Goods		Total Non-Pastoral Exports ²	Pastoral Exports	Total
	Receipts	% Total Receipts	Receipts	% Total Receipts	Receipts	% Total Receipts	Receipts	% Total Receipts	Total Exports	Total Exports	Receipts
1960	18.3	2.8	2.9	0.5	10.9	1.7	3.2	0.5	6.4	93.6	642.2
1961	17.7	3.0	3.3	0.6	11.9	2.0	4.1	0.7	7.0	93.0	588.2
1962	16.2	2.8	3.4	0.6	12.0	2.0	4.5	0.8	6.6	93.4	587.4
1963	20.2	3.0	3.5	0.5	12.9	1.9	6.6	1.0	6.8	93.2	671.7
1964	24.5	3.2	3.7	0.5	14.0	1.8	8.8	1.1	7.1	92.9	773.4
1965	25.5	3.4	5.7	0.8	13.3	1.8	10.5	1.4	8.0	92.0	744.2
1966	27.0	3.4	6.1	0.8	14.8	1.8	14.1	1.8	8.8	91.2	803.1
1967	27.4	3.6	7.2	0.9	16.9	2.2	19.0	2.5	10.2	89.8	759.2
1968	45.8	5.5	12.0	1.4	18.6	2.2	31.7	3.8	14.1	85.9	833.3
1969	60.0	6.0	19.1	1.9	25.0	2.5	50.1	5.0	16.5	83.5	1,000.8
1970	67.1	5.8	15.8	1.4	27.7	2.4	65.7	5.6	16.3	83.7	1,164.5
1971	77.4	6.5	19.7	1.7	32.6	2.7	80.1	6.7	18.0	82.0	1,193.8
1972	89.1	6.4	23.5	1.7	31.4	2.3	105.7	7.6	18.4	81.6	1,387.1
1973	96.7	5.5	21.1	1.2	48.8	2.8	130.0	7.3	17.1	82.9	1,773.1
1974	120.1	6.9	20.7	1.2	49.1	2.8	171.0	9.8	21.2	78.8	1,747.9
1975	145.8	8.8	23.0	1.4	52.3	3.2	208.1	12.6	26.7	73.3	1,658.0
1976	197.6	7.9	35.9	1.4	61.1	2.5	343.6	13.8	26.1	73.9	2,490.5
1977	267.1	8.0	46.7	1.4	107.8	3.2	491.0	14.7	28.0	72.0	3,330.4
1978	288.2	8.4	54.0	1.6	106.0	3.1	511.6	15.0	28.9	71.1	3,418.7
1979	320.6	7.8	65.1	1.6	135.7	3.3	652.8	15.9	29.4	70.6	4,103.5
1980	501.2	9.7	112.4	2.2	157.4	3.1	824.2	16.0	31.8	68.2	5,144.8

(1) Reserve Bank data which records cash flow as distinct from Department of Statistics f.o.b. export data which is a record of commodity flow.

(2) Includes miscellaneous.

Table 2
NON-PASTORAL EXPORTS
COMMODITY RECEIPTS BY MAJOR MARKETS

Overseas Exchange Transactions \$NZ millions

Year Ended June	Forest Products			Fish	Fruit, Vegetables, Honey					Seeds		Manufactured Goods				
	Australia	Japan	Asia-Oceania ¹		Australia	USA	Japan	UK	Japan	EEC	UK	Australia	EEC	Australia	USA	Japan	Asia-Oceania^{1}
1960	16.3	..	..	1.1	1.9	—	5.1	—	0.7	2.4	1.5	0.2	1.2	0.2	..	..
1961	15.5	..	..	1.0	2.3	—	3.8	—	1.6	3.4	1.6	0.4	1.7	0.3	..	..
1962	11.8	3.0	..	0.9	2.5	—	5.4	—	—	2.6	1.4	0.3	1.8	0.5	—	..
1963	16.9	1.8	..	0.7	2.7	—	3.7	—	1.9	3.4	1.4	0.3	1.9	1.1	0.1	..
1964	20.7	2.9	..	0.8	2.8	—	5.5	—	1.1	3.0	2.0	0.5	2.8	0.5	0.2	..
1965	21.6	3.5	..	1.4	4.2	—	8.0	—	—	1.8	1.7	0.3	4.2	0.8	—	..
1966	20.6	4.8	..	1.2	4.8	—	4.8	—	2.1	3.0	1.6	0.7	5.9	1.0	0.1	..
1967	19.9	5.8	..	1.2	5.6	—	6.7	—	1.3	2.8	1.7	0.7	7.2	1.4	0.3	..
1968	26.5	15.3	..	1.6	9.8	0.1	8.3	—	0.7	2.6	2.6	0.9	13.9	2.2	0.8	..
1969	29.3	21.5	..	2.5	15.5	—	10.2	—	0.7	2.8	1.7	0.9	24.1	4.0	0.8	..
1970	33.0	25.2	..	2.7	11.1	0.4	8.7	0.3	1.3	2.9	1.9	1.3	34.4	4.6	3.1	..
1971	34.4	29.5	..	3.5	13.2	0.7	11.9	0.7	2.5	3.9	1.3	1.6	41.7	6.9	4.8	..
1972	39.6	33.1	..	3.4	13.4	1.9	12.1	1.0	0.2	3.6	2.0	2.0	54.2	9.4	6.9	..
1973	39.2	39.6	..	3.5	10.3	4.0	23.1	0.7	0.5	4.1	3.3	2.5	58.6	17.9	8.3	..
1974	53.2	50.4	13.1	2.8	10.1	5.0	17.4	2.1	0.6	5.1	3.2	4.0	81.8	9.4	31.1	35.7
1975	74.4	47.8	22.6	4.6	12.4	1.8	15.2	1.5	1.3	4.4	2.3	5.3	88.3	10.0	42.9	49.6
1976	100.4	49.7	40.4	7.2	16.4	4.9	11.5	4.5	3.8	3.3	2.5	3.3	154.7	18.9	78.3	64.1
1977	136.9	70.9	49.0	10.0	21.4	7.7	8.5	6.1	14.5	7.4	3.1	10.4	211.6	31.0	115.9	90.9
1978	126.8	90.3	63.6	10.7	20.6	12.8	20.8	8.9	14.6	6.6	4.2	8.5	234.9	32.3	93.7	105.2
1979	124.7	93.2	85.6	12.7	18.8	17.4	32.1	20.7	16.4	6.5	4.2	6.8	263.3	48.3	152.9	141.0
1980	188.6	146.7	144.4	22.2	28.3	37.3	38.9	17.2	26.6	6.8	4.1	8.6	320.3	65.2	149.2	211.6

(1) Not separately recorded prior to 1974 (Asia-Oceania = A.S.E.A.N., Indian Sub-Continent, Indo-Chinese, Far East, and Pacific Island Countries)

Table 3
EXPORT INDUSTRY GROUPS¹

June Year	Agriculture		Manufacturing		Forestry		Fishing		All Groups	
	Index	Annual % Change	Index	Annual % Change	Index	Annual % Change	Index	Annual % Change	Index	Annual % Change
EXPORT PRICE INDEX										
1971	1000		1000		1000		1000		1000	
1972	1178	17.8	1083	8.3	1039	3.9	1164	16.4	1160	16.0
1973	1564	32.8	1099	1.5	1083	4.2	1163	-0.1	1477	27.3
1974	1731	10.7	1267	15.3	1353	24.9	1228	5.6	1653	11.9
1975	1482	-14.4	1446	14.1	1615	19.4	1243	1.2	1512	-8.5
1976	1812	22.3	1738	20.2	1906	18.0	1626	30.8	1857	22.8
1977	2285	26.1	2039	17.3	2074	8.8	2232	37.3	2301	23.9
1978	2390	4.6	2218	8.8	2128	2.6	2533	13.5	2415	5.0
1979	2803	17.3	2466	11.2	2311	8.6	2571	1.5	2784	15.3
1980	3420	22.0	2858	15.9	2997	29.7	2746	6.8	3385	21.6
EXPORT VOLUME INDEX										
1971	1000		1000		1000		1000		1000	
1972	1024	2.4	1157	15.7	1101	10.1	1022	2.2	1048	4.8
1973	1021	-0.3	1400	21.0	1170	6.3	927	-9.3	1074	2.5
1974	876	-14.2	1506	7.6	1114	-4.8	841	-9.3	953	-11.3
1975	855	-2.4	1587	5.4	1026	-7.9	934	11.1	929	-2.5
1976	1005	17.5	1954	23.1	1227	19.6	1031	10.4	1094	17.8
1977	1078	7.3	2400	22.8	1480	20.6	1180	14.5	1211	10.7
1978	1008	-6.5	2590	7.9	1524	3.0	1232	4.4	1170	-3.4
1979	1072	6.3	2994	15.6	1775	16.5	1552	26.0	1275	9.0
1980	1082	0.9	3425	14.4	2036	14.7	2584	66.5	1332	4.5

Source: Department of Statistics

(1) These export industry groups are those defined by the National Development Conference of 1969, and differ from the Standard International Trade Classifications of Table 4.

Table 4
EXPORTS OF
MANUFACTURED GOODS¹

\$NZ millions, FOB		Chemicals ² Section 5	Leather, Furs and Products Division 61	Rubber Manufactures Division 62	Textiles Yarn Fabrics Division 65	Non- metallic Mineral Manufactures Division 66	Iron and Steel Division 67	Non- ferrous Metals Division 68	Manufacturers of Metals Division 69	Machinery Other than Electric Division 71	Electric Machinery and Appliances Division 72	Transport Equip- ment Division 73	Furniture and Fixtures Division 82	Clothing and Footwear Division 84,85	Other ³	Total Manufactured Articles
Calendar																
Year																
1960	--	0.1	0.3	0.2	0.1	--	0.4	1.2	1.0	0.3	1.2	--	--	0.1	0.4	5.5
1961	--	0.1	0.3	0.4	0.1	--	0.2	1.1	1.4	0.4	0.6	--	--	--	0.6	5.2
1962	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Year																
Ended																
June																
1963	0.5	0.2	0.3	0.7	0.1	--	0.5	0.2	0.7	0.1	0.1	0.1	0.1	0.2	0.4	3.9
1964	0.7	0.2	0.3	0.6	0.1	--	0.7	0.2	0.9	0.3	0.2	0.2	0.1	0.3	0.9	5.5
1965	1.2	0.3	0.3	0.8	0.5	--	0.8	0.4	1.4	0.5	0.1	0.1	0.1	0.4	1.0	7.8
1966	1.4	0.4	0.3	1.0	0.3	--	1.3	0.6	1.6	0.6	0.1	--	--	0.2	1.2	9.0
1967	1.9	0.4	0.4	1.0	0.4	--	2.1	0.7	2.0	1.3	0.3	0.1	0.1	0.2	1.5	12.3
1968	2.8	0.5	1.0	4.1	0.8	0.1	3.1	0.9	4.0	2.3	0.7	0.2	0.2	0.5	2.7	23.5
1969	3.9	0.9	1.1	8.3	1.9	0.5	3.7	2.2	4.8	4.8	1.4	0.6	0.6	1.4	5.5	41.0
1970	5.1	1.0	1.1	10.7	2.4	1.1	4.3	4.2	7.0	6.8	1.8	0.8	0.8	2.2	6.7	55.2
1971	6.1	1.4	1.2	13.6	2.9	3.1	2.7	4.5	7.5	6.8	2.3	1.0	1.0	2.1	7.9	63.1
1972	6.3	2.2	1.2	16.5	3.3	4.5	14.6	5.5	9.6	11.0	3.3	1.4	1.4	2.6	9.5	91.5
1973	7.4	7.0	1.5	20.7	3.5	9.1	25.4	6.2	12.1	13.0	4.8	1.4	1.4	3.0	9.8	124.9
1974	9.1	8.3	1.9	25.5	3.0	5.3	42.6	8.6	13.9	18.1	7.8	2.2	2.2	3.7	12.9	162.9
1975	12.6	9.5	2.1	20.1	3.0	11.8	37.1	11.8	23.1	22.6	10.2	2.0	2.0	5.2	14.2	185.3
1976	16.1	13.0	1.8	37.9	5.2	9.1	69.8	17.5	24.9	31.6	14.1	4.6	4.6	14.7	19.0	279.6
1977	20.0	26.8	2.1	56.9	9.7	15.9	116.9	25.7	36.7	35.4	14.5	8.5	8.5	29.7	27.7	426.6
1978	20.9	33.7	4.1	62.4	13.4	26.8	111.8	28.0	45.0	40.8	20.5	12.1	12.1	27.6	38.3	485.4
1979	29.2	55.2	3.8	66.1	15.2	41.8	157.4	43.7	54.3	53.2	30.2	15.8	15.8	31.5	44.5	641.8
1980 P	42.5	81.6	9.1	95.7	22.0	49.7	168.7	59.2	71.7	54.9	43.4	16.3	16.3	34.9	60.8	810.5

(P)Provisional

(1)Manufactured Goods (excluding re-exports), Standard Industrial Trade Classification sections 5, 6, (excluding divisions 63, 64), 7 and 8.
 (2)Section 5, excluding processed food items 592.111.1, 592.112.1, 592.120.0; casein and caseinate items 592.210.1/592.212.9; lactalbumin 592.220.1; other albumin 592.220.9; gelatin 592.230.1; tall oil 598.110.0; and plastics division 58.
 (3)Includes divisions; 81 plumbing and lighting fittings; 83 travel goods; 87 scientific instruments; 88 photographic apparatus; and 89 miscellaneous items, except group 896, works of art.

Source: Department of Statistics

million. Other important export commodities have been agricultural machinery, other domestic appliances, and parts and accessories for motor vehicles.

Exports of clothing and footwear have also developed steadily with Australia being the largest market. Similarly, exports of furniture and fixtures have developed steadily, based on the Australian market.

Destination

Export markets for New Zealand's manufactured goods are widely dispersed except for a few major market areas that have developed over the last ten years. The destination of manufactured goods has been influenced by demand factors, access arrangements, geographical proximity and also by shipping, availability of which has opened up new markets, and a factor which gives New Zealand some advantage in the near-Pacific area. Australia has been the largest market, consistently taking 40 — 50 per cent of total manufactured exports in recent years. The increased importance of Japan as a market has resulted almost entirely from aluminium exports. The Asia-Oceania market area has recently developed to be more important than Japan by taking a wide variety of manufactured articles. The United States has historically been the next most important market taking 5 — 7 per cent of total exports in recent years compared with about 20 per cent for Japan and Asia-Oceania. The United Kingdom has gradually declined in importance as a market for manufactured goods reflecting the overall weakening in trade ties in favour of the closer Pacific basin area which has experienced faster economic growth.

Incentives

The growth of manufactured exports over the last two decades has been considerably aided by a variety of government measures, especially in the second half of this period. The first incentive scheme was introduced in 1962 in the form of a tax deduction for export promotion expenditure. Since then a number of new schemes and modifications to existing incentives have been introduced, the most recent being the package that became effective in April 1980, which incorporates separate taxation incentive schemes for export market development and export performance, as measured by the domestic content of exports. Over this period the expansion of overseas trade commission posts (from 13 in 1961 to 36 in 1977), the establishment of the Export Guarantee Office in 1964 and the formation of the New Zealand Export-Import Corporation in 1973 have all contributed to manufactured export growth. Exchange rate movements over this period have also generally benefited exporters, especially since the 'crawling-peg' regime was introduced in June 1979 which aims to compensate exporters when domestic inflation is higher than inflation in overseas markets by frequent small adjustments to the exchange rate.

Conclusion

Manufactured exports have shown very rapid growth in the 1960's and 1970's and now comprise a significant proportion both of sector output and also of total exports. Some industries are internationally competitive but much of the manufacturing sector in New Zealand

still relies heavily on import licensing for protection from import competition and on various incentives to sustain profitability in exporting. The output of many industries is too small to obtain the economies of scale enjoyed by larger overseas producers and where other industries are forced by import licensing to buy intermediate products from these inefficient industries, the cost structure in New Zealand is further inflated relative to overseas competition.

Over the last few years raising production for export has become an increasingly important objective for many manufacturers because of slow growth of the domestic market. This has broadened the base for production thereby gaining some economies of production which in turn should lessen the need for protective measures.

Many exporters of manufactured goods have now become well established in a number of markets and have gained the marketing skills and confidence of overseas importers necessary for further growth. For some products the New Zealand manufacturing sector is developing a role in specialised short-run production to complement international competition from large industries, especially in the main industrial economies, which are geared to large volume long run production. In effect this means filling the gaps in the marketplace. An example is the export of colour televisions to Singapore — larger sets for a small market segment not catered for by the mass market small set producers. In addition, New Zealand is small enough in terms of world manufacturing production to avoid distorting supplies to most markets and hence seems likely to avoid the market access problems encountered by many agricultural sector exports.

Export incentives have undoubtedly played a major part in this change along with other government measures. The incentives themselves are regarded as unacceptable by some of our trading partners who consider them as export subsidies with all the connotations of 'dumping'; while in New Zealand they are generally regarded as interim measures to enable the development of domestic industry to a level of international competitiveness. In many cases international competitiveness has been attained, but New Zealand's persistent balance of payments problems will require policies in the foreseeable future — whether direct incentives or other non-discriminatory measures — aimed at encouraging a continuation of export volume growth.

FOREST PRODUCTS

The forest sector has made an increasingly important contribution to New Zealand export income in recent years with receipts having grown from just under 3 per cent of total receipts in 1960 to nearly 10 per cent in 1980. The reasons for this export development go back many years to the exotic tree planting programmes initiated in the 1920's. These forests along with subsequent plantings have provided [until recently] a continually expanding supply of wood for development of processing industries and exports. The development of large scale capital-intensive forest product companies has seen a diversification into production of pulp, paper and newsprint for both export and domestic use. Australia has been the most important export market over the last two decades, but in the last five years Japan and the Asian/Oceania area have grown to be very important as well. These three markets have consistently accounted for over 95 per cent of total forest product exports in

recent years. The slow-down in export volume growth forecast for the 1980's is a reflection of the reduced follow-up planting programmes of the 1950's. However the large scale exotic afforestation recommended in the 1960's will more than double the available resource from 1990 to 2000 and will provide for substantial growth in exports from that period.

The Resource

Currently the total area of forested land in New Zealand is about 7 million hectares most of which is largely unusable indigenous species with only 800,000 hectares in exotic production forests. New plantings are currently over 50,000 hectares per year (hpy) compared to less than 5,000 hpy for the two decades prior to 1960. About 90 per cent of the current planting is of radiata pine, favoured because of its suitability for a wide variety of uses and because of its rapid growth rate under New Zealand conditions — it develops to a usable stage in 25 to 30 years, about twice as fast as in its native California and also very much faster than regeneration of milled indigenous forest areas. Other exotic species such as Douglas fir and Corsican pine have proven to be more suited to certain growing conditions.

Forest Industry Structure and Output

The New Zealand Forest Service currently owns about 57 per cent of exotic production forests by area in New Zealand on behalf of the Government with the balance owned by industry, local authorities and individuals. The functions of the Forest Service are varied as it undertakes commercial activities through its Waipa and Conical Hill sawmills as well as administering the use of State Forests by private industry. The Forest Service is a major exporter of forest products and also undertakes research and development work through the Forest Research Institute. State Forests provided approximately 4.4 million cubic metres or 52 per cent of all exotic wood removed from New Zealand forests in the year ending March 1978. The majority of this was sold to local industry as standing forest for the production of timber, pulp and newsprint with about 6 per cent exported as logs.

Following the development of exotic forests in the central North Island substantial capital investment was made by companies in pulp, paper and newsprint production. N.Z. Forest Products Limited began operating its Kinleith mill in 1953 and this was followed in 1955 by the establishment of the Tasman Pulp and Paper Company's Kawerau mill. More recently, development of New Zealand's large forest processing industries has been aided by investment by overseas interests. This is highlighted by the development of the two most recent pulp mills, Carter Oji Kokusaku Pan Pacific Limited which began operations in 1973 as a joint venture between New Zealand and Japanese interests, and Winstone Samsung Industries Limited which began production in 1979 and is a joint venture between New Zealand and Korean interests.

In 1978, 3.6 per cent of the total labour force was employed in the forestry sector, with the majority concentrated near the large forests of the central North Island. In this area about one quarter of the regional labour force is engaged in forest industry employment. Industrial statistics indicate that forest industries taken as a whole are more capital-intensive than the all-industry average although there is considerable variation within the forest industries. Forest industries are also fairly

energy-intensive, especially in the manufacture of mechanical pulp.

Table 6 shows total round wood removals (total wood entering the various product categories) over the last two decades. It is apparent that export removals as a percentage of total removals have increased from roughly 20 per cent in 1960 to about 60 per cent in 1980. It is expected that the percentage available for export will rise quickly when additional resources become available in the 1990's. Indigenous tree species now provide only about 5 per cent of the total wood supply, a figure which seems likely to decline further.

Export Products

The long-term trend over the last two decades has been toward utilisation of forest resources in more advanced stages of manufacture such as pulp and newsprint production as opposed to export of largely unprocessed logs or chips.

The value of the main forest exports are shown in table 5 where it can be seen that over the last few years pulp exports have become the largest forest product export earner. New Zealand produces long-fibre pulp which many importing countries require to produce newsprint or paperboard, and to supplement their short-fibre imports used to produce higher quality papers. Pulp from different production processes and of varying quality is exported with the most important types being mechanical, bleached and unbleached sulphate pulp. Mechanical pulping yields about twice as much pulp per tree compared with chemical pulping but it is more costly in terms of energy usage and the product tends to be suitable for low quality paper production — newsprint for example. Newsprint exports have been the second largest export earners since 1975 when log exports dropped sharply. The volume of log exports peaked in the early 1970's and has since been reduced to provide for expansion of the processing mills. Sawn timber exports have, in spite of some yearly fluctuations, increased substantially over the last few years. A greater volume of high value, kiln dried and planed sawn timber is being exported reflecting the desirability of further processing for export. The dramatic increase in exports of wood-panel products [items such as plywood, veneer and particleboard] over the last few years also illustrates the trend toward further processing of forest products within New Zealand. These panel products are exported in a variety of grades and thicknesses for use in panelling, flooring and furniture manufacture.

International Trade

International trade in forest products is substantial but New Zealand's share of world production and exports is very small. New Zealand's exports are almost entirely softwood, with only small quantities of hardwood logs and chips exported, compared with world trade which is a more even mixture of hardwoods and softwoods. Production and demand in the U.S. are critical elements in international trade as both domestic and foreign producers divert supplies to alternative markets in times of depressed demand there. World trade in pulp, newsprint and other papers is dominated by Canada and the Scandinavian countries, Finland, Norway, and Sweden. Most of Canada's exports go to the U.S., the world's largest importer, and most of the remainder to Western Europe and Japan. The main market for Scandinavian exports is the E.E.C. although, as with Canada, smaller amounts are shipped to a wide range of

Table 5
EXPORTS OF FOREST PRODUCTS

\$NZ million F.O.B.

	Wood Pulp	News- print	Logs and Poles	Sawn Timber	Other Paper, Paperboard	Wood Chips	Wood Panel Products	TOTAL ¹
CALENDAR YEAR								
1960	5.6	6.2	1.1	3.1	0.9	—	--	16.9
1961	5.0	5.4	2.3	2.1	0.3	—	--	15.1
1962	5.7	4.6	2.5	2.2	0.3	—	0.1	15.2
YEAR ENDED JUNE								
1963	5.5	8.0	2.0	2.1	0.2	—	0.1	18.1
1964	5.5	11.5	2.8	2.2	0.2	—	0.1	22.4
1965	4.7	11.9	3.7	2.7	0.2	—	0.1	23.6
1966	6.0	11.9	4.3	2.2	0.3	—	0.1	25.2
1967	5.9	10.1	5.3	2.0	0.5	—	0.1	24.4
1968	6.2	15.8	11.7	4.8	1.6	—	0.3	41.2
1969	7.4	16.1	20.1	8.4	2.6	—	0.9	57.2
1970	7.2	15.8	24.1	10.0	4.6	1.0	1.2	66.2
1971	9.4	14.0	26.3	10.8	3.9	1.5	1.3	71.2
1972	11.2	16.5	30.0	10.8	4.8	2.3	2.1	82.0
1973	14.1	16.2	34.2	10.7	4.9	3.6	1.8	89.7
1974	25.6	14.5	34.3	13.5	11.0	3.3	1.0	108.2
1975	43.6	20.8	17.6	10.5	15.0	5.6	0.7	119.0
1976	58.8	34.3	19.2	12.8	27.0	6.7	0.8	167.4
1977	70.0	51.8	31.6	18.9	27.5	8.1	2.3	220.5
1978	69.7	51.6	37.8	24.0	24.8	9.3	4.2	233.7
1979	86.3	55.5	42.0	36.2	34.7	10.1	10.4	299.3
1980 P	120.2	81.0	62.1	64.8	43.1	13.1	23.9	445.7

Source: New Zealand Forest Service

(P) Provisional

(1) Includes items not listed separately

Table 6
EXPORT VOLUMES
FOREST PRODUCTS

	Woodpulp '000 Tonnes	Newsprint '000 Tonnes	Logs and Poles '000m ³	Sawn Timber '000m ³	Other Paper and Paper- board '000 Tonnes	Wood Chips '000 B.D.U.	Wood Panel Products '000m ²	Total Exports (Roundwood) Equivalent '000m ³	Total Roundwood Removals '000 m ³ Mar. Years
Calendar									
Year									
1960	71.3	50.2	122	112	6.0	—	91	903	4,615
1961	64.6	46.9	261	76	1.0	—	85	911	4,769
1962	71.3	42.2	263	78	1.1	—	172	942	4,952
Year Ended June									
1963	70.2	73.2	221	77	0.8	—	234	979	4,655
1964	66.7	109.1	309	79	0.8	—	223	1,180	5,156
1965	56.7	112.7	411	99	0.8	—	268	1,285	5,694
1966	71.5	118.9	484	77	1.7	—	309	1,412	5,858
1967	73.5	96.0	564	72	2.6	—	328	1,409	6,017
1968	75.5	127.2	1,225	153	11.7	—	714	2,458	6,297
1969	89.1	123.3	1,514	243	18.4	—	2,237	3,037	6,885
1970	82.2	121.5	1,800	255	31.6	34.7	2,209	3,416	7,810
1971	96.8	111.4	1,823	275	19.3	63.6	2,312	3,565	8,189
1972	114.3	130.9	1,871	266	23.6	77.8	3,569	3,783	7,960
1973	141.5	123.0	1,954	250	25.0	135.6	3,244	4,100	8,240
1974	232.0	103.1	1,450	246	41.4	121.1	1,472	3,812	8,578
1975	312.6	120.6	695	170	52.1	153.8	762	3,317	8,400
1976	359.9	132.1	714	200	84.3	152.5	1,094	3,836	8,304
1977	420.4	176.0	1,136	268	80.2	167.0	1,858	4,695	9,754
1978	429.9	190.4	1,070	333	71.7	185.3	22,487m ³	4,784	9,266
1979	443.2	206.5	1,063	429	100.0	201.0	62,671m ³	5,414	8,974
1980 P	478.7	223.3	1,247	553	94.3	192.0	112,359m ³	6,034	9,931

Source: New Zealand Forest Service.

(P) Provisional

(1) Recorded in m³ from 1978

countries. Import demand for the major products is sensitive to both changes in productive capacity and economic activity in the importing countries. Although markets for pulp, newsprint and the various papers are influenced by similar demand factors, prices for these products do not always follow the same pattern as they can be subject to different supply factors, notably additions to productive capacity. Much of the pulp and paper is traded on a contract basis which introduces a certain amount of price stability into the markets, although spot sale prices and new contracts can be quite sensitive to relatively small changes in supply and demand in the large producing and consuming countries.

International trade in logs, sawn timber and wood-based panel products is diverse and also very large. Log trade expanded greatly in the late 1960's following a major expansion in Japanese wood processing industries and has since been sustained by exports to other South-East Asian and Pacific countries. Of an estimated 73 million cubic metres of logs traded in 1979 Japan imported nearly 60 per cent with most supplies coming from the U.S. and the U.S.S.R. The volume of sawn timber trade is smaller than for logs because the principal consuming countries prefer to import raw material logs for domestic processing. Woodchip trade is dominated by U.S. exports to Japan while panel product exports originate primarily from Korea, Taiwan and Singapore and are widely traded.

New Zealand's Export Markets

New Zealand exports forest products to many countries but three market areas, Australia, Japan and Asia-Oceania, presently account for over 95 per cent of total forest product receipts between them. Table 2 shows the developments in major export destinations over the last twenty years and it is apparent that New Zealand has always relied heavily on the import requirements of the Pacific Basin area.

Australia has been the most important market for New Zealand's forest product exports over the last twenty years with the largest single export product being newsprint. The major market for chemical pulp is also Australia while Japan, the second largest market, is the main market for mechanical pulp. Japan is also the main market for log and pole exports, with Korea the only other market of any significance. Australia and Japan are the main markets for sawn timber exports with Japan importing mainly *Pinus Radiata* timber while Australia imports a variety of both native and exotic sawn timber. Japan is an increasingly important market for timber, much of which is shipped as flitches (logs sawn square) for further sawing in Japanese mills. In Japan radiata pine sawlog and flitch exports are generally used in low value production such as cable-drum manufacture and packaging, although pine is gradually being accepted as suitable for construction purposes. Small quantities of sawn timber are also exported to Europe, South-East Asia, the Middle-East and the U.S.A. Australia is the largest market for paper and paperboard exports as well, while Japan is the main importer of New Zealand woodchips for use in their paper industry.

Freight costs of forest products are high because of their relatively low value per unit of volume and for this reason geographical proximity plays a large part in determining export markets. This is reflected in the importance of the Pacific Basin area for New Zealand's exports and Australia in particular, where New Zealand has an advantage over most other exports despite

shipping costs which are relatively high by international standards on a tonne/mile basis.

Prices for most of New Zealand's forest product exports tend to fluctuate more in response to events in the major producing and consuming countries than events in our major markets. Prices largely reflect cyclical and secular movements in demand in the packaging, home construction and newspaper and magazine publishing industries, especially in the United States which consumes about 30 per cent of world forest output. New Zealand's contract prices are usually based on world prices which are largely determined in the North American and Scandinavian markets where we sell little. New Zealand's small share of world forest product trade makes this situation inevitable although the trend towards higher stages of manufacture will offset some of the problems associated with raw material log exports to Japan.

Table 7
EXPORTS OF FOREST PRODUCTS FROM
NEW ZEALAND
YEAR ENDED JUNE 1980

Category	Volume fob	Value \$m P
Logs and Poles (000 m ³)	1,247	62.1
Sawn timber (000 m ³) ¹		
Radiata Pine	445	49.5
Douglas Fir	81	10.4
Other exotic	18	2.6
Indigenous	9	2.3
Woodchips (000 BDU) ²	192	13.1
Woodpulp (000 tonnes)		
Mechanical	256	43.3
Chemical		
Soda or sulphate unbleached	156	51.5
Bleached and semi-bleached	66	25.1
Other pulp	1	0.4
Paper and paperboard (000 tonnes)		
Newsprint	223	81.0
Kraft paper and paperboard	84	32.3
Other machine paper	8	8.2
Other kinds	--	2.5
Articles of paper and paperboard		
Paper bags (millions)	43	1.3
Paper for wrapping fruit (tonnes)	933	0.9
Other kinds	--	10.2
Wood panel products (000 m ³)		
Fibreboard	11	3.2
Plywood	30	8.3
Veneer	3	0.9
Particleboard	67	11.6
Miscellaneous products	--	25.0
TOTAL FOREST PRODUCTS	--	445.7

Source: Department of Statistics.

P Provisional

(1) Flitches are included in this category.

(2) B.D.U. = bone dry unit; 1 B.D.U. = approximately 1090 kg of oven dry wood.

Future Prospects

Through the 1980's there will be a decline in the rate of growth of forestry output due to limitations imposed by available wood supplies. However, a major increase in roundwood availability will occur over a period of 25 years beginning about 1990. The establishment of new forest plantings is expected to eventually contribute to a

four-fold increase in national wood supply. Most of the increase in wood supply, unless absorbed by some large scale domestic use such as energy production, will be available for export production.

It is not immediately clear what products should be produced from the increased roundwood availability but it is likely that emphasis will be placed on production of clear sawn timber in conjunction with pulp and paper production. New Zealand is one of the few countries in the world with intensively managed forests which lend themselves to production of clear, defect-free, sawn timber. An increased supply of clear wood would become available at a time when other producers of similar products are likely to face reduced supplies. The future demand for, and supply of, wood and the various wood products on world markets is, therefore, of great importance to New Zealand's forestry sector. FAO projections formulated in 1978 suggest that average annual growth rates in consumption of industrial forest products to the mid 1990's will be about 4 per cent for sawn timber; 8 per cent for pulp; and about 4 per cent for total paper and paperboard. Supply projections indicate a shortage of wood available for processing in the Scandinavian countries but this is likely to be offset by rapid exploitation of the virtually untapped South American forests. New Zealand's relative isolation and consequent high shipping costs will continue to detract from our ability to compete in the more distant markets.

Heavy investment in forestry over the next twenty years will be required to enable full utilisation of the expanding wood resources. It is likely that considerable foreign investment in joint venture activities will occur as this often has the advantage of providing easier access to export markets. Market access may well become an increasing problem, particularly in light of Australian plans for increased output of forest products.

Japan and Asia appear to be the most promising markets for the future, especially Asia where rapid economic development and increased literacy rates are expected to lift annual per capita paper consumption, from 14 kilograms at present, toward the levels of 100 — 200 kilograms or more achieved in the developed economies. However, this potential and demand elsewhere may be limited by the rapid development of electronic visual display units which are expected to cut into the use of paper.

Despite the degree of caution expressed about New Zealand's forest product export future it is widely recognised that past and continuing emphasis placed on careful forestry management will assure high quality products that will be better able to compete in international markets. It is likely that the forestry sector will continue to make an increasingly important contribution to both the domestic economy and export income.

FISHING INDUSTRY

The New Zealand fishing industry has undergone considerable change over the last 20 years and especially since the inception of the 200 mile exclusive economic zone (EEZ) in 1978. Growth in export volume was steady from 1960 to 1977/78 but since then dramatic increases have been recorded, due primarily to the rapid development of both joint venture and domestic catching capacity. Fish exports have increased from half of 1 per cent of total exports by value in 1959/60 to over 2 per cent in 1979/80.

Industry Structure

The fishing industry is one of the oldest in New Zealand dating back to the early whaling days. Fishing existed as a relatively small industry working close coastal waters for more than a century until 1945 when the government introduced a restrictive licensing system which allowed vessels to land catches only at their port of registration. Surplus fish were exported, but never on a large scale. In 1962 a Parliamentary Select Committee was appointed to examine the industry and it recommended the abolition of the licensing system which it considered had restricted expansion and diversification. The licensing system was abolished in 1964, the same year that the Fishing Industry Board was established. Since then the industry has expanded and diversified, using new fishing techniques to catch a wider range of fish species.

The Fishing Industry Board and two divisions of the Ministry of Agriculture and Fisheries are the major bodies involved in the planning and administration of New Zealand's fisheries. The Fishing Industry Board is primarily involved in fish marketing and promotion but it also has responsibility toward commercial development and representing industry opinion. The Fisheries Research and Fisheries Management Divisions of MAF are responsible for the scientific research, administration and management of fishery resources. Finance for the Board's activities comes primarily from a levy of approximately 1 per cent on the landed value of fish in New Zealand.

A great diversity of vessels and catching techniques are employed in New Zealand. Trawling, purse-seining, long-lining and the use of gill nets and lobster pots are some of the more common methods. The average size of fishing vessels has increased markedly over the last two decades in response to both the changing economics of fishing and the development of deepwater fishing grounds. In recent years the rapid rise in fuel costs has affected the profitability of energy intensive operations such as trawling while less energy intensive long-lining has become a more attractive method.

Mechanisation is a significant feature of the New Zealand fishing industry where manpower employment is low in comparison to other fishing nations. In the past there was little formal training for employees in the industry but more emphasis on job training followed recommendations of the National Development Conference in 1969 and with the development of more sophisticated fishing gear and catching techniques.

The fishing industry has been assisted in its development over the last few years by Government measures such as duty-free import and suspensory loans for fishing vessels, as well as export incentives. The continuing research carried out by the Fisheries Research Division of MAF has also been of considerable assistance to the industry.

Exports

The composition of fish exports has changed over the years as the fishing industry has developed. In 1965/66 when exports had a value of about \$6 million, 80 per cent was accounted for by the sale of rock lobster and the other 20 per cent by fin fish. By 1973/74 fish exports had grown to nearly \$19 million, of which rock lobsters contribution had dropped to 55 per cent, with fin fish at 36 per cent and the remaining 9 per cent accounted for by shellfish. In 1979/80 fin fish contributed approximately

50 per cent of the \$130 million earned by fish exports while rock lobster and shellfish (which includes squid) contributed 22 and 28 per cent respectively. Over this period the quantity of fin fish exported has increased dramatically while the volume of rock lobster exports has remained largely unchanged. Exports of squid and shellfish (which includes oysters, mussels, paua and scallops) have risen sharply in recent years, mainly from the expansion of squid jigger operations around New Zealand.

Export Markets

Fish is currently exported to more than 40 countries, but three markets, U.S.A., Japan and Australia accounted for over 75 per cent of total fish export earnings. Rock lobster (crayfish) is the major fish export to the U.S. while Japan has traditionally been the main market for fin fish and squid. Eels, both live and frozen have been the mainstay of New Zealand's fish trade in Europe. A conscious policy of market diversification has been adopted by the fishing industry in recent years, especially following the price-depressing oversupply conditions that have developed in some of the major markets and Japan in particular. A small quantity of fish is exported to Africa and the Middle East areas which are seen as having potential for growth over the next few years.

The Exclusive Economic Zone

The EEZ is an area of about 4.5 million square kilometres or about fifteen times New Zealand's land area. The EEZ does not involve any extension of territorial limits, rather it allows New Zealand to control utilisation and management of resources within the area. Control must be in accordance with the International Law of the Sea Conference Agreement which requires that New Zealand allocate to foreign fishing interests any surplus allowable catch not capable of being harvested by New Zealand. The total allowable catch has been estimated at approximately 500,000 tonnes per year with approximately half now allocated to foreign vessels.

Foreign fishing vessels have been taking catches from New Zealand waters since 1957 when the first Japanese long-liners began catching snapper. In 1965 New Zealand established a nine mile fishing zone outside the three mile territorial waters. In 1967 Japan began trawling for bottom dwelling fish and the Soviet Union commenced fishing New Zealand waters. The Soviet Union, Japan and South Korea are the three countries currently allowed to fish the zone. Each country is given a yearly quota and when the catch is filled the vessels must leave the area. For the season ending 31st March 1980 foreign fishing allocations for all types of fish totalled 246,000 tonnes, of which 126,000 tonnes were allocated to Japan (73,500 tonnes actually caught), 80,000 tonnes to the U.S.S.R. (53,300 tonnes caught), and 40,000 tonnes to South Korea (13,600 tonnes caught). Licence fees for fishing and support vessels vary depending on the different catching methods.

Joint Ventures

With the establishment of the EEZ the government encouraged the development of joint venture operations between New Zealand and foreign fishing interests in an effort to expand the New Zealand industry at a faster rate than would have been possible with domestic capital, particularly in the deeper water fisheries which were

relatively unknown. Joint ventures between New Zealand and foreign interests using chartered foreign vessels have minimised the risks for the New Zealand partners in undertaking this type of fishing. They are also providing data to the Fisheries Research Division of MAF which would be expensive to obtain otherwise.

All joint venture companies must produce plans indicating how they plan to make their operations New Zealand ventures. Such aspects as the number of New Zealanders employed, processing methods used and methods of increasing local equity are taken into account when granting approval for such ventures. In 1978/79 joint ventures were confined to 56 squid jiggering and 5 finfish vessels. At the end of March 1980 the joint venture fleet consisted of 26 trawlers, 80 squid jiggers, 9 purse-seiners, 2 bottom long-liners and 2 tuna long-liners, a total of 119 vessels. A total of 154 vessels have been approved for 1980/81.

The Future

New Zealand has a significant fisheries resource with considerable export potential. World demand for fish is expected to increase and with restrictions on trade less than for other primary products the future outlook for the industry appears sound. The low export prices received over the last few years have hindered development to some extent but market diversification and expanding demand is expected to overcome this problem.

Considerable further investment in both catching and processing facilities will be required to increase fish exports although joint ventures are providing a quick and relatively risk-free method of development for New Zealand.

HORTICULTURE, HONEY, SEEDS

Horticulture in New Zealand is comprised of a variety of specialised industries, each in different stages of development and with different export market objectives. New Zealand's generally mild climate and well distributed rainfall favour production of fruits ranging from apples, pears, stone and berry fruits to citrus and sub-tropical fruits, such as kiwifruit and tamarillos. Although a large area of horticultural land in New Zealand is devoted to vegetable production, vegetable exports over the years have been sporadic and relatively minor. The honey industry in terms of both total production and export is small. Seed and cereal exports have varied considerably in both value and volume terms contributing between 0.7 and 1.4 per cent of total exports by value.

The Industries

The kiwifruit industry is currently the glamour horticultural industry but its origins date back to 1906 when the original Chinese Gooseberry was introduced to New Zealand. Improvement has occurred over the years with the development of superior varieties which are larger and keep better than the original fruit. The Hayward variety was developed and it now accounts for 95 per cent of the 4,700 hectares currently planted, much of which is yet to come into full production.

The largest horticultural industry in terms of both production and export is the apple and pear industry. The relative land areas in production of the major

Table 8
EXPORTS OF OTHER PRIMARY PRODUCTS

(\$NZ millions F.O.B.)

Calendar Year	Fruit, Vegetables, Honey					Fish			Seeds, Unmilled Cereals			
	Apples and Pears	Kiwifruit	Potatoes	Onions	Honey	Rock Lobster	Other Fish	Seed Peas	Grass and Clover Seed	Barley	Maize	
1960	4.8	—	0.2	0.2	0.1	1.8	1.1	0.9	3.4	—	..	
1961	4.8	—	0.5	0.3	0.2	1.5	0.9	1.0	2.6	—	..	
1962	6.7	—	0.2	0.2	0.2	2.3	0.8	1.0	3.6	—	..	
Year Ended												
June												
1963	4.7	—	0.2	0.2	0.3	2.4	0.9	1.0	3.6	—	—	
1964	5.3	—	0.2	0.5	0.3	2.2	0.9	1.0	3.5	—	—	
1965	6.1	—	0.6	0.2	0.2	3.7	1.2	1.0	2.0	—	—	
1966	7.1	—	0.7	0.2	0.1	4.2	1.2	1.1	3.2	—	—	
1967	5.5	—	0.3	0.4	0.2	5.1	1.2	1.0	3.2	—	—	
1968	5.7	—	0.3	1.0	0.1	9.3	1.6	1.1	3.7	0.2	—	
1969	6.1	—	0.4	0.3	0.1	15.4	2.0	1.5	3.5	0.1	—	
1970	9.4	0.3	0.5	0.8	0.3	11.4	3.4	1.5	3.6	—	—	
1971	9.2	0.4	0.7	0.8	0.6	12.2	5.6	1.1	4.9	—	—	
1972	10.7	0.7	0.4	0.9	0.8	12.9	9.0	1.6	4.4	0.5	—	
1973	13.4	0.5	0.8	1.6	1.3	10.1	9.7	1.4	6.5	2.0	0.4	
1974	13.5	1.6	1.3	2.3	0.9	10.4	8.6	1.7	8.9	—	—	
1975	19.7	2.9	1.1	1.2	0.5	10.7	10.6	2.2	10.0	—	—	
1976	21.2	4.4	2.1	3.7	1.8	14.3	16.4	2.5	4.5	7.3	8.7	
1977	16.6	10.0	3.3	8.6	1.3	21.6	26.9	3.4	10.8	6.9	5.5	
1978	26.5	11.6	1.4	4.4	1.2	21.9	35.7	2.9	9.9	5.9	2.2	
1979	30.4	22.4	1.8	8.9	3.4	22.8	51.1	3.8	9.8	1.4	6.1	
1980 P	36.5	34.5	2.4	6.2	3.7	28.3	101.7	4.6	15.8	11.5	3.8	

(P) Provisional

Source: Department of Statistics

Table 9
EXPORT VOLUMES
OTHER PRIMARY PRODUCTS

Calendar Year	Fruit, Vegetables, Honey				Fish			Seeds, Unmilled Cereals			
	Apples and Pears	Kiwifruit	Potatoes	Onions	Honey	Rock Lobster	Other Fish	Seed Peas	Grass and Clover Seed	Barley	Maize
1960	34.8	..	2.9	2.8	0.4	1.3	3.5	7.0	6.5	—	—
1961	37.1	..	10.4	4.9	0.7	0.9	2.4	7.9	6.7	—	—
1962	48.3	..	4.8	2.0	1.0	1.3	2.7	8.0	7.9	—	—
Year Ended											
June											
1963	33.8	..	4.4	2.4	1.1	1.4	2.4	7.4	8.3	—	—
1964	38.5	..	4.5	8.4	1.2	1.3	2.5	7.8	9.3	—	—
1965	44.1	..	11.3	4.0	0.8	1.5	3.1	8.0	4.6	—	—
1966	51.6	..	15.2	2.9	0.3	1.5	2.8	9.6	10.3	—	—
1967	40.2	..	6.3	4.9	0.5	2.1	3.0	9.1	11.3	—	—
1968	41.5	..	5.2	10.0	0.2	2.8	3.6	9.3	11.9	—	—
1969	44.1	..	6.6	4.2	0.3	3.3	4.0	12.0	9.2	—	—
1970	57.7	0.5	9.4	9.6	0.6	2.5	5.1	11.6	7.9	—	—
1971	55.6	0.7	10.5	8.2	1.8	2.3	7.8	8.8	9.7	—	—
1972	60.6	1.0	4.4	10.5	1.7	2.0	12.1	12.1	11.6	—	—
1973	69.6	0.7	10.9	14.4	1.8	1.6	12.8	10.4	16.0	—	—
1974	69.0	1.8	11.1	15.5	1.0	1.7	11.2	11.3	9.3	—	—
1975	81.1	3.1	8.2	9.6	0.6	1.6	12.1	10.1	11.4	—	—
1976	77.9	3.5	14.6	19.7	2.4	13.2	1.7	8.7	6.1	—	—
1977	60.7	6.1	24.1	41.1	1.0	1.8	26.0	11.0	12.4	—	—
1978	81.7	6.6	11.4	26.6	1.0	1.8	30.0	9.1	9.3	—	—
1979	85.4	9.9	12.2	43.4	2.5	2.0	42.3	12.3	9.0	—	—
1980 P	94.1	16.0	13.0	41.7	2.0	2.3	85.7	15.1	10.8	—	—

(P) Provisional

Source: Department of Statistics

horticultural exports are shown in table 10.

The industry is administered by a number of statutory authorities vested with control over export activities. The largest is the Apple and Pear Marketing Board which acquires the greater part of domestic production for both domestic and export disposal. It was established in 1948 to acquire and market apples and pears grown in New Zealand or imported into New Zealand. Government regulation limits growers' private sales and in return the Board is required to purchase all apples of marketable quality at prices set by the Apple and Pear Prices Authority. The Kiwifruit Marketing Licensing Authority was established in 1977 to promote and assist the development of the kiwifruit industry and its exports. The Authority is empowered to issue export licences but it does not have the power to purchase kiwifruit except for promotional or research purposes. The Citrus Marketing Authority was established in 1953 to control the collection and distribution of New Zealand citrus fruit. It has since ceased trading but while in operation the majority of the citrus fruit it handled was sold to Fruit Distributors Limited, a public company also favoured with sole import rights for tropical fruit. That company began operations in 1951 with formal government approval as the sole importer of bananas, oranges, pineapples and grapes. It is currently owned by 39 fruit wholesale firms operating in New Zealand although two directors are government appointees. The company is required to provide adequate supplies of tropical fruit at an even price to the domestic market, but at levels that protect the interest of New Zealand producers. It is also required to maintain preferential trade with the Pacific Islands and to limit its profits to 7.5 per cent on its shareholding. The New Zealand Fruitgrowers Federation, the national federation of fruitgrowers associations, is also actively involved in both domestic trading and exporting through its Fruitfed Export Division. The Federation also actively promotes and fosters the fruit industry. The honey industry is controlled by the Honey Marketing Authority which was established in 1953 to promote and organise the marketing of honey. It has powers to purchase and process honey for sale and until recently acted as the sole honey exporter. The potato industry is organised by the New Zealand Potato Board which was established in 1950 to ensure an adequate supply of potatoes for domestic consumption.

The Ministry of Agriculture and Fisheries provides technical assistance to the various industries while exports of some horticultural crops are encouraged by export incentives.

Exports

Exports of fruit, vegetables and honey have consistently made a small but important contribution to total export income over the last twenty years, growing to 2.1 per cent of total export receipts in 1979/80 compared to 1 per cent in 1959/60. Seed and cereal exports have increased in both value and volume terms over this period but the share of total export receipts has not increased, although fluctuations have caused the percentage to rise in some years — see table 1.

The spectacular growth in kiwifruit exports has dominated horticultural exports over the last decade. Kiwifruit exports have grown from 500 tonnes worth \$300,000 in 1969/70 to 16,000 tonnes worth \$34.5 million in 1979/80. Apple and pear exports have, despite considerable yearly volume and price fluctuations, shown a significant upward trend over the last 20 years. The growth in other fruit and vegetable exports is shown in

tables 8 and 9.

The most significant feature about exports of fruit, vegetables, honey, seed and cereal exports is the magnitude of fluctuations in both export volumes and receipts between years. The main reason for these yearly fluctuations is seasonal variation in crop yield, in both New Zealand and the overseas markets. Although steady markets have been established for kiwifruit, apples and pears, exports of other horticultural products tend to be residual to domestic market requirements, consequently when yields are low the volume available for export is also low. When overseas yields are high, prices are usually depressed, thus depressing New Zealand export prices regardless of the volume exported.

New Zealand exports suffer because of our distance from the major markets and the high cost of freight. Emphasis, however, has been placed on quality; a factor which has enabled New Zealand exporters to compete in the highly competitive markets in the past.

Export Markets

In general the destination of New Zealand horticultural exports vary markedly between years, largely because of variations in importing countries' crop yields and hence demand for imports. EEC countries have been the main markets for New Zealand apple and pear exports with the largest single importer being the United Kingdom. The importance of the United Kingdom market has declined over the period however. Apples and pears are also exported to South East Asia, North America, Scandinavia, South America and the Pacific. Taiwan has recently developed as a market for over-sized apples which are difficult to sell at home and abroad.

New Zealand was the first country to develop a kiwifruit export industry. Exporters had to initially educate buyers in foreign markets as to the nature and use of the fruit. The old name Chinese gooseberry was dropped in favour of kiwifruit as a marketing ploy to overcome buyer misconceptions of the fruit being like a gooseberry.

Kiwifruit is now exported widely although the major markets of West Germany and Japan imported 43 and 20 per cent respectively of New Zealand kiwifruit exports in 1979/80. The United States, Australia and other European countries are the next most important markets. Emphasis is being placed on diversifying kiwifruit markets in an attempt to maintain higher prices as the volume available for export increases.

Honey is exported in bulk, packed and comb honey forms to a variety of markets, the main ones being the United Kingdom, Europe, Japan and the Middle East. The development of exports to the Middle East was the major trend to emerge in honey exports over the last decade.

Vegetables are exported mainly to the Pacific Islands, Japan, Europe, U.S.A., Canada and Australia. Most export opportunities result from either shortfalls in overseas production or periodic surpluses in New Zealand production rather than the building up of regular markets.

The United Kingdom, Europe and Australia have traditionally been the main importers of New Zealand grass and clover seeds, although small quantities have been exported to many other countries over the years. Barley and maize export markets are less stable than for other seeds. The U.S.S.R. has been the major buyer in recent years, but previously Japan and some Pacific nations were the major importers.

The Future

Horticultural exports, and kiwifruit exports in particular will continue to increase as newly planted areas come into production. Export prices for kiwifruit are expected to ease back as production rises. Perhaps the greatest competition to New Zealand's horticultural exports will come from other Southern Hemisphere countries which are currently competing in the same Northern Hemisphere markets for apples and pears and a number of seed crops. Northern Hemisphere fruit production is seen as being complementary to New Zealand production, especially with regard to kiwifruit production where continuity of supply is necessary to establish steady sales. Chilean horticultural exports are expected to be the largest single threat although kiwifruit

productions is still in its infancy there.

A number of fledgling or new horticultural crops offer promising export prospects for New Zealand's future. These include tamarillos, musk melons, sweet chestnuts, asian pears, loquats, persimmons and macadamia nuts. Many of these crops already have established Northern Hemisphere markets that New Zealand exporters could supply over their winter months.

Seasonal production variations, both home and abroad, will continue to be the major problem and constraint on development of horticultural, seed and cereal exports. New Zealand's future would appear to lie with innovation and production of high quality fruit that is saleable even in times of over-supply.

Table 10
HORTICULTURAL PRODUCTION
(tonnes)

Season	Apples and Pears	Kiwifruit	Onions	Potatoes	Barley	Maize
1972/73	163,858	3,638	38,912	244,421	285,261	117,507
1973/74	168,048	5,608	39,734	206,192	241,580	88,304
1974/75	176,822	4,415	45,534	225,522	262,881	157,599
1975/76	186,356	6,076	51,672	248,321	285,495	184,469
1976/77	157,344	7,965	58,830	270,497	272,096	210,419
1977/78	199,380	9,616	61,441	237,291	258,690	174,536
1978/79	194,346	18,650	69,025	203,300	263,600	179,000
1979/80 P	214,100	19,400	65,000	209,000	294,600	190,500

EXPORTS AS A PERCENTAGE OF TOTAL PRODUCTION

Year Ended June	Apples and Pears	Kiwifruit	Onions	Potatoes	Barley	Maize
1973	42	19	37	4	14	8
1974	41	32	39	5	0	--
1975	46	70	21	4	0	--
1976	42	58	38	6	21	42
1977	39	77	70	9	19	22
1978	41	69	43	5	19	12
1979	44	53	63	6	5	32
1980 P	44	82	64	6	29	15

AREAS IN PRODUCTION (ha)

Season	Apples and Pears	Kiwifruit	Onions	Potatoes	Barley	Maize
1973/74	5,653	850	1,339	8,606	87,143	12,516
1974/75	5,698	1,019	1,472	8,854	104,495	20,558
1975/76	5,764	1,234	1,529	9,495	84,739	26,028
1976/77	5,810	1,647	1,754	9,867	74,326	28,566
1977/78	6,042	2,195	1,893	9,285	70,837	24,761
1978/79	6,154	3,487	2,122	7,500	89,771	26,858
1979/80 P	6,240	3,700	2,289	8,400	80,506	21,868

(P) Provisional.

Source: Department of Statistics.