

THE WORLD MARKET FOR
FRUIT JUICE PRODUCTS:
CURRENT SITUATION AND PROSPECTS

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C O N T E N T S

	Page
LIST OF TABLES	(ix)
LIST OF FIGURES	(xvii)
PREFACE	(xix)
ACKNOWLEDGEMENTS	(xxi)
SUMMARY	(xxiii)
CHAPTER 1 INTRODUCTION	1
1.1 Background to Research	1
1.2 Outline of Report	1
CHAPTER 2 UNITED STATES OF AMERICA	3
2.1 Introduction	3
2.2 Domestic Production	3
2.3 International Trade	5
2.4 Consumption	8
2.4.1 The United States Beverage Market	8
2.4.2 The West Coast USA Beverage Market	11
2.4.3 Consumer Flavour Preferences	11
1. Soft-Drinks	11
2. Fruit Juice and Nectars	13
3. Fruit Drinks	14
4. Drink Mixes	15
5. Convenience Teas	16
6. Bottled Water	17
2.5 Fruit Based Drink Retail Packaging	17
2.6 Fruit Based Drink Pricing	18
2.7 Fruit Based Drink Promotion	18
2.8 Market Structure: Distribution Channels and End-Users	20
2.9 Market Access	23
CHAPTER 3 CANADA	25
3.1 Introduction	25
3.2 Domestic Production	25
3.3 International Trade	25
3.4 Consumption	27
3.5 Market Structure: Distribution Channels and End-Users	29
3.6 Market Access	30

CHAPTER 4	CENTRAL AND SOUTH AMERICA	31
	4.1 Introduction	31
	4.2 Domestic Production	31
	4.2.1 Argentina	31
	4.2.2 Brazil	32
	4.2.3 Chile	33
	4.2.4 Mexico	34
	4.3 International Trade	34
	4.3.1 Importance in World	34
	4.3.2 Brazilian Exports: Products and Destinations	35
CHAPTER 5	AUSTRALIA	39
	5.1 Introduction	39
	5.2 Domestic Production	39
	5.3 International Trade	41
	5.4 Consumption	46
	5.4.1 Fruit Juice	46
	5.4.2 Other Beverages	48
	5.5 Supermarket Product Line, Fruit Drink Packaging and Pricing	48
	5.5.1 Pure Fruit Juice	49
	5.5.2 Fruit Drinks	49
	5.5.3 Drink Mixes	49
	5.5.4 Nectars	52
	5.5.5 Cordials and Syrups	53
	5.6 Market Structure	54
	5.7 Market Access	54
CHAPTER 6	JAPAN	55
	6.1 Introduction	55
	6.2 Domestic Production	55
	6.3 International Trade	58
	6.4 Consumption	60
	6.5 Market Structure: Distribution Channels and End Users	62
	6.6 Market Access	64
CHAPTER 7	PACIFIC ISLANDS	67
	7.1 Introduction	67
	7.2 Population	67
	7.3 Economy and International Trade	67
	7.4 Fruit Production and Fruit Juice Trade	71
	7.5 Fruit Juice Consumption	74

CHAPTER 8	ASIA (EXCLUDING JAPAN)	77
	8.1 Introduction	77
	8.2 Fresh Fruit Production	79
	8.3 International Trade	81
	8.4 Consumption	81
	8.5 Retail Packaging and Prices	84
	8.6 Distribution	84
	8.7 Market Access	85
CHAPTER 9	MIDDLE-EAST	87
	9.1 Introduction	87
	9.2 Domestic Production	89
	9.3 International Trade	89
	9.4 Consumption	92
	9.5 Packaging and Pricing	94
	9.6 Market Structure: Distribution Channels and End Users	94
	9.7 Market Access	96
CHAPTER 10	EUROPE - EEC	97
	10.1 Introduction	97
	10.2 Domestic Production	98
	10.3 International Trade	100
	10.3.1 Importance and Place of World Trade in EEC Market	100
	10.3.2 Imports by Product and Source	103
	(i) Citrus Juice	103
	(ii) Non-Citrus Juice	104
	10.3.3 Germany, the Netherlands and Belgium-Luxembourg as Re-Exporters	108
	10.4 Consumption	108
	10.5 Retail Packaging	112
	10.6 Market Structure: Distribution Channels and End Users	113
	10.7 Market Access	114
CHAPTER 11	EUROPE: NON-EEC	117
	11.1 Introduction	117
	11.2 Domestic Production	118
	11.3 International Trade	118
	11.4 Consumption	123
	11.4.1 West European Countries	123
	11.4.2 East European Countries	124
	11.5 Distribution and Market Access	124
	11.5.1 West European Countries	124
	11.5.2 East European Countries	125

CHAPTER 12	THE WORLD FRUIT JUICE MARKET: SITUATION AND PROSPECTS	127
12.1	Introduction	127
12.2	Major Features of Fruit Juice Production and Trade	127
12.2.1	Brazil: the Dominating Factor on the World Markets	127
12.2.2	Trade in Raw Materials Increasing Faster than Trade in Consumer Products	127
12.2.3	Emergence of Third World Supplies of Tropical Juices	127
12.2.4	Peaking of Fresh Fruit Consumption in Developed Countries	128
12.2.5	Re-Exporting Roles	128
12.3	Major Features and Trends in Fruit Consumption, Consumer Preferences and Consumer Habits	128
12.3.1	Competition with Other Beverages	128
12.3.2	Flavour Preferences and Acceptance of New Flavours	128
12.3.3	Product Developments	129
12.3.4	Packaging Development	129
12.3.5	Demographic Changes	129
12.3.6	Growing Health Consciousness	130
12.3.7	Growth in the Foodservice Sector	130
12.4	Market and Product Opportunities	130
12.4.1	Introduction	130
12.4.2	Domestic Production and Total Demand	131
12.4.3	Consumption, Income and Population	132
12.4.4	Consumer Product Preferences	134
12.4.5	Distribution	136
12.4.6	Access	136
12.4.7	Market Opportunities	138
12.5	Conclusion	140
REFERENCES		143

LIST OF TABLES

Table		Page
1	United States: Fruit Juice Production	3
2	United States: Fruit Production and Utilisation (1981)	4
3	United States: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)	5
4	United States: Fruit Juice Imports (1977-1981)	6
5	United States: Fruit Juice Exports (1977-1981)	7
6	United States: Dependence on Imports (1977-1981)	8
7	United States: Beverage Consumption (1981)	9
8	United States: West Coast Beverage Consumption (1981)	10
9	United States: Soft Drink Flavour Shares (1980)	12
10	United States: Fruit Juice Flavours Shares (1980)	13
11	United States: Fruit Juice Sales Growth Rates (1967-1977)	14
12	United States: Fruit Drink Flavour Shares (1980)	15
13	United States: Drink Mix Flavour Shares (1980)	16
14	United States: Convenience Tea Sales (1980)	17
15	Fruit Based Drink Product Line and Retail Prices - Californian Supermarket (May 1983)	19
16	United States: Fruit Based Drink Advertising Expenditure	20
17	United States: Fruit Juice Availability in Commercial Restaurants	22
18	Canada: Fruit Production (1981)	25
19	Canada: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)	26
20	Canada: Fruit Juice Imports (1981)	27
21	Canada: Fruit Juice and Soft-Drink Flavour Shares	28
22	Canada: Fruit Drink Product Line and Retail Prices January 1982	29
23	Central and South America: Fruit Production (1981)	32
24	Brazil: Orange Juice Production (1976-1981)	33

25	Chile: Production of Fruit Pulp Concentrate, Paste and Pure Juice (1974-1981)	34
26	Central and South America: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)	35
27	Brazil: Exports by Product and Destination (1981)	36
28	Australia: Fruit Juice Production	39
29	Australia: Citrus Production and Utilisation	40
30	Australia: Fruit Juice Trade Summary	42
31	Australia: Fruit Juice Imports (1982)	43
32	Australia: Fruit Juice Exports (1982)	44
33	Australia: Non-Alcoholic Beverage Exports (1982)	45
34	Australia: Fruit Juice Per Capita Consumption	47
35	Australia: Per Capita Consumption of Beverages	48
36	Australia: Pure Juice Retail Prices (May 1983)	50
37	Australia: Fruit Drink Retail Prices (May 1983)	51
38	Australia: Drink Mix Retail Prices (May 1983)	52
39	Australia: Fruit Nectar Retail Prices (May 1983)	52
40	Australia: Fruit Juice Cordial and Syrup Retail Prices (May 1983)	53
41	Japan: Production of Fruit Juice Raw Materials (1971-1980)	55
42	Japan: Fruit Production (1981)	56
43	Japan: Fruit Juice, Drinks and Nectars for Direct Consumption by Type of Fruit (1980)	57
44	Japan: Fruit Juice Concentrate Production by Type of Fruit (1980)	58
45	Japan: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)	59
46	Japan: Fruit Juice Exports (1981)	59
47	Japan: Fruit Juice Imports (1977-1981)	61
48	Japan: Beverage Market Shares	62
49	Japan: Frequency of Fresh Food Purchases by Restaurants	64
50	Japan: Fruit Juice Import Quotas	65

51	Pacific Islands: Population (1981)	68
52	Pacific Islands: Ethnic Composition	69
53	Pacific Islands: Tourists	71
54	Pacific Islands: Fruit Production (1981)	72
55	Pacific Islands: Import Tariffs	73
56	Papua New Guinea: Fruit Juice Product Line and Prices - Steamships Supermarket, Boroko (May 1983)	75
57	Asia: Population and Income (1981)	78
58	Asia: Fruit Production (1981)	80
59	Asia: Exports of Fruit and Vegetable Juice (1977-1981)	82
60	Asia: Imports of Fruit and Vegetable Juice into Principal Importing Countries (1976-1981)	83
61	Asia: Income Distribution in Some Asian Countries	85
62	Middle-East: Dependence on Oil and Per Capita Income	87
63	Middle-East: Expatriate Populations (1980)	88
64	Middle-East: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)	90
65	Middle-East: Import Sources	91
66	Middle-East: Fruit Juice Product Consumption	92
67	Middle-East: Beverage Market Shares	93
68	Middle-East: Fruit Juice Product Flavour Preference	94
69	EEC: GDP Per Capita (1982)	97
70	EEC: Fruit Production (1981)	99
71	Germany and France: Fruit and Vegetable Juice Production from Fresh Fruit	100
72	Germany: Dependence on Imported Fresh Apples and Pears for Juice Production	101
73	EEC: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)	102
74	EEC: Classification of Markets	103
75	EEC: Trends in Citrus Juice Imports (1978-1982)	105
76	EEC: Citrus Juice - Import Sources	106

77	EEC: Importance of Non-Citrus Juice Imports	107
78	GFR, the Netherlands, and BLEU: Exports of Fruit and Vegetable Juices	109
79	EEC: Beverage Consumption Per Capita	110
80	EEC: Fruit Juice Product Consumption per Capita	111
81	EEC: Fruit Juice Flavour Preferences	112
82	EEC: Common External Tariff (CET) for Fruit Juices	115
83	EEC: Value Added Taxes (VAT)	116
84	Europe Non-EEC: Population (1981)	117
85	Europe Non-EEC: Fruit Production (1981)	119
86	Europe Non-EEC: Exports of Fruit and Vegetable Juice (1977-1981)	120
87	Europe Non-EEC: Imports of Fruit and Vegetable Juice (1977-1981)	121
88	West European - Non-EEC: Trends in Major Juice Imports (1977-1981)	122
89	West European - Non-EEC: Beverage Consumption Per Capita	123
90	West European - Non-EEC: Tariff Barriers	126
91	Domestic Juice Production and Importance of Imports	132
92	Fruit Juice Consumption Compared to Income and Population Levels	133
93	Juice Product Preferences	135
94	Importance of Distribution Outlets for Fruit Juice Product Sales	137
95	Barriers to Access for New Zealand	138
96	Product - Market Opportunities	139

LIST OF FIGURES

Figure		Page
1	United States: Market Structure for Fruit Juice Products	21
2	Japan: Distribution Channels for Imported Juice Concentrates	63
3	Middle-East: Market Structure - Distribution Channels and End Users	95
4	EEC: Market Structure: Distribution Channels and End-Users	113

PREFACE

This report presents a review of the trends in production, consumption, and trade in fruit juice products. The report is intended to give a broad background to existing and potential producers and exporters of fruit juice products. Although the report is widely focussed, it will be useful as a starting point for more specific market research efforts.

An earlier Unit publication (Discussion Paper No. 60) reviewed the world sheepmeat market. The present report has a similar objective and geographic focus but is the first AERU report to concentrate on products of the horticultural sector. In this respect it should be seen as complementary to the many Horticultural Research Unit Reports that have been published over the past few years.

This research has been stimulated by the interest of the Horticulture and Processing Division of the Department of Scientific and Industrial Research (D.S.I.R.). The financial assistance of the D.S.I.R. in supporting this study is gratefully acknowledged.

P. D. Chudleigh
Director

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SUMMARY

The recent and future expansion of the horticultural industry, especially in the fruit production area, is directed mainly at the production of fresh export quality product. While this is the primary endeavour of the production systems which have been put in place, it is inevitable that a proportion of the production will not be of export quality. In the past, such production has been sold on the local market as fresh fruit. Given the expansion that is taking place, however, it is probable that this market outlet will not be able to absorb the quantities of product that will be available. One alternative use for the non-export grade fruit is a raw material for production of fruit based drinks.

This report presents an evaluation of the export market potential for drink products, identifying a range of potential export markets, together with the products appropriate to these markets. The range of drink products considered in this report includes pure fruit juice, fruit drinks, nectars, powders (or drink mixes) and cordials. The report is organised into a number of Chapters, each Chapter containing a review of the market in a particular country or region. The majority of countries reviewed are situated in and around the Pacific Basin, and include the United States, Canada, Australia, Japan, South-East Asia, and the Pacific Islands. Europe and the Middle-East are also reviewed, as is Central and South America, which is included in the report because of its dominating influence on the world trade in fruit juices.

Chapter 12 of this report highlights a number of overall features of the individual markets. In terms of juice production and trade, important factors include:

- the dominance of Brazil as an exporter of fruit juice, and its continued juice production expansion;
- a continuing trend towards trade in juice concentrates and pulps rather than finished consumer packed juice products;
- the emergence of Third World suppliers of tropical juices;
- the peaking of fresh fruit consumption in many developed countries, so that additional fruit production is being diverted into juicing; and
- the emergence of a number of juice re-exporting countries, dominating the juice trade within a particular region.

A number of trends in fruit juice consumption and consumer preferences are also noted, including:

- increasing competition in the overall beverage market for fruit juices particularly coming from sparkling and still mineral water, white wine, and sugar-free carbonated soft drinks;
- the dominance of citrus flavours in consumer flavour preferences, and the slow acceptance of non-traditional flavours;
- the faster growth of single serve juices for immediate consumption, usually packaged in aseptic Tetra Brik containers, compared to the slower growth of frozen and/or concentrated products;

- the proliferation of multi-flavour juice products in well-developed single-flavour markets;
- the development of products incorporating fruit juice and other beverages, particularly mineral water and milk;
- demographic changes leading to a re-positioning of juice products in the market in order to appeal to a broader group, especially males over 25 years old;
- growing consumer awareness of the health attributes of food products; and
- growth in the importance of the foodservice sector as an outlet for fruit juices, due to the increasing proportion of meals eaten outside the home.

Recognising these influences in the overall market for fruit juices, Chapter 12 of this report goes on to identify specific opportunities for individual fruit juice products in each market. These opportunities are identified by classifying each market according to a number of characteristics including:

- the level of domestic production in relation to the level of total demand;
- the current level of demand in relation to income levels and total population;
- consumer product preferences;
- the distribution outlets that reach particular market segments, and
- the accessibility of the market for exporters.

The ability of New Zealand to exploit the identified opportunities depends on a number of factors which were not covered by this report. These factors include:

- the cost at which New Zealand fruit-growers can produce processing quality fruit;
- the juice flavours produced by New Zealand;
- the relative transport costs of exporting consumer packed juice and bulk packed product, and the potential for off-shore processing; and
- the ability to retain the identity of New Zealand juice products.

It is concluded that while opportunities do exist on many markets for fruit juice products, the markets are extremely competitive.

CHAPTER 1

INTRODUCTION

1.1 Background to Research

The recent and future expansion of the horticultural industry, especially in the fruit production area, is directed mainly at the production of fresh export quality product. While this is the primary endeavour of the production systems which have been put in place, it is inevitable that a proportion of the production will not be of export quality. In the past, such production has been sold on the local market as fresh fruit. Given the expansion that is taking place, however, it is probable that this market outlet will not be able to absorb the quantities of product that will be available. Therefore, it will be necessary to find alternative uses for the non-export grade fruit. A number of alternatives are available. These range from the use of the fruit in the canning industry, the confectionery industry, or fruit drink preparations. Alternatively, the excess production of lower grade product could be destroyed.

In order to decide which type of processing system should be encouraged within New Zealand, it is necessary to evaluate the potential for the different options. This report presents an evaluation of the export market potential for drink products, identifying a range of potential export markets, together with the products appropriate to these markets. The range of drink products considered in this report includes pure fruit juice, fruit drinks, nectars, powders (or drink mixes) and cordials. Fruit drinks are products containing less than 100 per cent pure juice, the additional ingredients including both water and sugar. Depending on the country in which the fruit drinks are marketed, the required pure juice content of the product varies. Nectars usually contain between 40 per cent and 50 per cent pure juice and have fruit pulp added as well as water and sugar. Powdered juice products usually produce fruit drinks when water is added. Many powdered fruit drinks are artificially fruit flavoured, containing little if any pure fruit juice. Like powders, cordial products also produce fruit drinks when water is added, being concentrated fruit drinks requiring dilution.

1.2 Outline of Report

Given the objective of evaluating the export market potential for fruit based drink products, the report is subdivided into a number of chapters, each chapter containing a review of the market in a particular country or region. The majority of countries reviewed are situated in and around the Pacific Basin, and include the United States, Canada, Australia, Japan, South-East Asia, and the Pacific Islands. Europe and the Middle-East are also reviewed, as is Central and South America, which is included in the report because of its dominating influence on the world trade in fruit juices.

Within each chapter, available statistics relating to the production, trade and consumption of fruit drink products are presented. Market access to individual countries, and the distribution channels within the market, are also discussed. Where available, data relating to current consumer market prices for fruit based drink products are presented, highlighting not only the overall level of prices, but also the competitive positions of individual fruit based drink products.

Chapter 12 summarises the current world market situation and identifies a number of product-market opportunities.

CHAPTER 2

UNITED STATES OF AMERICA

2.1 Introduction

In terms of Gross National Product (GNP), the United States of America (USA) is the largest economy in the world, reaching US\$2577 billion in 1981, greater than the combined GNP of all ten EEC member states. Per capita income in the USA is one of the highest in the world, US\$11,319 in 1981 (FEER, 1982). Over the period 1971-1981, OECD (1983) reports that GNP in the US grew at 2.8 per cent per annum, just under the OECD average of 3.0 per cent.

Total population in the United States reached 230 million in 1981, having grown at an annual rate of 0.7 per cent over the period 1975-1981.

2.2 Domestic Production

In 1981, production of fruit juice in the USA totalled over 1.2 billion litres (Table 1), 61 per cent of this being frozen concentrated citrus juice, 33 per cent single-strength citrus juice, and only six per cent non-citrus juice. Orange juice alone made up 83 per cent of juice output.

TABLE 1

United States: Fruit Juice Production

Product	Season					Proportion of Total 1981 Production
	1977	1978	1979	1980	1981	
	(million litres)					(%)
<u>Frozen Concentrated Citrus Juice</u>						
Orange	598.2	610.2	655.0	875.3	660.6	54
Grapefruit	42.6	51.8	53.9	73.6	78.6	6
Tangerine	3.5	6.3	5.2	8.1	4.4	-
Limeade	4.8	7.0	9.9	7.0	7.0	1
Total	649.1	675.3	724.0	964.0	750.6	61
<u>Chilled Single-Strength Citrus Juice</u>						
Orange	471.5	508.6	472.9	510.1	362.2	29
Grapefruit	66.5	72.1	55.4	63.8	48.5	4
Total	538.0	580.7	528.7	573.9	410.7	33
Non-Citrus juice ^a	11.4	22.7	20.2	23.9	69.9	6
All juice	1198.5	1278.7	1272.9	1561.8	1231.2	100

^a mainly grape, pineapple, apples, cranberry

Source: ITC (1982)

TABLE 2

United States: Fruit Production and Utilisation (1981)

Fruit	Production	Proportion Processed	Fruit	Production	Proportion Processed
	'000 (short tons)	(%)		'000 (short tons)	(%)
<u>Citrus</u>					
Oranges	10524	81	Grapefruit	2759	60
Lemons	1208	64	Limes	48	42
Tangelos	221	58	Tangerines	239	44
Temples	162	69			
<u>Temperate</u>					
Apples	3806	45	Apricots	89	87
Nectarines	182	1	Prunes and Plums ^a	261	13
Peaches	1329	49	Pears	893	58
Cherries	213	66	Grapes	4428	88
Blackberries	9	100	Blueberries	58	62
Raspberries	19	68	Cranberries	133	83
Strawberries	370	n.a.	Other berries	4	100
<u>Tropical</u>					
Avocados	231	n.a.	Bananas	3	n.a.
Pineapples	650	82	Papayas	32	13

^a excludes dried fruit production.

Source: ITC (1982)
FAO (1982)

Production in 1981 dropped by 21 per cent from the record 1980 production level of over 1.5 billion litres, largely because of unseasonal pre-harvest frosts. The 1982 season suffered in a similar way, so that production was expected to be below the levels attained in 1981.

Table 2 presents data showing the importance of processing (including juicing) in USA fruit production. For oranges and grapefruit, the important juice sources, 81 and 60 per cent respectively of total production is processed. Geographically, citrus production is centred in Florida, which produced 69 per cent of all citrus output in 1981. Over 85 per cent of this production was processed. California, which contributed 25 per cent of total US citrus production, processed less than half its crop in 1981. For temperate fruit, grapes, apples, and cranberries are the major contributors to total processing. Pineapple is the predominant tropical fruit processed.

2.3 International Trade

The United States is prominent in the world trade in fruit juices as both an importer and an exporter. The USA accounted for 22 per cent of world imports in 1981, giving it the number one position as an importer (Table 3). USA imports, however, are extremely volatile, subject particularly to the level of domestic production and hence the domestic price level. Exports from the USA have grown steadily. Over the period 1977 to 1981, the value of fruit juice exports increased by 67 per cent, volumes by over 190 per cent. The USA ranks second to Brazil in world trade as an exporter of fruit juices.

Orange juice accounted for 70 per cent of fruit juice imports by value in 1981. In volume terms, 1981 imports of orange juice were over 250 per cent higher than 1980, a year of record domestic juice production. Almost all orange juice imports originate from Brazil.

TABLE 3

United States: Importance in World Trade of
Fruit and Vegetable Juice (1977-1981)

Year	Imports	World Importance		Exports	World Importance	
		Per cent	Rank		Per cent	Rank
	(US\$'000)	(%)		(US\$'000)	(%)	
1977	88941	9	5	152178	16	2
1978	220339	17	1	166831	14	2
1979	256927	16	1	188830	13	2
1980	165046	10	3	225157	14	2
1981	411220	22	1	254627	13	2

Source: ITC (1982)

TABLE 4

United States: Fruit Juice Imports (1977-1981)

Product	Volume of Imports					Value of Imports 1981		Major Import Sources (per cent)			
	1977	1978	1979	1980	1981	(US\$'000 cif)	(%)				
	('000 litres)										
Orange juice (concentrated)	285396	701533	703408	345699	1225754	285202	70	Brazil	(97)	Mexico	(2)
Lime juice	2643	4780	7460	2507	1988	710	-	Mexico	(72)	Italy	(26)
Other citrus juice											
- concentrated	4301	2788	11640	9255	9891	3334	1	Mexico	(36)	Australia	(34)
- unconcentrated	467	561	840	3816	10532	5052	1	Mexico	(76)	Italy	(13)
Apple or pear juice	120781	168051	251906	164856	308900	68608	17	Argentina	(42)	South Africa	(13)
Pineapple juice	81011	101396	125946	152038	140874	34711	9	Philippines	(70)	Thailand	(25)
Other fruit and vegetable juice	13807	20427	14958	14040	18246	10190	3	Austria	(23)	Canada	(17)
Total	508406	999536	1116158	692211	1716185	407807	100				

Source: ITC (1982)
Hartog (1982)

TABLE 5

United States: Fruit Juice Exports (1977-1981)

Product	Volume of Exports					Value of Exports 1981	
	1977	1978	1979	1980	1981	(US\$'000)	(%)
	('000 litres)						
Orange juice							
- unconcentrated	39762	34836	35065	37969	34370	19193	8
- frozen concentrated	59712	138519	162256	250744	284912	111630	44
- not frozen concentrated	6201	15490	12972	29075	25417	9728	4
							56
Grapefruit juice							
- unconcentrated	21559	14789	14397	15372	13816	7412	3
- frozen concentrated	7683	17174	21688	47301	53897	20873	8
- not frozen concentrated	1118	4939	4884	6781	7624	3317	1
							12
Other citrus juice							
- unconcentrated	n.a.	8557	7198	7575	6905	2717	1
- frozen concentrated	n.a.	15816	17088	24628	50389	14954	6
- not frozen concentrated	n.a.	3054	3134	5133	5254	1875	1
							8
Pineapple juice	8117	10643	8989	14191	15499	7515	3
							5
Grape juice	n.a.	13677	17161	21548	26868	13572	
							13
Other fruit juice	51194	34734	39882	74712	90769	33497	
							2
Tomato juice	18672	13833	11165	14479	14680	6185	
							1
Other vegetable juice	3635	3358	4400	2825	4124	2160	
Total	217653	329419	360279	552333	634524	254628	100

Source: ITC (1982)

Apple juice makes up the second most important juice imported, with almost 309 million litres being imported in 1981. Argentina and South Africa provide the majority of apple juice imported.

The United States' major export is frozen concentrated orange juice (FCOJ), accounting for 44 per cent of total exports by value. In total, citrus juice makes up over 75 per cent of fruit juice exports. The major destinations for USA exports include Canada, which absorbs 42 per cent of USA fruit juice exports, Europe 25 per cent, Japan 7 per cent, and the Middle-East 6 per cent. South-East Asia, Central America and the Caribbean absorbed the remaining exports.

From Table 6, it can be seen that exports are usually less than one half the level of imports, hence, the USA is a net importer of fruit juice. In terms of domestic consumption, the net trade result accounted for almost half of total consumption in 1981, indicating the dependence of the USA on imports. It is clear from Table 6 that the United States' dependence on imports varies inversely with the level of domestic juice production.

TABLE 6

United States: Dependence on Imports (1977-1981)

Year	(1) Production ^a	(2) Imports ^b	(3) Exports ^c	(4) Net Trade	(5) Domestic Consumption ^d	(3) (2)	(4) (5)
	(million litres)					(%)	
1977	1198.5	508.4	217.7	290.7	1489.2	43	20
1978	1278.7	999.5	329.4	670.1	1948.8	33	34
1979	1272.9	1116.2	360.3	755.9	2028.8	32	37
1980	1561.8	692.2	552.3	139.9	1701.7	80	8
1981	1231.2	1716.2	634.5	1081.7	2312.9	37	47

^a from Table 1

^b from Table 4

^c from Table 5

^d These figures are only indicative of domestic consumption since concentrate and single-strength juice are combined in the aggregate data. Also, since juice is used in the manufacture of drinks with varying juice content, final consumption will be at much higher levels. Domestic consumption would also be affected by the holding of stocks.

2.4 Consumption

2.4.1 The United States Beverage Market

Total beverage consumption in the United States during 1981 was over 71.6 billion litres, valued at US\$85.9 billion (Table 7). Beer and soft drinks made up the majority of per capita beverage consumption, estimated at 128 and 141 litres per capita respectively in 1981.

TABLE 7

United States: Beverage Consumption (1981)

Product	Volume			Retail Value			Retail-Wholesale Price Spread
	Total	Per Capita	Proportion	Total	Per Capita	Proportion	
	(million litres)	(litres)	(%)	(US\$m)	(US\$)	(%)	(%)
Beer	21334	128	36	23719	142	31	41
Wine	1878	11	3	7375	44	10	111
Spirits	1711	10	3	21956	131	28	229
Total Alcoholic	24923	149	42	53050	317	69	96
Soft Drinks	31959	141	40	23381	103	22	26
Fruit Based Drinks							
- citrus juice	4541	20	6	n.a.	n.a.	n.a.	n.a.
- other juice	1489	6	2	n.a.	n.a.	n.a.	n.a.
- fruit drink	2491	11	3	n.a.	n.a.	n.a.	n.a.
- total	8521	37	11	7228	32	7	24
Mineral Water	2084	9	3	666	3	1	64
Drink Mixes	4151	18	5	1570	7	2	173
Total Non-Alcoholic	46715	205	59	32845	145	32	29
Total Beverages	71638	354	100	85895	462	100	64

Source: BW (April, 1981; April, May, 1982).

n.a. — Not Available

TABLE 8

United States: West Coast Beverage Consumption (1981)

Product	Total Volume			Per Capita Volume			Market Share ^a		
	Washington	Oregon	California	Washington	Oregon	California	Washington	Oregon	California
	(million litres)			(litres)			(%)		
Beer	389	243	2358	128	126	136	34	34	29
Wine	53	31	412	17	16	24	5	4	5
Spirits	33	19	221	11	9	13	3	3	3
Total Alcoholic	475	293	2991	156	151	173	42	41	37
Softdrinks	455	283	3121	110	108	132	40	40	38
Fruit Based Drinks									
- citrus juice	82	52	435	20	20	19	7	7	5
- other juice	22	16	156	5	6	6	2	2	2
- fruit drink	37	27	260	9	10	11	3	4	3
- total	141	95	851	34	36	36	12	13	10
Water	11	6	980	3	2	41	1	1	12
Drink Mixes	49	32	293	12	12	12	4	5	4
Total Non-Alcoholic	656	416	5245	159	158	221	57	59	64
Total Beverages	1131	709	8236	315	309	394	100	100	100
Total Population (million)				4.1	2.6	23.7			

^a may not add to 100 due to rounding.

Source: BW (April, 1981; April, May, 1982).

Fruit based drink consumption had an 11 per cent share of the beverage market in volume terms (8.5 billion litres), and a seven per cent share of retail expenditure on beverages (US\$7.2 billion). Per capita, Americans consumed 37 litres of fruit based drink products, spending US\$32 in 1981. Of the 37 litres of fruit based drink products, pure citrus juice accounted for 20 litres, other pure juices 6 litres, and the remaining 11 litres were made up of fruit drinks.

Both soft drinks and drink mixes include juice flavours, so that actual fruit juice consumption is higher than that indicated by the fruit based drink category in Table 7 (see Section 2.4.3).

2.4.2 The West Coast USA Beverage Market

For New Zealand exporters, the West Coast of the USA presents the most accessible market. In Table 8, data are presented detailing the beverage market size and the share of individual beverages in the market.

Of the three West Coast states, California is by far the largest, both in terms of total beverage consumption, and per capita consumption. The 8.2 billion litres of beverages consumed in California represents more than 11 per cent of total USA beverage consumption. In per capita terms, Californians consume an additional 40 litres above the national average of 354 litres. Both Washington and Oregon, the other West Coast states, consume below the national average.

On a per capita basis, Californians are high alcoholic drink consumers, low soft-drink and drink mix consumers, and average fruit based drink consumers. Consumption of bottled mineral and sparkling water is however, the distinguishing feature of the Californian market. At 41 litres per capita, consumption in California is over 350 per cent higher than the national average, reflecting consumer attitudes to the State's water quality.

The importance of the Californian State in the total beverage market largely arises out of the consumption habits of the large and affluent population centres of Los Angeles and San Francisco. When ranked along with all other USA cities in terms of total retail expenditure on beverages, Los Angeles is ranked second, San Francisco sixth (BW; May 1982).

Per capita consumption of citrus and other pure juice and fruit drinks is not significantly different between any West Coast State, or between the West Coast and the national average.

2.4.3 Consumer Flavour Preferences

Fruit based drink products have been defined as part of a wider "Cold Refreshment Beverage Group" (CRBG). The members of this group include carbonated and uncarbonated soft-drinks, fruit juice, fruit drinks, drink mixes, convenience teas, and bottled water (BW; November 1981). Consumer perceptions of these products, as well as flavour preferences differ between each product group.

1. Soft-Drinks

In 1981, the United States consumer, had the highest international consumption of soft drinks, at 141 litres per capita. Demographically, soft drink consumption is highest among teenagers, hence, declining USA birth rates

are working against continued growth in soft drink consumption. However, the fast growing Black and Hispanic populations within the USA are also heavy soft drink consumers.

The soft drink market is dominated by cola flavours. The data presented in Table 9 show colas accounting for 60 per cent of all soft drink sales. Fruit flavoured soft-drinks account for 26 per cent of the market, with citrus flavours dominant. Non-citrus fruit flavours account for only two per cent of the soft drink market.

TABLE 9

United States: Soft Drink Flavour Shares (1980)

Flavour	Volume	Value	Flavour Share	
			Volume	Value
	(million litres)	(US\$m)	(%)	
A. Fruit Flavours	8217	9076	26	26
1. Total Carbonated	7891	8734	25	25
Lemon-Lime	3573	3954	11	12
Orange	1711	1891	6	6
Citrus	1491	1650	5	5
Grape	405	447	1	1
Strawberry	310	344	1	1
Grapefruit	208	241	1	1
Reds (cherry, rasp- berry, fruit punch)	129	138	-	-
Apple, coconut, others	64	69	-	-
2. Total Non Carbonated	326	342	1	1
Lemonade	n.a.	207	-	-
Fruit Punch	n.a.	90	-	-
Orange	n.a.	27	-	-
Grape	n.a.	18	-	-
B. Total Other Flavours	22868	25302	74	74
Cola	n.a.	20627	n.a.	60
Root Beer	n.a.	1478	n.a.	4
Pepper Type	n.a.	2406	n.a.	7
Mixers	n.a.	791	n.a.	2
Total Soft-Drinks	31085	34378	100	100

Source: BW (Nov. 1981; Feb. 1982).

Within the soft-drink market, diet drinks are growing at eight to nine per cent per annum, a much faster rate than the 3.8 per cent growth rate of the total market. Diet drinks appeal to an increasingly health conscious consumer, concerned at the high added sugar content in soft-drinks. Until recently, the after taste associated with saccharin sweetened diet soft drinks (and carcinogenic fears) has limited the appeal of diet drinks. The introduction of

the better tasting aspartame sweetener may increase the acceptability of diet drinks, especially to male consumers who are less willing to trade "taste" for "diet". Caffeine free soft drinks are also finding a ready acceptance among consumers.

During the recession years of 1980 and 1981, soft drink pricing became increasingly competitive. A Pepsi-Coke discounting "war" saw average retail margins reduced from 98 per cent to only 26 per cent.

2. Fruit Juice and Nectars

Orange juice dominates the pure juice market, with over 60 per cent of the market segment (Table 10). Its closest rival, apple, has only 15 per cent. According to a survey undertaken by the Florida Department of Citrus, consumers regard orange juice as having value for money, and being natural, healthy, tasteful, and versatile (consumed any time) (BW; September 1981). Other flavours that have significant proportions of the juice market include grapefruit, grape, pineapple, prune and lemon. Nectars made largely from apricots, peaches and pears have gained a one per cent share of the pure juice market segment. Tropical nectars comprising guava, mango, banana and passionfruit are also gaining a share of the market, aimed specifically at the Hispanic population who already are familiar with these fruits (BW; April 1981).

TABLE 10

United States: Fruit Juice Flavour Shares (1980)

Flavour	Volume	Value	Flavour Share ^a	
			Volume	Value
	(million litres)	(US\$m)	(%)	
Orange	3861	2580	66	61
Apple	813	646	14	15
Grapefruit	510	395	9	9
Grape	270	224	5	5
Pineapple	114	103	2	3
Prune	100	99	2	2
Lemon/Lime	50	87	1	2
Apricot, Peach, Pear Nectar	62	62	1	1
Blended juice	46	36	1	1
Total	5826	4233	100	100

^a Totals may not add to 100 due to rounding.

Source: BW (Nov. 1981; May 1982).

In Table 11, data are presented showing the product growth rates for particular flavours over the period 1967-1977. Orange juice grew at 13.2 per cent per annum, second only to "other juices and mixtures". Nectars grew at 6.2 per cent per annum. Although grapefruit juice sales grew at 7.3 per cent per annum, in combination with other juices (especially pineapple), sales declined.

TABLE 11

United States: Fruit Juice Sales Growth Rates (1967-1977)

Flavour	Annual Compound Change
	(%)
Orange	13.2
Apple	9.6
Grapefruit	7.3
Grapefruit/Orange	-9.5
Grapefruit/Pineapple	-30.0
Prune	-1.8
Other juices and mixtures	17.6
Nectars	6.2

Source: BW (September 1981)

3. Fruit Drinks

Fruit drink sales are less than half the level of pure juice drinks. As for pure juices, citrus flavours dominate the market (Table 12), however, cranberry juice is the single most important juice. Until recent years, cranberry juice was largely considered a health food only, its heaviest users being women over 25 years old. Presently, cranberry is being promoted as a product with appeal to all age groups, especially the young. Cranberry juice is usually offered in a blend with either grape or apple juice.

TABLE 12

United States: Fruit Drink Flavour Shares (1980)

Flavour	Volume	Value	Flavour Share ^a (By Value)
	(million ^b litres)	(US\$m)	(%)
Cranberry		265	21
Orange		230	18
Fruit Punch		219	17
Lemonade		166	13
Citrus		154	12
Grape		115	9
Pineapple		37	3
Cherry		19	1
Berry		18	1
Apple		15	1
Limeade		9	1
Peach		9	1
Grapefruit		5	-
Strawberry		4	-
Tangerine		3	-
Other		18	1
Total	2548	1287	100

^a may not add up to 100 due to rounding.

^b Only total available.

Source: BW (April, 1981; November, 1981).

4. Drink Mixes

The drink mix market segment incorporates three major product types: powdered fruit drinks, electrolyte (variously known as isotonic, energy, thirst quencher) beverages, and specialty products such as whipped fruit drink mixes, and fruit flour (powdered pure juice). By far the largest product group are the powdered fruit drinks. In recent years their image has changed from an inexpensive children's drink to a quality, all family beverage (BW, May 1981). The brand leader within this category is Kool Aid. Other leading brands are marketed by major beverage companies such as Coca Cola, hence the market is very competitive.

The most popular flavour used in drink mixes is lemonade, with 34 per cent of the market (Table 13). It should be recognised however that although a drink mix is marketed with a particular flavour, it does not necessarily contain any fruit juice. For example, Tang, a brand holding 85 per cent of the orange breakfast drink-mix market, has no orange juice component. A recent competitor in this market segment, 'Daybreak', contains 10 per cent real orange juice and thus can appeal to its greater 'naturalness' (BW; December 1981).

Electrolyte drink mixes make up less than 10 per cent of the overall drink mix market, but are a growing component of the market. Electrolyte products are

aimed at the recreational sportsperson, so that the potential market size in the USA is large. Like many other fruit flavoured drink mixes, electrolyte products often contain no real juice ingredient.

TABLE 13

United States: Drink Mix Flavour Shares (1980)

	Volume	Value	Flavour Share ^a (By Value)
	(million ^b litres)	(US\$m)	(%)
Lemonade		445	34
Fruit Punch		254	19
Cherry		181	14
Grape		141	11
Orange		131	10
Raspberry		32	2
Apple		29	2
Peach		10	1
Berry		9	1
Other		87	7
Total	5051	1319	100

^a may not add up to 100 due to rounding.

^b Only total available.

Source: BW (April, 1981; November, 1981; May, 1981).

5. Convenience Teas

The level of convenience tea consumption in the USA during 1980 was in excess of 60 per cent of the consumption level of pure fruit juice; hence, it represents an important competitor in the CRBG market. Consumption of convenience tea is divided almost equally between iced tea, which contains added sugar, and instant tea (Table 14). Iced tea is an especially important competitor, since peak sales occur over the spring/summer period.

TABLE 14

United States: Convenience Tea Sales (1980)

	Volume	Value	Share	
			Volume	Value
	(million litres)	(US\$m)	(%)	
A. Retail	2657	354	75	17
- Iced Tea	1090	219	31	11
- Instant Tea	1567	135	44	7
B. Foodservice (70% iced)	871	1714	25	83
Total	3528	2068	100	100

Source: BW (June, 1981).

6. Bottled Water

The development of the bottled water market has arisen out of consumer concern over the quality of tap water, in association with heightened diet consciousness. Bottled water, being salt, sugar, calorie, caffeine, and preservative free has considerable appeal to the diet conscious consumer. The growth in bottled water sales adds weight to the prediction that "cold, light and white" beverage consumption will grow faster than other beverages in the future (BW, March 1981). Chilled white wine already has over half of the US table wine market, and among fruit juices, chilled grapefruit juice consumption is expected to increase at an annual rate of 15 per cent. "Brown" soft drinks (cola, root beer, pepper) are not expected to maintain their market share in the future.

2.5 Fruit Based Drink Retail Packaging

Until 1981, fruit juices, fruit drinks, and nectars were almost exclusively packaged in tin and aluminium cans. 'Hot-packed' juice tended to be packed predominantly into 6 ounce (170.5 ml) and 46 ounce (1.3 l) cans, and frozen juice, juice drinks and nectars in cans ranging from 6 to 24 ounces. The major exception to the use of cans was found for chilled juices which were usually bottled in 32 (0.9 l) to 64 ounce (1.8 l) glass bottles.

Since 1981, the "aseptic packaging craze" has hit the USA fruit drink market (BW; December 1981). Aseptics have proved to be a less expensive method of packing perishable, non-carbonated beverages, and a more acceptable package to consumers. The youth market, and the 25 to 54 years old female segment of the population have accepted aseptics faster than men. Most of the major branded juice producers (e.g. Coca Cola, General Foods, and Ocean Spray) have introduced aseptics into their product line.

2.6 Fruit Based Drink Pricing

Table 15 reports the price levels for a range of fruit juices sold in a Californian supermarket. Fruit drinks are predictably sold at lower prices in comparison to pure juice, except for the multi-flavour Hawaiian Punch, which retails at a price equivalent to US\$3.62 per litre. Multi-flavour drinks incorporating exotic flavours appear to command a premium in the market.

The nectar price recorded in Table 15 is about 30 per cent more expensive than pure juices and fruit drinks.

2.7 Fruit Based Drink Promotion

Fruit based drink products are promoted largely through a combination of television advertising and in-store promotion. Television advertising accounted for 90 per cent of all advertising expenditure in 1980 (see Table 16). Advertising expenditure is dominated by the three major fruit based drink producers: Coca Cola, General Foods and the Florida Citrus Commission.

While the major companies spend the bulk of their advertising on network television, small producers and distributors of less known beverages prefer local television and radio stations, targeting their advertising on specific market segments. This strategy is particularly important in reaching ethnic minorities.

Although total advertising expenditure on the major brands in 1980 totalled over US\$100 million, fruit based drink advertising accounted for less than five per cent of total beverage advertising expenditure which reached \$1.1 billion in 1980. The majority of advertising promoted alcoholic beverages, taking a 65 per cent share of total advertising. Almost 30 per cent of advertising expenditure was spent on promoting soft-drinks.

TABLE 15

Fruit Based Drink Product Line and Retail Prices -
Californian Supermarket (May 1983)^a

Product Type	Brand	Flavour	Packaging	Volume		Price (US\$)	Unit Price (US\$/l)
				(fl oz)	(litres)		
1. <u>Pure Juice</u>							
Single strength	Dole	Pineapple	Can	46	1.31	1.55	1.18
Concentrated	Tree Top	Apple	Can	46	1.31	1.57	1.20
Concentrated	Welch	Grape	Glass Bottle	24	0.68	1.39	2.04
Concentrated	Ocean Spray	Grapefruit	Glass Bottle	48	1.36	2.09	1.54
2. <u>Fruit Drink</u>							
Carbonated	Country Time	Lemon/Lime	Can	12	0.34	0.40	1.18
Preservatives	Sunkist	Orange	Can	12	0.34	0.35	1.03
Carbonated	Schweppes	Lemon/Lime	Glass Bottle	10	0.28	0.40	1.43
Carbonated	Orelia	Orange/Tangerine	Can	12	0.34	0.50	1.47
Preservatives	Hawaiian Punch	Mix ^b	Can	32	0.91	3.29	3.62
3. Nectar	Kern's	Guava	Can	12	0.34	0.59	1.74
4. Drink Mix Powder	Tang	Orange	Glass bottle	27	0.77	3.25	4.22
5. Cordial	Rose's	Lime	Glass bottle	25	0.71	2.89	4.07

^a Bon Appetit (Safeway chain), San Francisco

^b Including orange, grapefruit, peach, apricot, pineapple, papaya, guava.

Source: NZ Consulate General, San Francisco, pers. comm.

TABLE 16

United States: Fruit Based Drink Advertising Expenditure

Company	Brand	Expenditure	
		1980	1981
		(US\$)	(US\$)
1. <u>Fruit Juice</u>			
Coca Cola	Minute Maid	16,467,000	n.a.
F.C.C.	Florida Citrus Commission	15,149,600	n.a.
Coca Cola	Snow Crop-Five Alive	6,610,500	n.a.
Ocean Spray	Ocean Spray	2,471,800	n.a.
	Other Brands	9 712 100	n.a.
Total		50,400,000	n.a.
2. <u>Fruit drinks and drink mixes</u>			
General Foods	Kool-Aid	21,213,400	25,987,100
General Foods	Country Time	11,752,600	10,559,400
R. J. Reynolds	Hawaiian Punch	8,647,400	18,346,400
Borden	Realemon	3,888,500	
	Lemon Tree	3,171,200	
Stokely-Van Camp	Gatorade	2,886,900	4,266,700
Coca Cola	Minute Maid		4,507,700
Total		51,560,000	63,667,300

n.a. Not Available

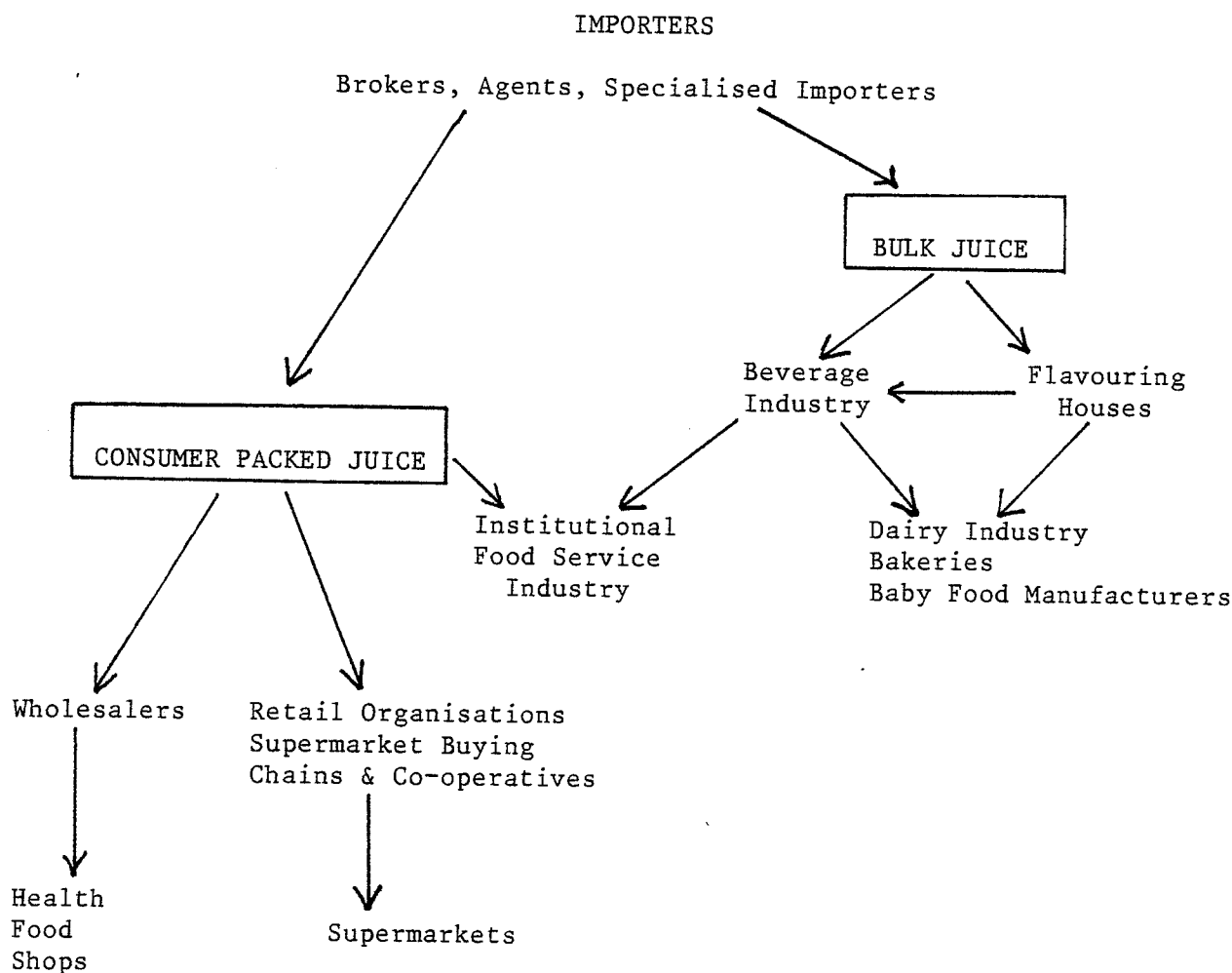
Source: BW (June 1981) and BW (June 1982).

2.8 Market Structure: Distribution Channels and End Users

In Figure 1, an outline of the distribution channel followed by imported bulk and consumer packed fruit juices is presented. Brokers are the most important importers of fruit juice, usually obtaining juice on behalf of industrial end users, especially the beverage industry. The broker performs the key role of seeking out reliable and cost efficient sources of supply, and is always interested in identifying new sources of supply.

The beverage industry usually obtains its imported requirements via brokers. Since the majority of the beverage industry's juice requirements are met by domestic supplies, imports fill the troughs of domestic production fluctuations. Imports are also required by beverage producers seeking to diversify their product line with flavours not available domestically.

FIGURE 1

United States: Market Structure for Fruit Juice Products

Source: ITC (1982), Cooper (1982)

Flavouring manufacturers formulate ingredients required for beverage product manufacture (e.g. ice-cream and yoghurt), baby foods, and bakery products.

The institutional foodservice industry comprises three components. The first makes up about 85 per cent of the sector and includes commercial eating outlets such as restaurants, cafeterias, bars, taverns, hotels, sports centres and mobile caterers. Approximately 25 per cent of all fruit juice sales in the United States are sold through these outlets (ITC;1982). In Table 17, which contains details of the juice product lines sold in commercial eating outlets, it is clear that orange, grapefruit and tomato juice dominate. The availability of 'other' juices only rises above 10 per cent in hotel/motels and restaurants. Hotels and motels tend to hold the most diversified product line overall.

The second component of the foodservice sector is made up of non-commercial

TABLE 17

United States: Fruit Juice Availability in Commercial Restaurants

Flavour	All Restaurants ^a	Counter Service ^b	Table Service ^c	Hotel/Motel ^d	Drive-Ins ^e	Drugstores ^f	Restaurants Serving Liquor ^g
	(% of outlets)						
Orange	55	54	55	88	33	74	77
Grapefruit	37	37	35	76	15	61	57
Tomato	46	46	49	84	18	60	75
Pineapple	9	8	9	26	4	14	19
Grape	6	5	5	20	5	9	9
Apricot	2	1	1	6	1	1	3
Other	10	9	10	28	5	7	15

^a 370 060 outlets

^b 145 180 outlets

^c 71 240 outlets

^d 31 920 outlets

^e 58 110 outlets

^f 10 450 outlets

^g 97 660 outlets

Source: BW (March, 1981)

outlets such as employee canteens, educational institutions, hospitals and community centres. Since 1981, the sale of carbonated beverages has been banned in USA schools before lunch-time. Sales of pure juice and juice drinks have increased dramatically since then, especially from vending outlets (BW; January 1981).

The third component of the foodservice industry includes the military and other government institutions.

Supermarket buying organisations handle the majority of fruit juice sold in the USA. Often supermarket chains have fruit juice packed under their own label by the beverage industry. Most supermarkets have gourmet and health food sections, and exotic products, including exotic flavoured fruit juices, are featured.

Specialist health food shops are usually supplied through wholesalers. Often this type of food shop predominantly sells 'take-away' food for immediate consumption. Hence, unit sales tend to be small, but high priced in relation to supermarkets which offer identical products.

2.9 Market Access

No quantitative restrictions exist for the import of fruit juices into the United States. Tariffs vary between a maximum of 35 cents per gallon on citrus concentrates and free entry for apple and pear juice. Grape juice enters at 25 cents per gallon, pineapple at 20 cents per gallon, and all others at 3 cents per gallon. The term "gallon" in the USA tariff refers to gallons of natural unconcentrated juice or gallons of reconstituted juice. Thus, the tariff on concentrated juice imports is calculated on the number of reconstituted gallons able to be produced from the concentrate.

CHAPTER 3

CANADA

3.1 Introduction

Canada's population was 24.2 million in 1981 (FAO; 1982), having grown at an average of 1.1 per cent per annum throughout the previous decade.

The Canadian economy grew at an annual rate of 3.7 per cent over the period 1971-1981 (OECD, 1983), significantly above the OECD average of 3.0 per cent. In 1983 the economy is expected to have grown by 2.0 per cent, third among OECD countries behind the USA and Japan. Per capita income in Canada is just over US\$10,000.

3.2 Domestic Production

Canada is not a major producer of fruit juices, fresh fruit production being limited mainly to pip and stone-fruits. In Table 18, it is reported that apple production totalled 409,000 tonnes in 1981. Peach and pear production were the next most important fruits with 32,000 and 35,000 tonnes being produced in 1981 respectively.

Given the quantity of fresh fruit available, juice production is largely limited to apple juice. In 1980, 90,000 tonnes of single strength apple juice was produced.

TABLE 18

Canada: Fruit Production (1981)

	Volume	
	Level	Change
	('000 tonnes)	(% change from 1969-1971 average)
Apples	409	-1
Pears	35	-
Peaches	32	-33
Plums	5	-44
Apricots	3	50

Source: FAO (1982)

3.3 International Trade

In the absence of significant domestic production of citrus and tropical fruit, Canada must rely on imports to satisfy consumption requirements. In 1981, Canada imported fruit juice valued at US\$194 million, ten per cent of total world imports, making Canada the third largest importer of fruit juice behind Germany and the United States.

Over the five year period 1977 to 1981, the total value of fruit juices imported into Canada increased by over 100 per cent, while the volume of imports increased by 30 per cent. Proportionately, imports in concentrate form have increased while single-strength imports have declined. In 1981, concentrates made up 71 per cent of total imports, compared to 53 per cent in 1977. This trend reflects a decline in consumer packed imports, giving way to bulk juice for use as a raw material in Canada's growing juice processing industry.

TABLE 19

Canada: Importance in World Trade
of Fruit and Vegetable Juice (1977-1981)

Year	Imports	World Importance		Exports	World Importance	
		Per cent	Rank		Per cent	Rank
	(US\$'000)	(%)		(US\$'000)	(%)	
1977	93,783	10	3	1,749	-	38
1978	130,661	10	4	3,937	-	32
1979	153,915	10	4	6,384	-	29
1980	159,329	10	4	9,594	1	25
1981	193,842	10	3	9,016	1	25

Source: ITC (1982)

By value, orange juice makes up 70 per cent of fruit juice imports. Other citrus juices contribute another five per cent to total imports. Citrus juice is almost exclusively supplied by the USA, Brazil and Italy (see Table 20).

The category 'other' fruit juice in Table 20 is largely made up of tropical juices. Again, the United States is the principal supplier, adopting the role of a re-exporter.

Canada is not a major exporter of fruit juices. In percentage terms, Canada accounts for one per cent of total world juice exports. Exports tend to be in the form of consumer packed juice for the United States market, utilising imported bulk juices. Domestically produced apple juice also contributes to juice exports.

TABLE 20

Canada: Fruit Juice Imports (1981)

	Volume	Value	Per cent of Value	Major Sources (per cent)
	(tonnes)	(Can\$'000)	(%)	
Orange Juice				USA (54) Brazil (44)
- concentrated	95048	14283	66	
- not concentrated	12003	7923	4	
Grapefruit Juice				USA (100)
- concentrated	1102	1826	1	
- not concentrated	9067	5464	3	
Lemon Juice				USA (68) Italy (32)
- concentrated	1574	2338	1	
- not concentrated	380	471	-	
Grape	3285	3397	2	
Apple	10014	12203	6	
Pineapple	14855	5782	3	USA (52) Philippines (47)
Other Fruit Juice				USA (83)
- concentrated	15438	24732	12	
- not concentrated	11901	6548	3	
Blended Fruit Juice	1405	930	-	USA (95)
Tomato Juice	1176	377	-	
Total	177248	214474	100	

Source: ITC (1982)

3.4 Consumption

Per capita consumption of fruit juice in Canada is estimated at 26 litres (ITC, 1982). This can be compared with United States consumption of 37 litres per capita. Soft-drink consumption in Canada is estimated at 84 litres per capita (BW, August 1981), well down on the USA consumption of 141 litres per capita.

In terms of flavour preferences, orange is the preferred juice flavour, with apple and grapefruit rated second and third respectively. Tropical juices other than pineapple are virtually unknown among most consumers, except specific ethnic minorities. Berry flavours are also largely unknown.

TABLE 21

Canada: Fruit Juice and Soft Drink Flavour Shares

Flavour	Fruit Juice	Soft-Drink
	(% of sales volume)	
Orange	60	7
Apple	15	—
Grapefruit	6	—
Lemon-Lime	—	19
Other fruit	19	4
Mixers	—	10
Cola	—	58
Others	—	2
Total	100	100

Source: ITC (1982)
 BW (August, 1981)

Soft-drink flavours are dominated by cola, which has a 58 per cent share of the market. Fruit flavours together account for 30 per cent of soft drink sales.

The majority of fruit juices consumed are sold in glass bottles. Canned juices predominate in particular geographical areas, but their importance is declining. Aseptic packaging is still at an introductory stage in Canada.

In Table 22, representative prices of juice products in Canadian supermarkets are summarised. Of the single flavour juices, orange has at least a nine cents per litre price advantage on every other juice. It is also clear from the prices contained in Table 22 that unit prices are substantially higher for package volumes of less than 48 fluid ounces, the most popular size.

TABLE 22

Canada: Fruit Drink Product Line and Retail Prices
January 1982

Product	Flavour	Volume		Price (Can\$)	Unit Price (\$/l)
		(fl oz)	(litres)		
Juice	Apple	48	1.36	1.27	0.93
	Grapefruit	48	1.36	1.32	0.97
	Orange	48	1.36	1.07	0.78
	Pineapple	48	1.36	1.19	0.87
	Pineapple	19	0.54	0.73	1.35
	Lemon	—	0.46	1.13	2.46
	Lemon	—	0.23	0.77	3.35
	Grape	—	1.00	1.12	1.12
	Grape	40	1.14	2.22	1.95
	Tomato	100	2.84	2.29	0.81
	Multi-flavour	Hawaiian punch	48	1.36	1.12
Fruit Punch		48	1.36	0.94	0.69
Multi-vitamin					
	- juice	Apple	48	1.36	1.50
- drink	Apple	48	1.36	1.00	0.73
Nectars	Prune	48	1.36	1.89	1.39
	Apple	48	1.36	1.05	0.77
	Apricot	10	0.28	0.44	1.57

Source: ITC (1982)

Multi-flavour and multi-vitamin drink prices also appear in Table 22. These products seem to be very competitively priced. Apple nectar sells at a substantial price discount in relation to pure apple juice, viz; Can \$1.05/48 fl oz compared with Can\$1.27/48 fl oz.

3.5 Market Structure: Distribution Channels and End Users

Figure 1 in Chapter 2 presents an outline of the distribution channels followed by imported bulk and consumer packed fruit juices in the United States. The Canadian distribution network is very similar to this. The ITC (1982) estimate that 95 per cent of all imported juice is processed by the Canadian beverage industry. The residual five per cent is utilised by the food processing sector, particularly the dairy industry for use in yoghurt and ice-cream manufacture.

The fruit drink products produced by the beverage industry are largely sold to the retail trade; only 15 per cent of production is consumed via institutional and food service industry outlets.

3.6 Market Access

No quantitative restrictions exist for the import of fruit juice into Canada. The general tariff for fruit juice imports into Canada varies between 25 per cent and 35 per cent ad valorem, depending on the type of juice. New Zealand exports to Canada enter under the British Preferential Tariff (BPT). Under the BPT, citrus juice, pineapple juice and passionfruit juice enter free, while apple juice and other fruit juices incur a 10 per cent ad valorem tariff.

CHAPTER 4

CENTRAL AND SOUTH AMERICA

4.1 Introduction

Although not significant importers of fruit juice, the level of juice production in countries making up Central and South America has an important influence on the world juice trade. The following sections detail the importance of this region. Data from only four countries in Central and South America, viz. Argentina, Brazil, Chile and Mexico, are presented. Fruit production in every other nation within the region is dominated by bananas and plantains, and hence is less relevant to the world juice market.

4.2 Domestic Production

In Table 23 data are presented detailing the level of fruit production in Argentina, Brazil, Chile and Mexico during 1981.

4.2.1 Argentina

Fruit production in Argentina is split evenly between deciduous and citrus varieties. Apple production in 1981 was 905,000 tonnes, up 108 per cent from 1971, while orange production fell 27 per cent from its 1971 level to 654,000 tonnes. Hartog (1982) reports that 30 per cent of the Argentinian apple crop is processed into juice, 50 per cent of which is exported to the United States.

TABLE 23

Central and South America: Fruit Production (1981)

Fruit	Country			
	Argentina	Brazil	Chile	Mexico
	('000 tonnes)			
Apples	905	80	300	301
Pears	130	35	44	46
Peaches	222	115	121	174
Plums	72	-	16	76
Apricots	12	-	15	8
Oranges	654	9315	54	1600
Tangerines, Mandarines				
Clementines	208	470	-	120
Lemons, Limes	300	115	75	530
Grapefruit	156	37	-	163
Avocados	4	140	26	474
Mangoes	1	600	-	620
Pineapples	3	625	-	568
Bananas	180	6696	-	1562
Papayas	2	380	-	322
	(% change from average of 1969-1971)			
Apples	108	433	111	72
Pears	44	-35	42	35
Peaches	-13	4	33	8
Plums	13	-	-24	1
Apricots	-29	-	88	-
Oranges	-27	271	29	16
Tangerines	-12	97	-	14
Lemons, Limes	52	109	88	63
Grapefruit	21	6	-	409
Avocados	-60	15	117	114
Mangoes	-67	-10	-	108
Pineapples	200	43	-	117
Bananas	-8	39	-	67
Papayas	100	252	-	148

Source: FAO (1982)

4.2.2 Brazil

Brazil's fruit production, apart from bananas, is dominated by the citrus crop. Citrus production has grown rapidly since 1971, with orange output growing 271 per cent to 9.3 million tonnes in 1981. Tangerine and lemon production have both doubled since 1971; to 470,000 tonnes and 115,000 tonnes respectively. Brazil is also a major producer of tropical fruit. Pineapple production totalled 625,000 tonnes in 1981, mangoes 600,000 tonnes, papayas 380,000 tonnes, and avocados 140,000 tonnes. Of the tropical fruit, production of papayas has grown the fastest; by 252 per cent since 1969-1971.

Much of the growth in output in Brazil has been aimed specifically for processing, and the resulting juice production is aimed at the export market. In Table 24, the volume and value of orange juice production in Brazil is recorded. Over the period 1976 to 1981, production more than trebled, while the value of production increased by over 550 per cent, enabling unit values to increase by 114 per cent. The rapid growth in the volume of juice produced in Brazil has found a ready market in the United States, especially over recent years when adverse climatic conditions reduced USA juice production significantly. However, these adverse conditions have only served to postpone a long-predicted over supply situation on the world orange juice market. A recent report (LACR, 1983) estimates Brazilian orange juice production during the 1983/84 season at 550,000 tonnes. Although down on the 639,000 tonnes produced in 1981, opening Brazilian juice stocks for the 1983/84 season are estimated at 120,000 tonnes. Given the stocks and production situation in Brazil, a record level of orange production in the USA during the 1983/84 season has created a very weak export market for Brazil.

TABLE 24

Brazil: Orange Juice Production (1976-1981)

Year	Volume	Value	Unit Value
	(000 tonnes)	(US\$m fob)	(US\$/tonne, fob)
1976	209.9	100.9	481
1977	213.6	177.0	829
1978	335.6	332.6	991
1979	292.4	281.5	963
1980	401.1	338.7	844
1981	639.1	659.2	1031

Source: NZ Embassy, Santiago, Chile. pers. comm.

In the short term, Brazilian orange production will continue to increase. In the 1983/84 season, seven million new trees begin producing, and most of the 90 million already in production have yet to achieve maximum output. Between 1983/84 and 1984/85, orange production is expected to increase a further 15 percent (LACR, 1983).

4.2.3 Chile

Chile is primarily a producer of temperate pip and stone fruits, a product mix very similar to New Zealand's. The avocado is the only tropical fruit Chile produces in significant volumes.

In terms of the average production level during the period 1969-1971, apple production in 1981 increased by 11 per cent. Apricot and lemon production both grew by 88 per cent, while peach (including nectarine) production increased by 33 per cent from its 1971 level. Avocado production increased by 117 per cent over the ten year period prior to 1981.

In Table 25 production levels of fruit processed into pulp, paste and juice are summarised. Overall, it is apparent that total production since 1974 has not shown a definite growth trend. Apple juice production has risen consistently over the period 1978-1981. In 1981, production was 715 tonnes, 83 per cent higher than 1978. 'Other Fruit' juice production also rose consistently by 50 tonnes per year, over the period 1978-1981.

Compared with Brazilian juice production, Chilean production is extremely small.

TABLE 25

Chile: Production of Fruit Pulp Concentrate,
Paste and Pure Juice (1974-1981)

Product	Year					
	1974	1975	1978	1979	1980	1981
	(tonnes)					
Apricot	n.a.	n.a.	550	400	486	556
Peach	n.a.	n.a.	780	960	1110	866
Apples	n.a.	n.a.	390	450	610	715
Other Fruit	n.a.	n.a.	200	250	300	360
Total	2474	2090	1920	2060	2506	2497

n.a. - not available

Source: NZ Embassy, Santiago, Chile pers. comm.

4.2.4 Mexico

Mexican fruit production is dominated by citrus and tropical fruits. In 1981, total Mexican citrus production was over 2.4 million tonnes. Generally, citrus fruit production in Mexico has not increased dramatically in the last decade. Grapefruit production did increase by 409 per cent, but the increase occurred off a small base.

Tropical fruit production in Mexico during 1981 reached over 3.5 million tonnes. Bananas accounted for 44 per cent of this total, mangoes 17 per cent, pineapples 16 per cent, avocados 13 per cent, and papayas 9 per cent. Overall, tropical fruit production rose by around 100 per cent during the period 1971-1981. Banana production grew more slowly than other fruits.

4.3 International Trade

4.3.1 Importance in World

From Table 26 the importance of Brazil, Argentina, Mexico and Chile in world fruit juice exporting can be identified. Brazil has ranked first in the world as an exporter in every year since 1977. In 1981, Brazil had a 35 per

cent share of world exports, valued at US\$695 million. Argentina and Mexico also rank highly as world exporters, taking eighth and seventeenth position respectively in 1981. Chile is a relatively insignificant exporter on the world market, although the value of exports appears to be increasing. Recent information shows that Chilean juice exports totalled over US\$6.2 million in 1982, almost 140 per cent up on the 1981 level (NZ Embassy, Santiago, pers. comm.).

4.3.2 Brazilian Exports: Products and Destinations

Brazil has a dominant position in world juice exports. Orange juice concentrate contributes 95 per cent of the total juice export figure (Table 27). The United States and the Netherlands are the principle export destinations for orange juice, together accounting for 70 per cent of total exports. Given the predominance of orange concentrates, it is clear Brazilian exports are shipped in bulk containers. Thus, Brazilian orange juice is a raw material for American and European beverage manufacturers, rather than a consumer product marketed by Brazilian exporters.

TABLE 26

Central and South America: Importance in
World Trade of Fruit and Vegetable Juice (1977-1981)

Country	Year	Export Value	Per cent of World Exports	Rank
		(US\$'000)	(%)	
Brazil	1977	180 499	19	1
	1978	346 318	29	1
	1979	298 505	21	1
	1980	364 054	23	1
	1981	695 169	35	1
Argentina	1977	27 702	3	10
	1978	37 940	3	9
	1979	49 797	3	8
	1980	41 998	3	8
	1981	53 500	3	8
Mexico	1977	21 570	2	14
	1978	27 631	2	13
	1979	25 436	2	16
	1980	17 979	1	16
	1981	20 775	1	17
Chile	1977	101	-	48
	1978	838	-	45
	1979	2 482	-	43
	1980	1 640	-	46
	1981	2 638	-	47

Source: ITC (1982)

TABLE 27

Brazil: Exports by Product and Destination (1981)

Product	Volume	Value	Proportion of Total Value	Destinations (per cent)
	(tonnes)	(US\$'000 fob)	(%)	
Pineapple Juice	2529	4445	0.6	Netherlands (35), UK (33), Argentina (13), Chile (9), W. Germany (5)
Coconut Milk	1164	1263	0.2	USA (87), France (6), Netherlands (3)
Orange Juice - concentrate	638058	660147	95.0	USA (41), Netherlands (29), W. Germany (9), UK (5), Canada (4), Sweden (2)
- single strength	116	50	-	Paraguay (79), Argentina (19)
Cashew Juice	302	326	-	UK (84), Netherlands (10)
Guaiaba Juice	618	676	0.1	Venezuela (94)
Apple Juice	6	7	-	Venezuela (90), Chile (10)
Peach Juice	7	7	-	Uruguay (73), Chile (25)
Lemon Juice	1875	1503	0.2	Netherlands (44), Canada (18), USA (17), Spain (13), Poland (3)
Passionfruit Juice	4766	13155	1.9	Netherlands (70), W. Germany (15) Sweden (5), South Africa (4)
Grapefruit Juice	1631	1889	0.3	Netherlands (59), Israel (13), W. Germany (13), Denmark (6)
Tangerine Juice	7068	7679	1.1	Netherlands (53), UK (23), W. Germany (22)
Grape Juice	2139	2465	0.4	Sweden (40), USA (24), W. Germany (16), Canada (14)
Other Juices	1378	1574	0.2	Netherlands (83), W. Germany (10)
Total Juice	661657	695186	100.0	

Source: NZ Embassy, Santiago, Pers. Comm.

It is significant that the Netherlands is the principal export market for a number of juices, viz. pineapple, lemon, passion-fruit, grapefruit, tangerine and 'other'. Given the size of the Netherlands population and the level of its juice imports, it is likely that a large proportion of Brazilian imports are re-exported to other European countries after undergoing further processing in the Netherlands beverage and blending/flavouring industries.

CHAPTER 5

AUSTRALIA

5.1 Introduction

In 1981, Australia's total population was 14.8 million. Over the period 1975-1981, population grew by an average of 0.9 per cent annually. At US\$9580, per capita income in Australia is one of the highest in the world, although in the last decade income growth in Australia has not matched that of other western industrialised economies. OECD (1983) report that over the period 1971-1981 GDP in Australia grew at 2.2 per cent per annum, in comparison to the OECD average of 3.0 per cent.

5.2 Domestic Production

In 1981, total production of single strength fruit juice in Australia totalled 203 million litres, an increase of 122 per cent on the volume produced in 1972 (see Table 28). Fruit juice concentrate production has been relatively stable at around 15 million litres, while fruit juice based cordial and syrup production has been stable at around 70 million litres.

TABLE 28

Australia: Fruit Juice Production

Year	Fruit			Factory Production ^c		
	Orange ^a (single strength equivalent)	Apple ^b	Pineapple ^b	Fruit juice		Fruit Cordials ^d and Syrups
	(Million Litres)			(Million Litres)		
1972	29.8	n.a.	n.a.	91.5	12.8	n.a.
1973	74.2	53.9	n.a.	n.a.	13.9	n.a.
1974	51.3	33.6	5.1	166.3	10.5	70.0
1975	76.3	25.7	10.4	179.8	13.8	60.1
1976	78.4	20.2	10.8	187.8	17.5	72.9
1977	71.2	22.2	8.5	156.5	10.7	68.4
1978	88.6	26.7	8.4	197.6	15.5	77.7
1979	88.7	32.8	8.3	186.2	15.4	70.3
1980	96.9	46.0	n.a.	n.a.	n.a.	75.0
1981	114.7	n.a.	n.a.	202.7	15.0 P	n.a.
1982	87.1	n.a.	n.a.	n.a.	n.a.	n.a.
1983	107.4	n.a.	n.a.	n.a.	n.a.	n.a.

P provisional

^a BR (June, 1983)

^b BAE (1980)

^c Yearbook (various)

^d Contain at least 25% pure juice

^e ITC (1982), 55% citrus, 15% apple, 30% other fruit.

By far the most important juice produced is orange juice. In 1981, 115 million litres of orange juice were produced, 283 per cent higher than the level of orange juice production in 1972. Since 1981, orange juice production has ceased to increase consistently. From Table 29 it can be seen that the lack of recent growth in domestic orange juice production can be attributed to a lack of significant growth in total citrus fruit production in Australia. Production peaked in 1981 at 537 000 tonnes, but has since declined so that a harvest of 458 000 tonnes is expected in the 1984 season.

TABLE 29

Australia: Citrus Production and Utilisation

Year	Domestic Production	Exports	Imports ^a	Total Australian Availability	Domestic Prod'n. Consumed:		
					Fresh	Processed	Processed as a % of Prod'n.
							(%)
				(kt fresh equivalent)			
1973	423.9	32.6	3.9	395.2	201.7	189.6	(44)
1974	389.2	24.7	35.0	399.5	217.4	147.1	(38)
1975	419.6	15.3	61.5	465.8	198.3	206.0	(49)
1976	443.6	19.1	77.5	502.0	220.5	204.0	(46)
1977	410.1	19.6	43.0	433.5	199.8	190.7	(47)
1978	444.1	22.5	64.8	486.4	193.3	228.3	(51)
1979	454.0	26.2	41.0	468.8	198.5	229.3	(51)
1980	488.0	45.0	122.0	565.0	195.7	247.3	(51)
1981	537.0	34.0	54.0	557.0	198.0	305.0	(57)
1982	422.0	32.0	98.0	488.0	175.0	215.0	(51)
1983P	495.0	30.0	110.0	575.0	215.0	250.0	(51)
1984E	458.0	31.0	110.0	537.0	176.0	251.0	(55)

^a all processed products

P provisional

E estimate

Source: BAE (1980), QRRE (1983)

Over time, the proportion of citrus production processed has increased (Table 29), while both the proportion and absolute level of citrus production consumed fresh has declined. In recent years, at least 50 per cent of all citrus production has been processed, usually into fruit juice. The volume of fruit processed rises sharply in years of high production, providing an outlet for excess fresh supplies, and in years when frost affects the harvest increasing supplies of inferior quality fruit. These points highlight the role of the citrus processing sector in Australia as an adjunct to fresh fruit marketing. This role can be contrasted with Brazil and Florida, where the citrus industries are orientated almost exclusively to supplying juice processors.

Given the orientation of the Australian citrus industry, the data contained in Table 29 showing the development of high levels of citrus imports is not surprising. These imports are all processed juice products, supplying the difference between domestic juice production and the growing consumer demand for fruit juice.

Returning to Table 28, it is apparent that after orange juice, apple juice is the next most important juice produced in Australia. In 1980, 46 million litres of apple juice were produced. Like the citrus industry, apple juice is a by-product of a fresh product orientated apple industry. Thus, juice production is largely tied to the demand for fresh product. Historically, total apple production increased prior to 1971, when a 443,000 tonne crop was harvested, but has declined since then, to around 300,000 tonnes in 1982. Total production is expected to decline slightly over the longer term. Thus, the future level of apple juice production is constrained by the lack of growth in fresh production. Juice production in particular years will increase if the quality of the fruit harvested is low.

5.3 International Trade

Australia is, in world terms, not an important participant in the world fruit juice trade. According to the ITC (1982), Australia was ranked twentieth in the world as a juice importer, accounting for 0.8 per cent of world imports. As an exporter Australia ranked twenty-first, accounting for 0.5 per cent of world exports.

From Table 30, it can be seen that over the last decade, orange juice imports grew from 0.1 million litres to 75 million litres. Orange juice imports are almost exclusively frozen concentrates for further processing in Australia. Apart from orange juice imports, no significant import or export trends for any other juice are apparent.

TABLE 30

Australia: Fruit Juice Trade Summary

Year	Citrus			Non-Citrus			Total Non-Citrus	Fruit Cordials
	Orange	Other Citrus	Total Citrus	Black- currant	Apple	Pine- apple		
(Million Litres)								
<u>Imports</u>								
1973	0.1	0.9	1.0	-	-	-	-	-
1974	12.3	2.4	14.7	-	-	-	-	-
1975	25.8	1.0	26.8	-	-	-	-	-
1976	33.2	1.3	34.5	-	-	-	-	-
1977	15.9	2.7	18.6	-	-	-	-	-
1978	22.4	0.5	22.9	-	-	-	-	-
1979	16.2	1.4	17.6	-	-	-	-	-
1980	61.9	0.7	62.6	n.a.	n.a.	n.a.	1.8	-
1981	23.5	n.a.	n.a.	n.a.	n.a.	n.a.	1.4	-
1982	41.5	n.a.	n.a.	n.a.	n.a.	n.a.	2.7	-
1983	75.0	n.a.	n.a.	n.a.	n.a.	n.a.	1.4	-
<u>Exports</u>								
1980	2.6	2.7	5.3	0.1	0.9	2.1	3.1	1.2
1981	4.2	0.9	5.1	0.1	0.3	2.0	2.4	1.8
1982	2.5	1.3	3.8	0.1	0.9	1.0	2.0	1.2

Sources: BAE (1980), BR (June 1983), ABS (various)

In Table 31, a detailed analysis of Australian juice imports in 1982 is presented. Orange juice accounted for 78 per cent of all imports by value. Brazil supplied 86 per cent of Australia's orange juice requirements; the United States nine per cent. Lime juice was the second most important citrus import. In 1982, 148 tonnes of lime juice were imported, 83 per cent from the United Kingdom.

Juices other than citrus juice accounted for 19 per cent of total imports. Pineapple, passionfruit and blackcurrant juices were major non-citrus juices imported. The United States, United Kingdom, Fiji, New Zealand, and Asian countries such as the Philippines, Malaysia, and Thailand were the major suppliers of non-citrus juice.

The total value of juices imported in 1982 amounted to A\$13.3 million. In the ten month period to April 1983, fruit juice imports were valued at A\$20.3 million. The increased value of imports was due entirely to a 77 per cent increase in the value of orange juice imports over the period, and a 102 per cent increase in the volume of orange juice imports. An adverse growing season in Australia reduced the total orange harvest considerably from expected levels.

The majority of fruit juice exports were of non-citrus juices. In 1982, 4.1 million litres of non-citrus juice were exported, valued at A\$6.4 million f.o.b., in addition to 3.8 million litres of citrus juice, valued at A\$3.0 million f.o.b. (see Table 32). Apple juice made up the largest single category of juice exported, accounting for 19 per cent of the total value of juice

TABLE 31

Australia: Fruit Juice Imports (1982)

Product	Quantity	Value	Proportion of Value	Major sources (per cent)
	(tonnes) ^a	(A\$'000)	(%)	
Lime juice	147.5	314.9	2.4	UK (83), USA (6)
Orange juice	4304.3	10395.6	77.9	Brazil (86), USA (9)
<u>Mixtures of Citrus</u>				
Grapefruit juice	12.3	24.9	0.2	USA (53), Cayman Is. (47)
Lemon juice	54.5	86.7	0.7	Italy (85), W. Germany (14)
Lime juice	0.9	1.3	-	USA (86), Thailand (14)
Other citrus	0.3	0.5	-	Greece (100)
Total Citrus	4519.8	10823.9	81.2	
Passionfruit juice	15.1	22.0	0.2	Fiji (72), NZ (26)
<u>Fruit Juice Mixtures</u> (000 litres)				
Pineapple	151.7	145.4	1.1	USA (51), Fiji (27), Brazil (22)
Other juices	460.1	627.0	4.7	USA (99)
Other juice (including blackcurrant)	1728.4	1179.6	8.8	UK (49), NZ (17), France (11), Philippines (11)
Other Fruit juice	331.0	431.3	3.2	Thailand (28), USA (21), Philippines (13), Malaysia (7)
Tomato juice	0.9	0.4	-	Israel (100)
Other vegetable juice	48.6	108.2	0.8	W. Germany (61), USA (25)
Total Non-Citrus	2735.8	2513.8	18.8	
Total		13337.8	100.0	

^a total soluble solids content.

Source: NZ High Commission, Wellington

TABLE 32

Australia: Fruit Juice Exports (1982)

Product	Quantity	Value	Proportion of Value	Major Destinations (per cent)
	('000 Litres)	(A\$'000 fob)	(%)	
<u>Orange juice</u>				
Containers less than 4.6 L	899.5	644.3	10.1	Fr. Polynesia (32), PNG (18), Fiji (10)
Containers more than 4.6 L	1649.6	843.4	13.2	Philippines (20), Malaysia (16) PNG (14), Singapore (11)
<u>Grapefruit juice</u>				
Containers less than 4.6 L	103.3	58.5	0.9	Saudi Arabia (31), UAE (22)
Containers more than 4.6 L	12.3	12.8	0.2	PNG (59), Philippines (27)
<u>Lemon juice</u>				
Containers less than 4.6 L	24.2	20.5	0.3	NZ (47), UAE (21), Singapore (19)
Containers more than 4.6 L	367.3	642.9	10.1	USA (89), Japan (5)
<u>Other citrus juice</u>				
Containers less than 4.6 L	458.8	358.1	5.6	NZ (29), Fr. Polynesia (14), South Africa (10)
Containers more than 4.6 L	323.9	411.9	6.4	NZ (81), PNG (5)
Total Citrus	3838.9	2992.4	46.8	
Pineapple juice	1025.8	373.3	5.8	NZ (32), Fiji (12), PNG (11)
Tomato juice	42.9	30.4	0.5	Fiji (30), NZ (28), PNG (27)
Blackcurrant juice	77.4	92.1	1.4	Canada (26), Malaysia (63)
Pear juice	18.5	44.8	0.7	NZ (99)
Apple juice	906.5	1240.5	19.4	UK (40), South Africa (20), Canada (20)
Other fruit juice	2003.1	1598.9	25.0	New Caledonia (23), Libya (18), Canada (11)
Other vegetable juice	23.5	23.2	0.4	Japan (85)
Total Non-Citrus	4097.7	3403.2	53.2	
Total	7936.6	6395.6	100.0	

Source: NZ High Commission, Canberra, Pers. comm.

TABLE 33

Australia: Non-Alcoholic Beverage Exports (1982)

Product	Quantity	Value	Proportion of Value	Major Destinations (per cent)
	('000 litres)	(A\$'000 fob)	(%)	
Fruit and Vegetable juice	7936.6	6395.6	43	(see Table 5.5)
Carbonated Beverages	12199.4	6552.5	45	Hong Kong (32), USA (14), New Caledonia (9) Singapore (8), PNG (6), Malaysia (6) Solomons (4), Nauru (4)
Fruit Cordials	1238.9	866.3	6	PNG (75), Malaysia (6)
Other	n.a.	889.6	6	Singapore (30), Hong Kong (25), Malaysia (12)
Total	21374.9	14704.0	100	

Source: NZ High Commission, Canberra, Pers. Comm.

exports. The United Kingdom accounted for 40 per cent of apple juice exports, while 20 per cent each went to South Africa and Canada.

Apart from apple juice, the majority of juice exports were destined for the Asia-Pacific region. Pacific Islands such as Papua New Guinea, French Polynesia, New Caledonia and Fiji were important markets for both citrus and non-citrus juice products. Asian countries such as the Philippines, Malaysia, Singapore, and Japan were also prominent destinations for Australian exports. New Zealand was also an important juice market.

It is significant that the export data presented in Table 32 show that a large proportion of citrus juice exports were in containers of less than 4.6 litres. Thus, it is clear that Australia exports consumer packed juices to its Asia-Pacific neighbours. A similar breakdown of exports by container size was not available for non-citrus exports, but it is likely that consumer packed juices also feature for these exports.

Apart from fruit juices, Australia also exports other non-alcoholic beverages to the Asia-Pacific region. In Table 33, it is reported that 12.2 million litres of carbonated beverages (soft-drinks and sparkling water) were exported in 1982, valued at A\$6.6 million f.o.b. Over 1.2 million litres of fruit cordials were also exported, largely to Papua New Guinea.

5.4 Consumption

5.4.1 Fruit Juice

Given available data, Australian consumption of fruit juices is approximately 18 litres per capita in single strength terms (see Table 34). Some estimates of per capita consumption would almost double this figure to 33 litres, after accounting for the use of juice in fruit drink products which have juice contents of between 25 and 50 per cent (BR; July 1983). At 33 litres per capita, Australia would compare favourably with United States consumption of 37 litres per capita. If Australian consumption of fruit cordials was added to pure juice and fruit drink consumption, per capita consumption of juice in Australia may exceed that of America, at least in terms of the final beverage volume consumed.

TABLE 34

Australia: Fruit Juice Per Capita Consumption^a

Year	Orange ^b		Apple ^c	Pineapple ^c	All ^d Juice	Fruit Cordials and Syrups ^c
	Total	Imported Proportion				
	(litres)	(%)	(litres)	(litres)	(litres)	(litres)
1973	2.38	-	3.96	n.a.	11.37	n.a.
1974	6.35	19	2.47	0.37	15.29	5.14
1975	7.49	25	1.89	0.76	17.25	4.41
1976	8.19	30	1.48	0.79	18.92	5.35
1977	6.39	18	1.55	0.59	13.92	4.78
1978	7.75	20	1.86	0.59	18.13	5.43
1979	7.32	15	2.29	0.58	17.30	4.91
1980	10.96	39	3.18	n.a.	n.a.	5.18
1981	9.43	17	n.a.	n.a.	17.92	n.a.
1982	8.77	32	n.a.	n.a.	n.a.	n.a.
1983	12.44	41	n.a.	n.a.	n.a.	n.a.

n.a. not available

- a single strength equivalent.
- b apparent consumption (production, Table 28; plus imports, Table 30).
- c based on production data in Table 28 imports and exports insignificant compared to domestic production.
- d based on factory production of single strength and concentrates data in Table 28. Since imports of concentrates are further processed in Australia, factory production can be taken as an apparent consumption (domestic production plus imports) aggregate.

Orange juice is the dominant juice flavour on the Australian market (Table 34). The ITC (1982) estimates that 90 per cent of the juice consumed in Australia is orange, either as a single flavour or in combination with pineapple or mango. The residual ten per cent share of the juice market includes apple, apple/guava, grapefruit, blended tropical juice, and grape flavours.

Of the orange juice consumed in Australia, an estimated 70 per cent is consumed as a fruit drink, rather than as a pure juice (QRRE; February 1982). A shift in consumer demand away from pure juices to fruit drinks has been evident in recent years, due largely to high orange prices and hence high orange juice prices (see BR; June 1983). To some extent, the high orange juice prices are the result of the import protection afforded domestic citrus producers, requiring processors to pay premiums to domestic orange producers rather than obtain cheaper juice supplies on the world market. Orange juice that is imported has a variable duty imposed on it bringing it closer to domestic juice prices.

5.4.2 Other Beverages

The non-alcoholic beverage market had estimated sales of A\$2 billion in 1982 (BRW, 1983). Soft-drink sales contributed 38 per cent to this total, milk 30 per cent, fruit juices 20 per cent, and mineral water five per cent, with other beverages making up the residual seven per cent.

In Table 35, per capita consumption data for a range of beverages are presented. Tea, coffee, soft-drink and spirit consumption all appear to have been relatively stable over the 1973 to 1981 period. Beer consumption has stabilised too, at a level of 134 litres per capita. The only category to have a clear growth trend is wine. Per capita consumption of wine has increased by 80 per cent since 1973, to 17.6 litres in 1981. By comparison, fruit juice consumption increased by 58 per cent over the same period, to 18 litres per capita. It is significant to note that both fruit juice and wine have comparatively better 'health' images among consumers than soft drinks or beer, their main competitors.

TABLE 35

Australia: Per Capita Consumption of Beverages

Year	Tea ^a	Coffee ^a	Carbonated Soft-Drinks	Beer	Wine	Spirits ^b
	kg	kg	(litres)	(litres)	(litres)	(litres)
1973	2.0	1.2	64.7	129.5	9.8	1.2
1974	1.9	1.2	63.4	139.0	11.0	1.2
1975	2.0	1.4	59.6	140.3	12.3	1.2
1976	1.9	1.1	65.0	137.4	13.0	1.1
1977	2.0	1.5	68.1	136.2	13.7	1.3
1978	1.6	1.8	68.8	137.6	14.3	1.3
1979	1.7	1.3	67.0	134.2	16.5	1.1
1980	1.6	1.7	66.3	134.3	17.4	1.0
1981	1.5	1.9	67.7	134.7	17.6	1.1

^a in terms of dry product

^b litres of alcohol

Source: BAE (1980)
ABS (various)

5.5 Supermarket Product Line, Fruit Drink Packaging and Pricing

In Tables 36 to 40, the fruit drink product line sold in a representative Australian supermarket is summarised. The complete product line of 132 items included pure juice, fruit drinks, fruit drink mixes, nectars, and fruit cordials. Within most product categories, a wide range of flavours, package types and sizes, and brandnames is available. Pure juice, fruit drinks and fruit cordials were particularly diversified.

5.5.1 Pure Fruit Juice

Of the 132 separate items making up the product line offered, 60 items or 45 per cent were pure fruit and vegetable juices (see Table 36). The majority of these items were single strength fruit juice. It is evident from recent newspaper reports that Australian food standards are not always complied with by juice manufacturers. Some products described as pure juice have been found to contain less than 50 per cent juice (SMH, May 1983).

Orange and orange/tropical juice blends were the dominant single strength juice flavours offered, although as a single-flavour product, apple juice totalled 11 product items while orange juice only accounted for nine items. Other flavours represented included grapefruit, pineapple, apricot and grape.

For pure single-strength fruit juices, two to five litre plastic bottles were the most popular package types. Products sold in units under one litre were usually canned. Given the dominance of high volume packages, it is likely that pure juices are sold for consumption later in the home.

In terms of prices, pineapple juice retailed at substantial discounts in comparison to every other juice flavour. Grape juice sold in 370 ml cans had the highest price per litre at A\$1.57, although a two litre grape product sold at an equivalent of A\$0.95 per litre, a similar price to orange juice. Apple juice sold at a slight premium in comparison to orange juice.

Concentrated pure juices were largely orange juices, and sold in units of 500 ml or less.

Vegetable juices were largely sold in units varying between 375 mls and 850 mls. All vegetable juices were sold in cans, and were priced competitively with pure juices sold in packages with a similar volume of product.

5.5.2 Fruit Drinks

In comparison to pure juice products, the majority of fruit drink products are sold in units of less than one litre (Table 37). Aseptic Tetra Paks dominate these smaller package sizes. It can be concluded from this that while pure juice products are generally sold in high volume containers, probably for consumption in the home, fruit drinks, being in single serve packages, are orientated more for immediate consumption.

Orange and orange blends dominate the flavours offered for fruit drinks. Mango and pineapple juice are the most popular juices blended with orange. Other flavours offered included apple, tropical, and apricot.

It is significant that no price discrimination was practised in the representative supermarket among juice flavours. That is, for products sold in similar packages and volumes, prices were the same for all flavours available.

For a number of fruit drinks available, added sugar was listed as an ingredient in their manufacture.

5.5.3 Drink Mixes

Drink mixes were not a large component of the total supermarket fruit based drink product line. Of the six drink mixes available, three were in powder form and three were liquids. The powders were all packaged in glass bottles with a capacity of 250g or 500g, while the liquids were all contained in 700g cans.

TABLE 36

Australia: Pure Juice Retail Prices (May 1983)

Flavour	No. of Brands	Package	Volume	Price		Unit Price per Litre
				Range	Average	
			(ml)		(A\$)	(A\$/l)
<u>Concentrate</u>						
Orange	3	Tetra Pak	500	1.55-1.69	1.60	3.20
Orange/Mango	1	Tetra Pak	500		1.57	3.14
Orange (F)	1	Can	170		0.84	4.94
Orange	1	Can	2980		3.09	1.04
Lemon	1	Plastic Bottle	250		0.58	2.32
Apple/Blackcurrant	1	Glass Bottle	375		1.89	5.04
<u>Single Strength</u>						
Orange	5	Plastic Bottle	2000	1.89-2.39	2.17	1.09
Orange	1	Tetra Pak	2000		1.95	0.98
Orange	1	Plastic Bottle	4000		2.99	0.75
Orange	1	Plastic Bottle	5000		4.79	0.96
Orange	1	Can	850		0.94	1.11
Orange/Passionfruit	1	Plastic Bottle	2000		1.99	1.00
Orange/Mango	2	Plastic Bottle	2000	1.89-1.99	1.94	0.97
Orange/Pineapple	1	Can	3000		1.39	0.46
Apple	3	Glass Bottle	750	0.75-0.85	0.82	1.09
Apple	3	Glass Bottle	2000	1.99-2.45	2.26	1.13
Apple	2	Plastic Bottle	2000	1.89-1.99	1.94	0.97
Apple	2	Can	375		0.42	1.12
Apple	1	Can	3000		1.85	0.62
Apple/Pear	1	Glass Bottle	2000		1.99	1.00
Grapefruit	1	Can	850		0.94	1.11
Grapefruit	2	Plastic Bottle	2000	1.89-1.99	1.94	0.97
Pineapple	1	Can	850		0.54	0.64
Pineapple	1	Tetra Pak	1000		0.62	0.62
Pineapple	2	Can	3000		1.39	0.46
Apricot	2	Can	850		0.79	0.93
Apricot	1	Plastic Bottle	2000		1.89	0.95
Apricot	1	Plastic Bottle	2980		2.65	0.89
Grape	1	Can	370		0.58	1.57
Grape	1	Plastic Bottle	2000		1.89	0.95
<u>Carbonated Single Strength</u>						
Grape	4	Glass Bottle	750	0.95-1.42	1.28	1.71
Apple	1	Glass Bottle	750		0.85	1.13
<u>Vegetable Juices</u>						
Tomato	1	Can	415		0.52	1.25
Tomato	1	Can	750		0.72	0.96
Tomato	3	Can	850	0.69-0.79	0.74	0.87
Tomato	1	Can	2980		2.19	0.73
Vegetable	1	Can	375		0.59	1.57
Vegetable	1	Can	750		0.99	1.32
Vegetable	1	Can	850		0.95	1.12

(F) Frozen

Source: Shoprite Supermarket, Deakin, Canberra, May 1983 from NZ High Commission, Canberra (pers. comm.).

TABLE 37

Australia: Fruit Drink Retail Prices (May 1983)

Flavour	No. of Brands	Package	Volume (ml)	Price (A\$)		Unit Price per Litre (A\$/l)
				Range	Average	
<u>Concentrate</u>						
Orange	2	Tetra Pak	500	0.99-1.05	1.02	2.04
Orange/Mango	1	Tetra Pak	500		0.99	1.98
<u>Single Strength</u>						
Orange (S) (F)	1	Tetra Pak	250		0.32	1.28
Orange	1	Plastic Bottle	500		0.62	1.24
Orange	1	Tetra Pak	2000		1.25	0.63
Orange (S)	1	Can	415		0.89	2.14
Orange	1	Plastic Bottle	4000		2.49	0.62
Orange	1	Plastic Bottle	5000		3.99	0.80
Orange/Mango	1	Tetra Pak	250		0.32	1.28
Orange/Mango	1	Tetra Pak	500		1.05	2.10
Orange/Mango	1	Tetra Pak	2000		1.25	0.63
Orange/Mango	1	Plastic Bottle	4000		2.49	0.62
Orange/Pineapple	1	Tetra Pak	250		0.40	1.60
Orange/Pineapple (S) (F)	1	Tetra Pak	250		0.32	1.28
Orange/Pineapple (S)	1	Cans	850		0.54	0.64
Orange/Pineapple	1	Tetra Pak	1000		0.62	0.62
Apple (S) (F)	1	Tetra Pak	250		0.32	1.28
Apple	1	Plastic Bottle	2000		1.99	1.00
Tropical (S) (F)	3	Tetra Pak	250		0.32	1.28
Tropical (S)	1	Tetra Pak	1000		0.62	0.62
Tropical	2	Tetra Pak	2000		1.25	0.63
Pineapple (S)	1	Can	850		0.54	0.64
Apricot/Pineapple (S)	1	Can	850		0.54	0.64

(S) Sugar added

(F) Frozen

Lemon, lime, orange and barley flavours were represented among the available drink mixes, often in combination with each other.

TABLE 38

Australia: Drink Mix Retail Prices (May 1983)

Flavour	Product	Volume	Price
			(A\$)
Lemon/Lime	Powder Glass Bottle	250g	3.29
Orange	Powder Glass Bottle	500g	2.58
Orange/Mango	Powder Glass Bottle	500g	2.42
Orange/Barley	Liquid Can	700g	2.65
Lemon/Lime/Barley	Liquid Can	700g	2.65
Lemon/Barley	Liquid Can	700g	2.65

Source: Shoprite Supermarket, Deakin, Canberra, May 1983 from NZ High Commission, Canberra (pers. comm).

5.5.4 Nectars

Only three fruit nectars were available in the representative supermarket, illustrating their small share of the total fruit juice product market. Apricot was the only flavour offered. All products were canned either in 425ml or 850 ml containers.

In terms of price, apricot nectar was positioned alongside pure fruit juices sold in similar sized containers. Like pure juice, nectars were priced at a premium of between 45 per cent and 75 per cent over fruit drinks of similar packaging and volume.

TABLE 39

Australia: Fruit Nectar Retail Prices (May 1983)

Flavour	Package	Volume	Price
		(ml)	(A\$)
Apricot	Can	425	0.52
Apricot	Can	850	0.94
Apricot (S)	Can	850	0.79

(S) sugar added

Source: Shoprite Supermarket, Deakin, Canberra. May 1983 from NZ High Commission, Canberra (pers. comm.)

5.5.5 Cordials and Syrups

Thirty-six of the 132 items present in the representative supermarket's product line were either fruit based cordials or syrups. The importance of these products is an important feature of the Australian market.

The majority of cordials and syrups available were sold in plastic bottles with a volume of either 750 ml or two litres. Glass bottles with a volume of 750 ml were also used.

A significant feature of the fruit based cordials and syrups available is the wide variety of flavours offered in comparison to both pure fruit juices and fruit drinks. Apart from orange, pineapple and mango which dominate pure fruit juice and fruit drink flavours (except for apple), cordials and syrups are also available in lemon, lime, barley, raspberry, blackcurrant, berry, passionfruit and tropical flavours.

In terms of price, cordials and syrups are extremely price competitive in relation to pure juice and fruit drinks, since the actual beverage volume consumed is much higher than the volume of product sold.

TABLE 40

Australia: Fruit Juice Cordial and Syrup Retail Prices (May 1983)

Flavour	Added Sugar and Preservatives		No Added Sugar, Preservatives		
	Plastic Bottle		Glass	Plastic	Glass
	750ml	2000ml	Bottle 750ml	Bottle 750ml	Bottle 375ml
	(A\$/unit)				
Orange	0.67-0.92	1.49-1.79	0.89	0.79	-
Orange/Pineapple	0.67	1.59	-	-	-
Orange/Lemon/Lime	0.67	1.59	-	0.79	-
Orange/Mango	0.82	-	-	-	-
Orange/Barley	-	-	1.49	-	-
Lemon	0.82	1.49	-	-	-
Lime	-	1.49	-	-	-
Lemon/Lime	0.67	1.59-2.79	0.89-1.39	0.79	-
Lemon/Barley	-	-	1.49	-	-
Lemon/Lime/Barley	-	-	1.49	-	-
Raspberry	0.82	1.59-1.79	-	-	-
Blackcurrant	-	-	1.79-2.09	-	2.52
Pineapple	0.67	-	-	-	-
Berry	0.67	-	-	-	-
Passionfruit	0.82	-	-	-	-
Tropical Fruit	0.82	1.59	-	-	-
Mango	0.82	-	-	-	-

Source: Shoprite Supermarket, Deakin, Canberra, May 1983 from
NZ High Commission, Canberra (pers. comm.).

5.6 Market Structure

Figure 1 in Chapter 2 presents an outline of the distribution channels followed by imported bulk and consumer packed fruit juices in the United States. The Australian distribution network is very similar to this, although some industrial end users described in Figure 1 are not important juice processors in Australia. For example, in Australia, the food processing industry (e.g. dairy industry, bakeries, baby food manufacturers) does not use large amounts of fruit juice as a raw material in its product manufacture.

Most imported juice concentrate is utilised by the beverage industry. The beverage industry in Australia comprises two components: processors and converters. Processors produce juice concentrate out of fresh fruit, and hence do not handle imported juice. Converters reconstitute juice concentrate into various juice products. Often the processing and converting functions are both handled by a single company, however, for imported concentrate, a number of specialist converter companies have been established.

The majority of fruit based drink products are sold via supermarket chains.

5.7 Market Access

The Australian citrus industry has been insulated from world market forces by a variable tariff on orange juice, ensuring imported juice is priced at levels closer to the price domestic processors can profitably manufacture orange juice from domestically grown oranges. Until 10 December 1982, a floor price for imported orange juice of A\$2.40/kg of total soluble solids (TSS) was established (BAE, 1980). Given world prices at the time of A\$1.45/kg, a duty of A\$0.95/kg TSS was payable on imported orange juice. Apart from this variable tariff protection, domestic citrus producers were also protected by a sales tax of 25 per cent on orange juice sold with a domestic content of less than 75 per cent.

Since 10 December 1982, the variable tariff on orange juice has been joined by a composite ad valorem and specific tariff (PIMUR, 1983). The composite tariff comprises a 10 per cent ad valorem duty and a specific duty of A\$0.75/kg TSS. In addition, a variable duty equal to the amount by which the customs value of imports is less than a floor price of A\$1.25/kg TSS is imposed. The specific duty and the floor price will both be reduced by five cents per kilogram each year to \$0.50/kg TSS and \$1.00/kg TSS respectively. Overall, the ad valorem equivalent of the new tariff is calculated at 45 per cent, compared to 70 per cent under the old system dominated by the variable tariff.

Apart from orange juice, most other juice imports enter Australia with a 10 per cent ad valorem tariff. Imports from developing countries usually enter with only a five per cent ad valorem duty. New Zealand exports to Australia enter free of any tariffs.

It can be concluded that apart from orange juice, entry to the Australian market is not significantly restricted by tariff barriers. New Zealand has only a slightly more competitive position in relation to imports from other sources in terms of tariffs incurred.

CHAPTER 6

JAPAN

6.1 Introduction

Japan is the most industrialised economy in Asia, and earns the highest per capita income of any Asian country. FEER (1982) report that per capita income in Japan reached US\$8887 in 1981, having grown at 5.4 per cent per annum over the period 1970-80. In recession dominated 1983, Japan's economic growth was reduced to 3.25 per cent per annum, though still the highest growth rate of any OECD country (OECD, 1983).

Total population in Japan totalled 117.8 million in 1981, having grown at 0.85 per cent per annum over the period 1975-1981.

6.2 Domestic Production

Japanese production of fruit juice concentrates for the domestic beverage industry totalled over 79,000 tonnes in 1980, almost 600 per cent higher than concentrate production in 1971 (Table 41). Over the same period, single strength juice production increased by over 200 per cent to 5416 tonnes, although production in 1980 was lower than the 1978 peak of 8789 tonnes. Apart from concentrates and single-strength juice, puree is also produced by the Japanese fruit processing sector. While only 57 tonnes of puree was produced in 1971, by 1978 production reached over 11000 tonnes, before falling to 9576 tonnes in 1978.

TABLE 41

Japan: Production of Fruit Juice Raw Materials (1971-1980)

Year	Concentrate	Natural 100% Fruit Juice	Puree
	(tonnes)		
1971	11353	1765	57
1972	12980	2837	177
1973	17381	6823	1094
1974	21915	7745	1754
1975	25337	6283	3032
1976	43371	6083	4490
1977	56412	5697	8384
1978	66354	8789	11137
1979	78078	6914	7540
1980	79168	5416	9576

Source: Kitson and Miller (1982)

The rapid increase in output from the Japanese fruit processing sector has been facilitated by the growth in domestic fresh citrus production, together with static levels of consumer demand for fresh fruit. Thus, the 20 per cent increase in mandarin production between 1971 and 1981 has been largely processed (see Table 42). Any further increases in domestic production of fresh fruit will also be processed.

TABLE 42

Japan: Fruit Production (1981)

Fruit	Level	Volume	Change
	('000 tonnes)		(% change from 1969-1971 average)
<u>Citrus</u>			
Oranges	395		23
Mandarins	2841		20
Other Citrus	300		219
<u>Deciduous</u>			
Apples	847		-18
Pears	522		12
Peaches and Nectarines	287		5
Plums	65		25
<u>Tropical</u>			
Pineapples	60		-25
Bananas	3		50
Total	5320		13

Source: FAO (1982)

Based on the raw materials produced by the processing industry, the Japanese beverage industry produces a wide range of juice based products for sale to consumers. In Tables 43 and 44 summaries of consumer juice product production by fruit type are presented. Overall production of consumer products for direct consumption totalled 200 million cases (Table 43) while production of consumer products requiring added water reached over 31 million cases. Of the directly consumed products, over 53 per cent were fruit drinks containing around 10 per cent fruit juices and 13 per cent were fruit drinks containing fruit segments or grains. Thirty per cent of direct consumption fruit products were pure fruit juices, while nectars made up five per cent of production. The fact that over 65 per cent of direct consumption products are fruit drinks with low pure juice content is an indication of the effect import restrictions on fruit juice have had on the domestic beverage industry, and hence on the range of products offered to consumers. The existence of import controls has ensured the continued dominance of the Japanese mandarin (mikan) as principal source of juice for all juice products except nectars (see Tables 43 and 44). The mikan flavour accounts for 67 per cent of direct consumption juice products, and 55

TABLE 43

Japan: Fruit Juice, Drinks and Nectars for Direct Consumption
by Type of Fruit (1980)

	Pure Fruit Juice	Fruit Drink ^a	Nectar	Fruit Juice Drink Including Segments	Total	Per cent of Total
	('000 Cases)					(%)
Mikan	37404	70970	1246	24664	134284	67
Apple	13941	11431	141	4	25517	13
Grape	618	4960	-	-	5578	3
Pineapple	64	2465	-	9	2538	1
Kabosu	-	93	-	27	120	-
Mixed Fruits	4455	5751	2514	1658	14378	7
Sour Peach	-	49	-	-	49	-
Guava	-	452	105	-	557	-
Shikuwashyu	-	155	-	-	155	-
Peach	47	1137	5914	11	7109	4
Japanese Pear	-	10	37	-	47	-
Strawberry	2	211	-	-	213	-
Plum	16	583	177	-	776	-
Grapefruit	251	3959	-	47	4257	2
Lemon	131	4347	-	-	4478	2
Passionfruit	-	112	-	-	112	-
Melon	45	31	-	-	76	-
Total	56974	106716	10134	26420	200244	100

- less than one.

^a 10% juice.

Source: Kitson and Miller (1982)

per cent of concentrate production. Apple accounts for 13 per cent of direct consumption products. Grape, pineapple, grapefruit and lemon are the only other fruits that account for significant shares of fruit juice products manufactured, almost entirely as fruit juice drinks. Nectar production is dominated by peaches.

TABLE 44

Japan: Fruit Juice Concentrate Production by Type of Fruit (1980)

Fruit	Pure Fruit Juice	Fruit Drink ^a	Total	Per cent of Total
	('000 Cases)			(%)
Mikan	792	16449	17241	55
Apple	55	1323	1378	4
Grape	30	4124	4154	13
Pineapple	-	2900	2900	9
Mixed Fruits	143	1695	1838	6
Guava	-	19	19	-
Lime	-	6	6	-
Peach	-	14	14	-
Banana	-	1	1	-
Strawberry	-	396	396	1
Plum	-	299	299	1
Grapefruit	1	2292	2293	7
Lemon	-	924	924	3
Passionfruit	-	13	13	-
Melon	-	47	47	-
Total	890	30502	31392	100

- less than one

^a 10% juice content

Source: Kitson and Miller (1982)

6.3 International Trade

The Japanese juice industry was ranked thirteenth in the world as an importer of fruit juices in 1981 (Table 45), having risen seven places in world rankings since 1977. In spite of this higher ranking, Japan still accounts for only one per cent of world imports of fruit juices, indicating that imports into higher ranked countries have grown faster than imports into Japan.

As an exporter, data reported in Table 45 indicate that Japan was ranked seventh in the world in 1981, accounting for four per cent of world exports with Japanese exports valued at US\$75 million. Initially, it is difficult to reconcile this information with the level and value of pure juice exports recorded in Table 46. Fruit juice exports in 1981 amounted to 0.3 million litres, valued at Y84 million or US\$0.4 million. The difference between the

export data is explained by the fact that nearly all juice exports reported in Table 45 are exported not as fruit juice, but as consumer packaged non-alcoholic beverages. Two thirds of these beverages contain mikan juice, a further 20 per cent apple juice. In terms of destination, around 90 per cent of these exports are sold in the Middle-East, with Saudi Arabia, Kuwait, United Arab Emirates and Bahrain forming the principal markets. Clearly, unlike most other countries involved in the world juice market, Japan is predominantly an exporter of finished juice products, rather than concentrated raw materials.

TABLE 45

Japan: Importance in World Trade of Fruit and
Vegetable Juice (1977-1981)

Year	Imports (US\$'000)	World Importance		Exports (US\$'000)	World Importance	
		Per cent (%)	Rank		Per Cent (%)	Rank
1977	8980	1	20	47148	5	6
1978	11547	1	19	63540	5	6
1979	24501	2	13	67704	5	6
1980	25741	2	13	77586	5	7
1981	26818	1	13	75493	4	7

Source: ITC (1982)

TABLE 46

Japan: Fruit Juice Exports (1981)

Product	Volume	Value	(% of Value) ^a
	('000 litres)	(Y'000)	
Orange juice	10.5	2490	3
Other citrus	186.2	55511	66
Other fruit	11.4	10714	13
Mixtures	35.9	8222	10
Tomato	29.2	6592	8
Other vegetable	0.9	783	1
Total	274.1	84312	100

^a may not add to 100 due to rounding.

Source: ITC (1982)

Japan almost exclusively imports concentrates as raw materials for the domestic beverage industry. Since 1977, the volume of juice imports has risen by 94 per cent, and the value by 141 per cent. From Table 47, citrus juice in 1981 accounted for 63 per cent of the value of all imports, with orange and grapefruit juice being of equal importance. Grape juice accounts for another 20 per cent of the import value in 1981. Japan's juice imports are sourced from a very limited range of countries. Apart from Brazil and the United States which together account for over 90 per cent of imports, only Israel and the Philippines contribute significantly to Japanese imports.

6.4 Consumption

Based on the production data contained in Tables 43 and 44, Japanese consumption of juice products can be estimated at 1.97 litres per capita, made up of pure juice 0.48 litres, fruit drinks 1.13 litres, nectar 0.09 litres, and concentrates 0.27 litres. With a per capita consumption of under two litres, Japanese juice consumption is the lowest of any developed country. To a large extent, the low level of Japanese juice consumption is due to import restrictions on raw materials rather than consumer preferences.

Although juice consumption is low, its growth rate has been over 20 per cent per annum over the last decade, as surplus domestic production of fresh fruit has made available increasingly large quantities of juice. Still, the range of flavours available has continued to be quite narrow, with mikan alone accounting for 70 per cent of the juice market, apple 13 per cent, and grape three per cent.

In terms of the total non-alcoholic beverage market in Japan, fruit juice products comprise a growing but minority share. From Table 48 the effect of tight juice availability is identified in the declining share of pure juice and nectars, while the share of fruit drinks has risen.

Overall, the share of non-carbonated fruit drinks rose by three percentage points between 1976 and 1979 to 33 per cent. During the same period, carbonated non-alcoholic beverages suffered a six percentage point decline in share to 58 per cent. Within the carbonated group, colas, clear (lemon, lime) drinks, and grape coloured drinks dominate. Total consumption of soft drinks is estimated at 23 litres per capita (BW; August 1981). Apart from soft drinks, health drinks (electrolyte replacers, stamina drinks) contribute significantly to the carbonated beverage market.

TABLE 47

Japan: Fruit Juice Imports (1977-1981)

Product	Volume of Imports					Value of Imports 1981		Major Sources (per cent)
	1977	1978	1979	1980	1981	(Y million)	(%)	
	(000 Litres)							
Orange juice	1438	1581	3430	2781	3810	1495	25	Brazil (84)
Grapefruit juice	1102	1344	1767	1941	3329	1552	26	USA (93)
Other citrus juice	1026	1427	1587	1657	1425	721	12	USA (45) Israel (25)
Pineapple juice	274	210	280	320	303	34	1	Philippines (85)
Grape juice	1151	582	959	1113	1875	1216	20	USA (95)
Other fruit juice	1356	205	2723	3610	1046	691	12	USA (51), Brazil (37)
Tomato juice	-	-	-	-	284	62	1	
Other vegetable juice	-	-	-	-	680	177	3	
Total Juice	6347	5349	10746	11422	12752	5948	100	

Source: ITC (1982)
Kitson and Miller (1982)

TABLE 48

Japan: Beverage Market Shares

Category	Year	
	1976	1979
	(%)	
<u>Carbonated</u>		
Cola	20.4	20.1
Clear drink	23.7	19.0
Fruit flavoured	1.8	2.4
Grape coloured	14.7	12.4
Milk products	0.4	0.8
Soda	0.9	0.8
Other	0.7	0.6
Health Drinks	1.5	2.0
Total Carbonated	64.0	58.1
<u>Non Carbonated Fruit Drinks</u>		
Fruit Juice (100%)	3.8	2.9
Fruit Juice (100%)	3.9	5.8
Nectar	2.7	1.8
Juice Drinks (10%)	8.7	11.1
Juice Drinks including segments	-	1.4
Other Drinks for direct consumption	5.3	5.0
Concentrate for making up	5.5	4.9
Fruit Syrup	0.5	0.4
Total Fruit Drinks	30.4	33.3
Coffee Flavoured Drinks	5.6	8.6
Total	100	100

Source: Kitson and Miller (1982)

6.5 Market Structure: Distribution Channels and End Users

Figure 2 summarises the typical distribution network for imported juice concentrate from exporter, to processors, and to consumers as a range of finished juice based products.

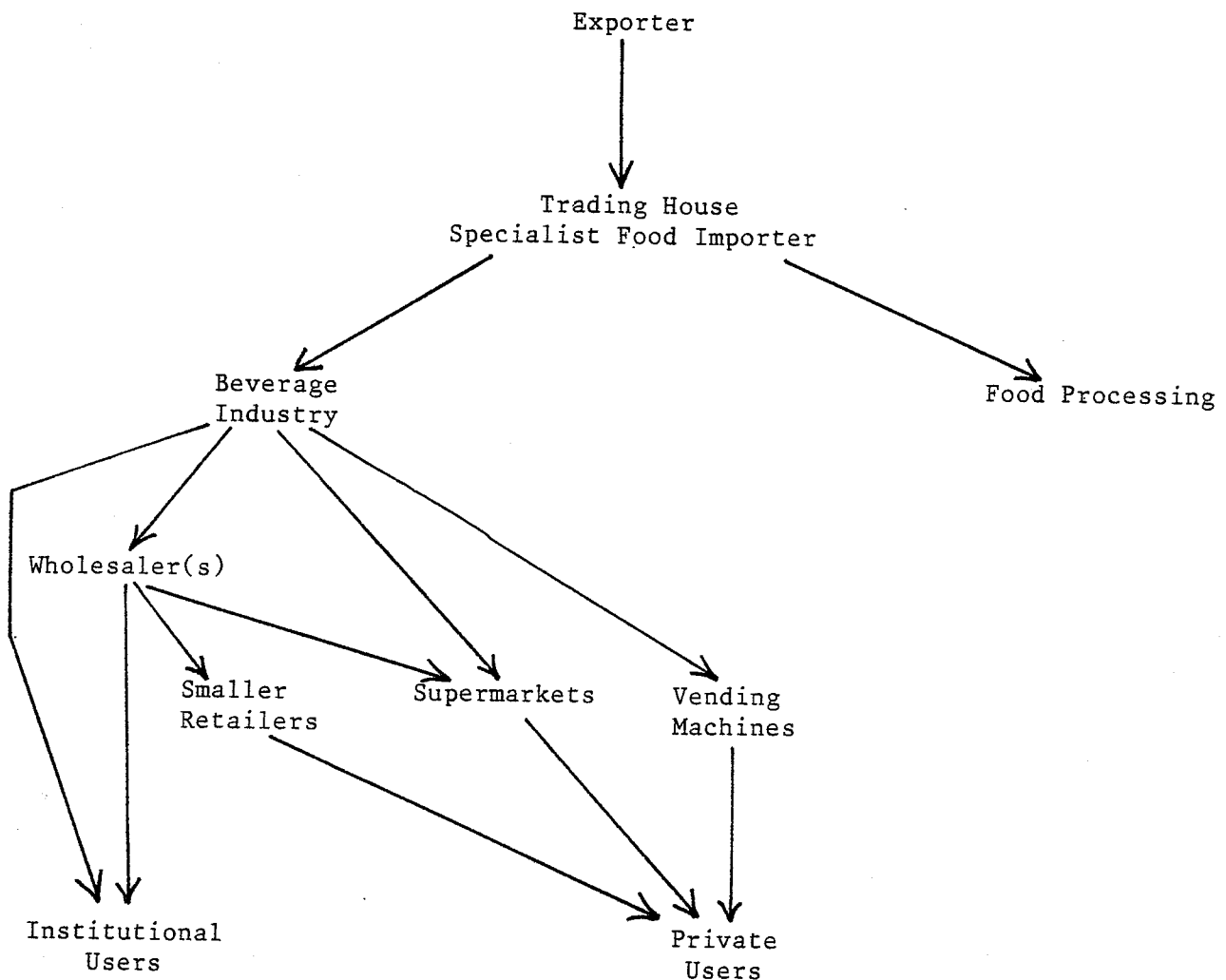
Nearly all juice imports are concentrates, and hence must enter the processing beverage industry. Only about five per cent of imports are utilised by the food processing sector (dairy industry, bakeries, confectionery and jam). Imports are usually undertaken through one of Japan's trading houses. Alternatively, for particular products, specialist food importers compete strongly with the major trading houses.

After processing, the finished juice products are distributed through wholesalers, supermarkets, vending machines, or direct to large institutional users. Wholesalers may be specialised according to either the products they

handle (e.g. food) or the users they supply (e.g. institutions). Often, at least three wholesalers will handle the consumer product between the beverage industry and the retail sector. At each level of wholesaler, volumes of product are broken down into smaller and smaller lots. Retailers tend therefore to frequently buy small volumes of particular products from wholesalers. Table 49 indicates that for one type of institutional end-user, restaurants, frequency of purchase is usually daily, reflecting Japanese preferences for fresh food. It is significant that fruit juices are usually purchased only once per month, hence, the need for a long chain of wholesalers is less evident. However, low frequency of purchase may also indicate low usage, so that any increase in sales through restaurants could lead to more frequent purchases of juice.

FIGURE 2

Japan: Distribution Channels for Imported Juice Concentrates



Source: ITC (1982)
 Kitson and Miller (1982)
 DTI (1982)

TABLE 49

Japan: Frequency of Fresh Food Purchases by Restaurants

Frequency	Vegetables	Fruit	Marine Products	Meat	Fruit Juice
	(%)				
Daily	93.4	67.4	83.9	87.2	12.6
2-3 times/week	5.1	21.2	11.6	10.1	6.1
1/week	0.8	8.2	1.4	0.7	10.5
2-3 times/month	0.1	1.8	1.0	0.5	18.7
1/month	0.1	0.3	0.2	0.1	27.9
End of month	0.2	0.5	0.3	0.1	20.4
Other	0.3	0.6	1.6	1.3	3.8

Source: Kitson and Miller (1982)

Apart from wholesalers, Kitson and Miller (1982) indicate that institutions, particularly restaurants, also purchase from between 20 per cent and 70 per cent of their supplies from retailers.

As end-users, the institutional market has expanded rapidly. Food eaten outside the home accounted for 14 per cent of food consumption expenditure in Japan in 1979, compared with 12 per cent in 1970 (Kitson and Miller, 1982). More significantly, expenditure on eating out over the 1970 to 1979 period grew at 15 per cent per annum, compared with the 11 per cent per annum increase for all food expenditure.

Of the total institutional market, restaurants and hotels accounted for 67 per cent of eating out expenditure, large institutions (schools, work canteens, hospitals) 22 per cent, and drinking places (tea shops, beer halls and cabarets) 12 per cent. The most popular form of restaurant is the traditional sushi (raw fish) restaurant, however, fast food outlets selling western-style food are second in importance, and hold more potential for fruit juice product sales.

6.6 Market Access

All juice imports into Japan are subject to tariffs and sales tax. Generally, tariffs for juices containing added sugar are 35 per cent of the c.i.f. valuation, or 27Y/kg, whichever is greater, irrespective of the juice type. For juices without added sugar the tariff is set at 30 per cent. Apart from the tariff, all juice imports are also levied a sales tax of five per cent.

Although Japanese tariffs are high, the major trade barrier limiting juice imports is the existence of import quotas. Only lemon and lime juice are exempt from quotas. In Table 50, quotas which hold for 1976 and 1980 are listed. It is apparent that quotas are often tied specifically to particular juices and/or sources, hence, new sources or juice types must compete with existing juices and suppliers for access under the general quota. Quotas can also be tied to end use. The general import quota and quota for hotel use are examples of this. Quotas are granted to end users or to organisations (e.g. Trading Houses) which have received orders from end users.

TABLE 50

Japan: Fruit Juice Import Quotas

Quota	1976	1980
	(tons)	
General Import Quota (all juices except orange juice, pineapple and lemon)	1380	1380
For Hotel Use:	620	636
of which:		
Orange and pineapple	500	486
Grapefruit	120	150
Emergency (Supplementary) Quota:	2600	5800
of which:		
Grapefruit concentrate	1500	1800
Apple concentrate	1100	4000
Negotiated Quota		
United States:		
Orange concentrate	1000	5000
Grapefruit concentrate	-	3000
Okinawa: Orange concentrate	-	90
Other: Fruit puree	3380	4056
Fruit pulp	4226	5072

Source: ITC (1982)

Quotas on raw materials for juice production, fruit puree and pulp limit the possibility of avoiding quota restrictions on juice itself. These materials incur at least a 25 per cent tariff, increased to 40 per cent if sugar is added. Only fruit with a minimal amount of further processing, e.g. frozen, is not subject to quotas. Tariffs on such fruit are 20 per cent, but rise to 35 per cent as sugar is added.

From Table 50 it can be seen that apart from emergency quotas and quotas negotiated with the United States, no relaxation of quota limits occurred between 1976 and 1980. The emergency quota is clearly tied to seasonal fluctuations in the availability of domestic citrus fruit for juice production.

While juice imports under tariff classification 22.07 are subject to quotas, beverages imported under tariff classification 22.02 are not. The range of beverages included under this classification in Japan include fruit nectars, carbonated and non-carbonated fruit beverages containing less than five per cent juice, cordials with a juice content of under 25 per cent (so long as the juice is not in its original state), and fruit syrups with a juice content of under 25 per cent (Mr Secker, Dept of Trade and Industry, Wellington, pers. comm.). Such imports attract a relatively low tariff; 20 per cent rising to 28 per cent if sugar is added.

CHAPTER 7

PACIFIC ISLANDS

7.1 Introduction

The lack of comprehensive data regarding the production, trade and consumption of fruit juice products in individual Pacific Island countries precludes any detailed analysis of the juice market in these countries. However, a more general discussion of population trends, economic activity, and fruit production in the region will provide insights into the potential for sales of fruit juice products into these markets.

7.2 Population

In all, the Pacific Islands as a region represents a combined population of over five million people. A feature of the region is the fragmented nature of this population's distribution, both between and within individual states. The population statistics reported in Table 51 reveal that Papua New Guinea alone accounts for around 60 per cent of the Pacific Island region's population, while the Cook Islands, Nauru, Niue, Norfolk Island, Tokelau Islands, and Wallis and Futuna Islands together account for less than one per cent of the region's population. Within any particular country in the Pacific the population is usually distributed over a number of islands. For example, the Trust Territory of the Pacific Islands, made up of the Marianas, Caroline and Marshall island groups, has over 2000 islands within its territory.

A feature of nearly every island nation is the dominance of the under fifteen year old in the age distribution of the population. Most Pacific Islands have at least 40 per cent and up to 50 per cent of their population under fifteen years old. This statistic both explains the high population growth rates reported in Table 51, and suggests that in the future rapid population growth will continue. The Cook Islands, Niue and the Tokelau Islands all have negative population growth rates in spite of having over 45 per cent of the population under 15 years old. These negative growth rates are due to emigration, particularly to New Zealand. Tongan and Western Samoan population growth rates of only 1.5 per cent and 1.1 per cent respectively can also be explained by emigration.

While the majority of Pacific Islanders are of Melanesian, Micronesian and Polynesian origin, the data reported in Table 52 show that significant European, Indian and Chinese communities exist in some countries. These communities developed due to the colonial period in the Pacific Island region's history, a period which has yet to close for some countries. British and French nationals make up the major European expatriate populations. Both the Indian and Chinese ethnic groups came to the Pacific as indentured workers for plantation agriculture, but now tend to hold higher income positions.

7.3 Economy and International Trade

With few exceptions, all Pacific Island economies are based on agriculture and tourism. Some countries have important mining industries as well. eg Fiji (gold), Nauru (phosphate), New Caledonia (nickel, manganese) and Papua New Guinea (copper, gold).

TABLE 51

Pacific Islands: Population (1981)

County	Total Population ^a	Average Population Growth Rate 1970-1981	Per cent Workforce in Agriculture	Per cent Population under 15 years old
	('000)	(%/annum)	(%)	(%)
American Samoa	27	3.1	n.a.	48
Cook Islands	18	-3.3	22	50
Fiji	641	2.1	39	41
French Polynesia	150	3.3	n.a.	46
Guam	116	2.0	74	40
Kiribati	59	1.8	n.a.	44
Nauru	8	5.6	n.a.	40
Niue	4	-2.8	79	46
New Caledonia	144	2.7	60	39
Norfolk Island	2	1.7	n.a.	25
Papua New Guinea	3241	2.9	82	45
Solomon Islands	237	3.8	45	48
Tokelau Islands	2	-3.2	n.a.	48
Tonga	99	1.5	48	44
Trust Territory of the Pacific Islands	139	3.5	56	46
Vanuatu	122	3.6	n.a.	46
Wallis and Futuna Is.	9	n.a.	n.a.	43
Western Samoa	158	1.1	79	48

^a For some countries population data is for 1976.

n.a. not available.

Source: FAO (1982)
UN (1979)
UN (1981b)

TABLE 52

Pacific Islands: Ethnic Composition

Country	Indigenous Pacific Islanders	Other Pacific Islanders	European	Indian	Chinese	Other
(% of total population)						
American Samoa	70	28	-	-	-	2
Cook Islands	100	-	-	-	-	-
Fiji	44	1	2	50	1	2
French Polynesia	95	-	-	-	5	-
Kiribati	83	15	1	-	1	-
Nauru	56	22	8	-	14	-
New Caledonia	42	13	40	-	-	5
Niue	100	-	-	-	-	-
Papua New Guinea	99	-	-	-	-	1
Solomon Islands	93	5	1	-	-	1
Tokelau Islands	100	-	-	-	-	-
Tonga	98	-	-	-	-	2
Trust Territory of the Pacific Islands	100	-	-	-	-	-
Vanuatu	93	-	7	-	-	-
Wallis and Futuna Is.	98	-	2	-	-	-
Western Samoa	98	-	2	-	-	-

Sources: Carter (1981)
ACOA (1978)

Agriculture in the Pacific is largely subsistence, with coconuts, cocoa, coffee and sugar-cane being the major cash crops.

Livestock and fishing hold less important positions in Pacific Island economies, their development often occurring in association with the development of canning industries. The declaration of 200 mile Exclusive Economic Zones (EEZ) has provided many island nations with substantial fisheries resources, opening opportunities for much bigger fishing industries. Many Pacific Island countries have entered into joint ventures with Japan and Korea in order to develop their EEZ's.

Given the primary and extractive industries which form the basis for most island economies, it is not surprising that agricultural and mining products contribute the majority of exports. Imports on the other hand usually include machinery, transport equipment, manufactures and mineral fuels. Food and beverages also account for an important share of total imports. Only the Solomon Islands are even close to being self sufficient in food.

Trading patterns tend to follow the historical colonial ties between the island economy and its European or Pacific 'mother' country. Preferential access granted to former and current colonies ensures historical trading patterns are maintained.

The visible trade balance of most Pacific Islands is usually in deficit. These deficits are offset by invisible transactions which include foreign aid, remittances from emigrants, and tourism. French aid contributions to the economies of New Caledonia, French Polynesia and Vanuatu form particularly large components of these countries national incomes.

Emigration from the Cook Islands has occurred to such an extent that more Cook Islanders live in New Zealand than the number living in their homeland. Remittances from these emigrants provide the remaining islanders with additional cash income. Niuean, Tongan, Tokelau and Samoan emigrants are also important sources of cash income for relatives who remained in their homeland.

Tourism is an important industry in nearly every Pacific Island country. In Table 53, the number of tourists visiting particular islands is reported. Fiji recorded the most tourists visiting in a year; nearly 250,000 in 1978. French Polynesia and New Caledonia together recorded over 180,000 tourists. The total number of tourists visiting individual islands in a year amounted to between 40 per cent and 60 per cent of the indigenous population, revealing the tourist orientation of most island economies. Papua New Guinea, the most populous island in the region, was less tourist orientated than all the islands, receiving little over 26,000 tourists, less than one per cent in terms of the country's population.

While the majority of tourists arrived in the Pacific Island region by air and tended to stay between one and two weeks, significant numbers of tourists arrived by cruise ships, tending to stay only a few hours or a couple of days in any particular port. Most tourists originated from New Zealand, Australia and the United States, though the number of Japanese tourists is growing quickly. Islands in the Pacific Island Trust Territory and the Solomon Islands, scenes of major battles during World War II, have experienced the greatest increases in Japanese tourist traffic.

TABLE 53

Pacific Islands: Tourists

Country (Year)	Number of Tourists			Tourists as Proportion of Total Population (%)
	Arrival by Air	Arrival by Cruise Ship	Total	
American Samoa (1978)	n.a.	n.a.	11157	41
Cook Islands (1979)	n.a.	n.a.	19722	110
Fiji (1978)	186000	57940	243940	38
French Polynesia (1978)	93223	718	93941	63
Kiribati (1977)	n.a.	n.a.	796	1
New Caledonia (1978)	51491	37000	88491	61
Papua New Guinea (1976)	n.a.	n.a.	26374	1
Solomon Islands (1979)	10200	8345	18545	8
Tonga (1979)	12126	29990	43116	44
Trust Territory of the Pacific Islands (1980)	n.a.	n.a.	90000	65
Vanuatu (1979)	30454	29105	59559	49
Western Samoa (1979)	49866	10972	60838	38

Source: Carter (1981)

Disposable incomes in most Pacific Island economies tend to be low, around \$1,000 per capita on higher income islands. Only Nauru has a level of per capita income that compares favourably with more developed industrialised nations. In 1978 per capita income on Nauru was estimated at A\$25,000 (ACOA; 1978).

7.4 Fruit Production and Fruit Juice Trade

The commercial production of fruit does not form a major part of Pacific Island economies. The majority of fruit is produced and consumed by individual households. Plantation style fruit growing orientated to export markets is not well developed.

Tropical fruit, particularly bananas, makes up the major proportion of fruit production throughout the Pacific Island region. Apart from bananas, the major tropical fruit grown include avocados, mangoes, pineapples and papayas (Table 54). These fruit tend to be eaten fresh. Carter (1981) reported that Fiji, Papua New Guinea and Niue were also significant producers of passionfruit, much of which was processed for export as pulp. Passionfruit production in Fiji reached 369 tonnes in 1980, and is controlled by a subsidiary of an Australian company which buys all the output as pulp. In Papua New Guinea, passionfruit production has declined in recent years due to the attractiveness of growing coffee. Niue Island production of passionfruit totalled 380 tonnes in 1980, and contributed 36 per cent to the value of total Niuean exports.

TABLE 54

Pacific Islands: Fruit Production (1981)

Country	Total Fruit Production	Of Which:							
		Oranges	Other Citrus	Avocados	Mangoes	Pineapple	Papayas	Bananas/ Plantains	Other
	(000 tonnes)	(%)							
American Samoa	2	-	-	-	-	-	-	50	50
Cook Islands	15	13	33	7	13	13	-	13	8
Fiji	13	23	-	-	-	8	23	31	15
French Polynesia	4	-	25	-	-	25	-	25	25
Guam	2	-	-	-	-	-	-	-	100
Kiribati	5	-	-	-	-	-	-	80	20
Nauru	-	-	-	-	-	-	-	-	-
New Caledonia	11	-	-	-	-	-	-	64	36
Niue	2	-	-	-	-	-	-	50	50
Pacific Is.	3	-	-	-	-	-	-	67	33
Papua New Guinea	1072	-	-	-	-	1	-	87	12
Solomon Is.	11	-	-	-	-	-	-	-	100
Tokelau Is.	-	-	-	-	-	-	-	-	-
Tonga	10	30	30	-	-	-	-	20	20
Vanuatu	6	-	-	-	-	-	-	17	83
Wallis and Futuna Is.	5	-	-	-	-	-	-	80	20
Western Samoa	55	-	2	4	11	9	20	40	14

Source: FAO (1982)

Citrus fruit production is only significant in the Cook Islands, Fiji, French Polynesia and Tonga. Citrus juice is one of the Cook Islands major exports.

Import statistics for fruit juice products are available for only two countries, Fiji and Papua New Guinea. The UN (1981a) reports that Fiji imported juice valued at US\$5.7 million in 1979, compared to US\$0.4 million in each of the previous three years. Papua New Guinea imported US\$3.8 million worth of fruit juices in 1981, 58 per cent being fruit juices, 30 per cent cordials and syrups, seven per cent powdered fruit juices; the remaining five per cent being fruit juice extracts (NZ High Commission, Port Moresby; pers. comm.). Of fruit juice imports into PNG, 60 per cent were citrus juices, six per cent pineapple juice and four per cent apple juice. Together, Singapore and Hong Kong were the source of 56 per cent of fruit juice imports by PNG, indicating the imports were probably finished consumer packages. Australia supplied 36 per cent of fruit juice imports, as well as supplying 92 per cent of cordial imports which, like juice imports, were dominated by citrus flavours.

Import tariff regimes vary considerably between individual Pacific Island countries. Indications of the overall level of tariffs operating in some islands are reported in Table 55.

TABLE 55

Pacific Islands: Import Tariffs

Country	Tariff Schedule
American Samoa	$\frac{1}{2}$ c/8 fl oz excise duty on soft drinks.
Cook Islands	Free trade with New Zealand.
Fiji	40 per cent tariff on juice imports.
French Polynesia and New Caledonia	Preference for France and other EEC countries. Customs duty 10% (not levied on EEC countries) plus import duty 1-32 per cent.
Nauru	Free trade.
Papua New Guinea	2.5% general import levy. Up to 50% import duty on non-essentials or imports competing with domestic industry.
Solomon Islands	50% tariff on soft drinks.
Tonga	Fruit juices and cordials 14%, soft drinks 10%.
Western Samoa	Tariffs up to 100%.

Source: Carter (1981)

NZ Department of Trade and Industry (pers. comm).

Fiji and Papua New Guinea, the two major Pacific Island importing nations have quite high tariffs on fruit juices, generally regarded as non-essential or luxury items. French Polynesia and New Caledonia both give the EEC and particularly France preferential access to their markets. The presence of significant higher income European populations on these islands, and growing tourist industries make both these markets particularly attractive for exporters of less essential foodstuffs such as fruit juices.

7.5 Fruit Juice Consumption

While no data are available indicating the level of juice consumption on particular islands, a number of observations can be made from the preceding discussion regarding consumption behaviour.

It is clear that the purchasing power of the indigenous populations is not great, although incomes on many islands are supplemented by remittances from emigrants. Given the income levels of indigenous populations, cordials would tend to be the major source of fruit juices, having a low proportion of pure juice in the product and hence being much cheaper than pure juices. The price information obtained from a Papua New Guinea supermarket illustrates this point (Table 56). Two demographic features influencing juice consumption among indigenous islanders are the high proportion of the population under fifteen years old, and the proportion of the population engaged in agriculture. The youthful age distribution in most Pacific Islands indicates that the demand for imported food and beverages will continue to rise along with total population. In other countries, young people tend to be heavier consumers of fruit juices.

Given that around 50 per cent of island populations are engaged in agriculture, it can be concluded that the major fruit juice consumers are the other 50 per cent of the population, living in urban centres. The rural economy tends to be much less monetised than the urban economy. Population growth will tend to be centred in urban areas.

Expatriate and tourist populations form a higher income market segment in the Pacific Island region. Supermarkets, hotels and restaurants would be the major outlets catering for this market segment. Pure fruit juices and fruit drinks would tend to be consumed rather than cordials. The product line reported in Table 56 for a Papua New Guinean supermarket shows that fruit juice dominates, especially canned juice in 250, 425 and 850 ml units.

TABLE 56

Papua New Guinea: Fruit Juice Product Line and Prices -
Steamships Supermarket, Boroko (May 1983)

Product	Country of Origin	Package	Size	Price	
				(kina)	(NZ\$)
<u>Fruit Juice and Juice Drinks</u>					
Orange	PNG	Can	170	0.29	0.51
Orange	Australia	Tetra Brik	250	0.37	0.65
Orange	Hong Kong	Tetra Brik	250	0.25 0.36	0.44 0.63
Orange and Pineapple	Australia	Can	250	0.33	0.58
Orange	Australia	Can	425	0.68	1.19
Grapefruit	Australia	Can	425	0.57	1.00
Tomato	Australia	Can	425	0.45	0.79
Pineapple	Australia	Can	425	0.37	0.65
Orange	Australia	Can	850	1.23	2.15
Grapefruit	Australia	Can	850	1.11	1.94
Apricot	PNG	Can	850	0.86	1.51
Apricot and Passionfruit	PNG	Can	850	0.86	1.51
Pineapple	Australia	Can	850	0.68	1.19
Pineapple and Orange	Australia	Can	850	0.68	1.19
Orange	Australia	Can	2980	3.71	6.50
Tomato	Australia	Can	2980	2.55	4.47
<u>Nectar</u>					
Peach	PNG	Can	425	0.55	0.96
Mango	PNG	Can	415	0.55	0.96
<u>Cordial</u>					
Lime	Australia	Plastic Bottle	750	0.85	1.49
Pineapple, lime, orange	Australia	Plastic Bottle	750	0.90	1.58
Lemon, orange	Australia	Plastic Bottle	750	0.91	1.59
Lemon, orange	Australia	Plastic Bottle	2000	2.51	4.40
Pineapple, lime, lemon, orange	Australia	Plastic Bottle	2000	2.23	3.91

Source: NZ High Commission, Port Moresby (pers. comm.).

CHAPTER 8

ASIA (EXCLUDING JAPAN)

8.1 Introduction

The Asian region includes the countries situated on the south and south-east regions of the Asian sub-continent, and includes the off-shore islands making up Singapore, Hong Kong, the Philippines, Indonesia, Malaysia and Sri Lanka. As a means of classifying the large number of states included in the Asian region, three basic divisions can be made. The first division includes four countries, viz., Hong Kong, Republic of Korea, Singapore and Taiwan. These countries are often described as Newly Industrialising Countries (NIC), due to their rapid economic growth based on export orientated manufacturing industries. Electronic, garment and textile industries are particularly important. Singapore and Hong Kong are also important trade, communications and banking centres. Both countries are involved in the re-export of commodities to other Asian countries. In terms of agricultural trade, all four NICs are net importers.

The second group of Asian countries includes Indonesia, Malaysia, the Philippines and Thailand. Like the NICs, their development strategies are based upon manufacturing industries, though compared to the NICs, development is at an infant stage. Industrial development in these countries, unlike the NICs, is based largely on domestic natural resources. Indonesia has extensive reserves of tin, bauxite, copper and oil, while Malaysia, in addition to tin and oil, relies on palm oil, rubber and tropical timber. Mining also plays a large part in the Philippines industrial development, especially copper and gold mines. Thailand, in addition to iron and tin smelting, is rapidly developing textiles and canning industries. The natural resource based nature of industrial development in these countries makes them particularly vulnerable to fluctuations in the commodity markets. All four countries are net exporters of agricultural produce.

Most other nations within Asia are to a much greater extent agriculturally based economies. Burma, Bangladesh, China, India, Pakistan, Vietnam and Cambodia fit within this category.

In Table 57 a number of population and income statistics for important Asian economies are reported. In comparison to other Asian countries, NICs have both lower population growth rates and proportions of the workforce engaged in agriculture. Per capita incomes in NICs are much higher than the rest of Asia (apart from Malaysia), and in the past have grown at faster annual rates. Hong Kong and Singapore, while the Asian economies with the highest per capita incomes (both over US\$4,500), also have the two lowest populations and population growth rates. Per capita incomes in the four less industrialised economies vary between US\$440 and US\$1800, on average 70 per cent lower than the average NIC per capita income. Population growth in the less industrialised economies is over 2.0 per cent per annum, and is reflected in the statistics showing over 40 per cent of the population being under fifteen years old. In the NICs, the proportion of the population under fifteen years old has declined in recent years, to a maximum of 35 per cent.

The more agriculturally based economies of Asia are notable for a combination of high population growth rates (except China), a highly agricultural workforce, a youthful population age distribution (except China), and low per capita incomes. The total populations of these more agriculturally

TABLE 57

Asia: Population and Income (1981)

Country	Population ^a				Income ^b			
	Total	Annual Growth 1975 1981	Agricultural Workforce	Under 15 Years Old	GNP per Capita ^a	Annual Growth ^a 1970 1980	Real GDP Growth 1982	Real GDP Growth 1983
	(million)	(%)	(%)	(%)	(US\$)	(%)	(%)	(%)
<u>Newly Industrialising Countries</u>								
Hong Kong	5.1	1.2	1.3	28	4600	8.5	2.4	4.0
Korea, Rep. of	38.9	1.7	32.0	35	1553	8.7	6.0	7.5
Singapore	2.4	1.2	1.5	30	4850	14.4	6.0	4.0
Taiwan Province	18.2	2.0	19.5	35	1720	8.5	3.8	5.5
<u>Other Industrialising Market Economies</u>								
Indonesia	149.4	2.0	59.0	44	439	7.5	2.5	3.5
Malaysia	14.3	2.3	38.4	41	1763	8.0	4.6	5.0
Philippines	48.9	2.4	52.7	43	732	6.2	2.6	2.9
Thailand	48.6	2.0	73.8	43	708	7.0	4.5	5.5
<u>More Agricultural Asian Economies</u>								
Bangladesh	92.8	2.6	77.5	43	120	6.5	n.a.	n.a.
Burma	35.2	2.4	66.0	41	157	3.6	n.a.	n.a.
China	985.0	1.2	59.0 ^c	32	281	6.5	n.a.	n.a.
India	688.6	2.1	73.0	41	230	3.5	n.a.	n.a.
Pakistan	88.9	2.8	55.9	46	289	4.0	n.a.	n.a.
Sri Lanka	15.3	2.2	50.1	36	282	6.9	n.a.	n.a.

^a Source: FEER (1982)

n.a. — Not Available

^b Source: FEER (1983)^c Source: FAO (1982)

based economies also tend to be higher than the eight more industrialised Asian countries.

Statistics regarding the production, trade and consumption of fruit juices by individual Asian countries are not readily available. Data that are available are discussed below. Given the higher levels of income in the eight more industrialised and open-market economies, the discussion concentrates on these countries.

8.2 Fresh Fruit Production

Production of fresh fruit in the eight major industrialising economies in Asia is dominated by tropical fruit, particularly avocados, mangoes, pineapples, papayas and bananas (Table 58). Of the four NICs, only Korea and Taiwan produce significant quantities of fruit. Due to climatic influences, temperate pip and stone fruit contribute the majority of fruit production, the only countries in Asia where this occurs. Citrus fruit production is also important in Taiwan.

Excluding bananas, pineapple is the most important tropical fruit produced in Asia. In 1981, Thailand was the leading producer with an output of 1.8 million tonnes, followed by the Philippines with a 1.2 million tonne production. The growth of pineapple production in these two countries has been extremely rapid with Philippine production increasing by nearly 400 per cent in the 10 year period ending 1981, while over the same period Thai production grew by over 850 per cent. The rapid growth in pineapple production occurred in association with the development of canning industries, orientated largely to export sales. The export orientation of pineapple production is understandable given the predominance of large multinational companies in the industry, e.g. Dole, and Del Monte, who have developed vertically integrated production and marketing systems. Pineapple juice is an essential by-product of the canning industry, being made from pineapple cores, trimmings and rejects. For every tonne of canned pineapple produced, an equivalent amount of juice is produced. The FAO (1972b) reported that "probably as much as 50 per cent of juice output is wasted for lack of outlets".

Apart from pineapples and bananas, the other important tropical fruit are mangoes and papayas. Indonesia and the Philippines are the principal producers of these fruit among the eight countries listed in Table 58. World production of mangoes and papayas reached 13.4 million tonnes and 1.9 million tonnes respectively in 1981 (FAO; 1982). India alone accounted for over 60 per cent of mango production, and dominates world trade in mango products, though most are sold in only a semi-processed state e.g. pulp.

The data reported in Table 58 show that with four exceptions, fruit production in every country and for every fruit type has increased over the past decade, often by over 100 per cent. As was discussed above for pineapple, these production increases have been largely motivated by the desire to develop a domestic fruit processing sector whose output could be exported, especially to North America and Europe. These processing and export orientated tropical fruit industries have achieved significant success in introducing exotic juice flavours to these markets.

TABLE 58

Asia: Fruit Production (1981)

Country	Apples	Pears	Peaches	Plums	Oranges, Mandarines	Lemons, Limes	Other Citrus	Avocados	Mangoes	Pineapples	Papaya	Banana, Plantains
(000 tonnes)												
Hong Kong	-	-	-	-	-	-	-	-	-	-	-	-
Korea, Rep. of	523	72	89	9	-	-	-	-	-	-	-	-
Singapore	-	-	-	-	-	1	-	-	-	-	-	2
Taiwan Province ^a	-----460-----			-----375-----			-	-	290	-	-	200
Indonesia	-	-	-	-	194	-	-	46	357	266	277	1622
Malaysia	-	-	-	-	8	-	9	-	11	207	6	460
Philippines	-	-	-	-	55	45	35	27	380	1200	65	4280
Thailand	-	-	-	-	55	1	16	-	-	1800	-	2021
(% change over 1971)												
Hong Kong	-	-	-	-	-	-	-	-	-	-	-	-
Korea, Rep. of	141	47	25	350	-	-	-	-	-	-	-	-
Singapore	-	-	-	-	-	-	-	-	-	-	-	-
Taiwan Province	-----110-----			-----78-----			-	-	-15	-	-	-61
Indonesia	-	-	-	-	109	-	-	15	19	149	85	4
Malaysia	-	-	-	-	-20	-	100	-	38	-23	50	23
Philippines	-	-	-	-	100	400	25	69	166	378	18	348
Thailand	-	-	-	-	25	-	78	-	-	862	-	68

^a 1978 data from USDA Statistical Bulletin 619

Source: FAO (1982)

8.3 International Trade

Asian exports of fruit and vegetable juice totalled just under US\$78 million in 1981, a 110 per cent increase over the level of exports in 1977 (Table 59). In terms of total world exports of fruit juice, Asia accounted for only 4.0 per cent, though this is equivalent to a world ranking of seven among juice exporting nations. Individually, the Philippines achieved the highest ranking among Asian juice exporters (fourteenth), accounting for 1.4 per cent of world exports. Exports from the Philippines largely consist of pineapple juice, and mango and guava pulp. Behind the Philippines, Thailand was ranked twentieth in the world, with exports of US\$14 million in 1981, over 1300 per cent higher than 1977. The rapid growth in Thai exports reflects the development of their pineapple canning industry.

Both Singapore and Hong Kong are also significant exporters of fruit juices, in spite of the absence of a large domestic fresh fruit industry. In Singapore, Dunphy (1981) reports that the food processing industry, relying entirely on imported inputs, is the fourth largest industry group. Table 60 reports juice imports into Asia, showing the dominance of Hong Kong and Singapore among juice importers. Imports into Hong Kong and Singapore increased by 270 per cent and 69 per cent over the level of imports in 1976. Malaysia is another Asian country with significant imports of fruit juice, totalling over US\$6 million in 1980, an increase of 104 per cent over 1976. Between 30 and 40 per cent of juice imports into Malaysia originate from the Hong Kong and Singaporean beverage industries.

Korean imports of orange juice totalled US\$3.5 million in 1980, 648 per cent higher than in 1976.

Imports into all four Asian countries reported in Table 60 are predominantly citrus juices. Orange juice alone usually makes up at least 50 per cent of all imports.

8.4 Consumption

It is clear from the international trade data reported in Section 8.3 that apart from Hong Kong, Korea, Singapore, and Malaysia, all other Asian countries are largely self sufficient (although often imposed by import barriers) in fruit juices.

The availability of fresh tropical fruit in Asia has a marked influence on flavour preference for fruit juice. Tropical flavours such as mango, guava, lychee, longan, coconut, watermelon, pineapple, and starfruit dominate the market. Temperate juice from oranges, apples, grapefruit, limes, cherries, grapes and blackcurrants complete the fruit flavour spectrum. Other beverage flavours available include sugarcane, soya-bean, barley, chrysanthemum tea and herbal tea. One important point to note from the flavours available is the dominance of sweet juices, a preference for sweet foods being a characteristic of the Asian palate.

The majority of fruit juices sold in Asian countries are fruit drinks rather than pure juices. Nearly all have sugar added and often are vitamin C enriched. Powdered products and nectars do not have more than five per cent of the total juice market. In some Asian countries UHT flavoured milk is an important competitor to fruit juices, although the milk flavours themselves are dominated by orange, mango, lychee, guava, and blackcurrant.

TABLE 59

Asia: Exports of Fruit and Vegetable Juice (1977-1981)

Country	Year					Proportion of World Trade 1981	World Ranking 1981	Percentage Change 1977-1981
	1977	1978	1979	1980	1981			
	(US\$ '000)					(%)		(%)
Hong Kong	n.a.	n.a.	n.a.	n.a.	1933	0.1	51	n.a.
Korea, Rep. of	n.a.	n.a.	n.a.	n.a.	187	-	-	n.a.
Singapore	2504	3386	3550	5569	7706	0.4	28	207
Taiwan Province	10912	24098	26282	20541	8297	0.4	26	-24
Sub-Total	13416	27484	29832	26110	18123	0.9	18	35
Indonesia ^a	-	-	-	-	-	-	-	-
Malaysia	3835	4211	3913	4989	5000	0.3	35	30
Philippines	8808	7343	13760	16168	26500	1.4	14	201
Thailand	997	2191	6748	12413	14000	0.7	20	1304
Sub-Total	13640	13745	24421	33570	45500	2.3	9	234
China	3703	8099	9131	7824	5086	0.3	32	37
India	5808	5156	5705	5500	6000	0.3	31	3
Sri Lanka	458	554	1204	2244	2997	0.2	42	554
Sub-Total	9969	13809	16040	15568	14083	0.7	19	41
Total	37025	55038	70293	75248	77706	4.0	7	110

^a less than US\$100,000

Source: ITC (1982)

TABLE 60

Asia: Imports of Fruit and Vegetable Juice into Principal Importing Countries (1976-1981)

Country	Year						Proportion of World Trade 1980	World Ranking 1980	Percentage Change 1976-1980/81
	1976	1977	1978	1979	1980	1981			
	(US\$'000)						(%)		(%)
Hong Kong	4806	8493	12211	16239	23153	17761	1.4	15	270
Korea, Rep. of ^a	467	647	887	1778	3492	n.a.	0.2	below 25	648
Singapore	4584	5337	5799	6051	7739	n.a.	0.5	below 25	69
Malaysia	3002	4146	5274	5005	6121	n.a.	0.4	below 25	104
Total	12859	18623	13171	28073	40505	n.a.	2.5	10	192

n.a. not available.

^a Orange Juice only

Source: ITC (1982)
UN (1981)

In Malaysia and Indonesia the dominance of the Moslem religion, which forbids the consumption of alcohol, is an important factor influencing juice consumption.

8.5 Retail Packaging and Prices

As with other countries, the recent introduction of Tetra Brik and Pure-Pak packaging is credited with boosting juice consumption in Asia considerably. Single-serve 200ml and 250ml Tetra Brik packages dominate the fruit drink, iced tea, and UHT milk market. In Malaysia, 250 ml Tetra Brik packages containing fruit drinks were retailing for M\$0.45-0.60 in July 1983, equivalent to NZ\$0.30-0.40 (NZ High Commission, Kuala Lumpur, pers. comm.). It is evident therefore that the juice beverage market is extremely competitive.

Two litre plastic containers of orange cordials (with added sugar) sold for around M\$5.00 (NZ\$3.33) in Malaysia. At the same time, locally packed one litre bottles of blackcurrant juice concentrate ("Ribena") retailed at M\$8.70 (NZ\$5.80). Powdered juice drinks were priced at M\$7.60-9.60 per kilogram (NZ\$5.06-\$6.40/kg).

8.6 Distribution

Dunphy (1981) in her study of the Hong Kong and Singapore fresh horticultural market, identified three major end-user categories that can also be described as major outlets for beverages:

- (i) supermarkets,
- (ii) hotels and restaurants,
- (iii) small stores and hawkers (street vendors).

The same three categories of end-user can also be applied to the other six industrialising countries without any major qualifications.

Supermarkets are developing as outlets in line with the industrialisation of the economies and the westernisation of shopping and dietary habits for a significant segment of the local population. Supermarkets close to city centres tend to sell largely imported goods and cater for higher income nationals and expatriates, who tend to be less price, and more quality conscious. Table 61 reports typical income distributions within some Asian countries. In comparison to the average western industrial economy, the income distribution is skewed towards higher income earners. In both the Philippines and Malaysia, nearly 40 per cent of all income is earned by only 10 per cent of the population. It is this 10 per cent that would tend to frequent the western-style supermarkets.

TABLE 61

Asia: Income Distribution in Some Asian Countries

Country	Lowest 20%	Second Quintile	Third Quintile	Fourth Quintile	Highest 20%	Highest 10%
(% of total disposable income)						
Indonesia	6.6	7.8	12.6	23.6	49.4	34.0
Philippines	5.2	9.0	12.8	19.0	54.0	38.5
Malaysia	3.3	7.3	12.2	20.7	56.6	39.6
Western Industrial Market Economy	8.0	12.0	17.0	23.0	40.0	22.0

Source: World Bank (1981)

A second type of supermarket tends to be located in residential areas of local ethnic populations. Products sold tend to be domestically produced, and consumers frequenting them are more price conscious.

Like the different types of supermarkets, hotels and restaurants can also be sub-divided according to their clientele. Large hotels cater for tourists and expatriates and use predominantly imported food supplies. Dunphy (1981) reported that 50 per cent of tourists entering Hong Kong originated from Europe, North America, and Oceania, the remaining 50 per cent coming from other Asian countries. In Singapore 65 per cent of tourists came from Asia. The origin of tourists is important since it influences the types of food required by hotels and restaurants. For fruit juices the flavour preferences of European and Asian tourists would vary considerably. Smaller hotels and restaurants selling more ethnic food cater to a larger extent to the local population. Fast food outlets are increasingly popular throughout Asia.

The third major outlet for beverages in Asia is the street vendor or hawker. These "Asian style" fast-food outlets tend to be low priced and sell domestically produced items. Of all distributors, they are the most numerous, and cater, along with smaller restaurants, for mainly the local population. In most industrialising Asian countries, the local population is spending increasing proportions of its income on purchasing pre-cooked food and food eaten outside the home.

8.7 Market Access

No tariff or quantitative barriers on fruit juice imports exist for the two major importing countries of Hong Kong and Singapore.

The much lower level of juice imports into other Asian economies can be explained by high tariff and (often) quantitative barriers. Korea imposes a tariff of 40-150 per cent on non-essential items, plus a value added tax of 10 per cent on the duty paid c.i.f. import value. In addition to these, a consumption tax of between 10 per cent and 100 per cent is levied on luxury goods. Fruit juice imports into Indonesia are classified as either group C or D items. Group C items include less essential consumer goods and have a tariff of 50-70 per cent imposed on them. Luxury or consumer goods competing with locally produced items have a tariff of at least 100 per cent. Both group C and D goods incur a sales tax of 5-20 per cent.

CHAPTER 9

MIDDLE-EAST

9.1 Introduction

The Middle-East region includes those countries which occupy the Arabian Peninsula, viz. Saudi Arabia, Kuwait, Bahrain, Qatar, United Arab Emirates, Oman, Peoples Democratic Republic of Yemen (South Yemen) and the Yemen Arab Republic (North Yemen).

For the fruit juice product market, a number of features common to all Middle-East countries can be identified.

1. **Climate:** Even in the December to March winter period, temperatures reach 30°C in some countries, and never go below 10°C. Over summer (May to October), temperatures sometimes reach over 45°C.
2. **Fresh water:** Associated with the high temperatures in the Middle-East is a low level of precipitation. For example, three-quarters of Saudi Arabia, which occupies most of the Arabian Peninsula, is an uninhabitable desert-like environment. Fresh water supplies in the habitated fringes of the Arabian Peninsula are inadequate to support the desired level of water use.
3. **Religion:** The countries on the Arabian Peninsula are all Islamic with varying degrees of strictness with which Islamic requirements are enforced. The prohibition attached to alcohol consumption is enforced rigidly in most countries.
4. **Oil:** Only Yemen and Oman do not depend to a large extent on oil for their economic development and activity. Table 62 shows that the oil rich nations of the Arabian Peninsula enjoy very high per capita incomes.

TABLE 62

Middle East: Dependence on Oil and Per Capita Income

Dependence on Oil	Population		
	Low (under 0.5 million)	Medium (0.5-1.5 million)	High (over 1.5 million)
	Country (Per capita Income, US\$)		
Low	-	Oman (n.a.)	Yemen Arab Republic (\$430)
Medium	Bahrain (n.a.)	United Arab Emirates (\$26850)	-
High	Qatar (n.a.)	Kuwait (\$19830)	Saudi Arabia (\$11260)

Source: ITC (1982)

The United Arab Emirates and Kuwait, with per capita incomes of US\$26850 and US\$19830 respectively in 1980, have the two highest per capita income levels in the world. Yemen Arab Republic, primarily a subsistence agricultural economy, has a very low per capita income of US\$430. However, given the approximately two million men working in Saudi Arabia and sending remittances to their families in Yemen A.R., purchasing power is considerably higher.

5. **Expatriate Workforces:** The dependence of Middle East oil producers on foreign technology, and the speed at which the oil revenues have been spent on both broadening the countries' economic bases and improving living standards has led to the influx of considerable expatriate workforces. Table 63 shows that excluding Oman and Yemen A.R., Middle-Eastern countries have expatriate populations making up from 30 per cent to 80 per cent of the total population. Given the fact that expatriates usually do not bring their families with them, the proportion of expatriates in the workforce is often much higher than their contribution to the total population. For example, in Kuwait expatriates make up 58 per cent of the total population, but 75 per cent of the workforce.

TABLE 63

Middle-East: Expatriate Populations (1980)

Country	Total Population	Expatriate Population	Nationality of Expatriate Population
	('000)	(%)	
Bahrain	360	32	Oman, Yemen A.R.
Kuwait	1400	58	Palestine, Egypt, Lebanon Syria, India, Pakistan, Korea, USA.
Saudi Arabia	8400	30	Sudan, Yemen, Egypt
United Arab Emirates	1000	70	Oman, India, Pakistan, Iran, UK, USA, Egypt, Jordan, Lebanon, Syria
Yemen Arab Republic	7000	-	
Oman	1500	-	
Qatar	200	80	India, Pakistan, Yemen, European.

Source: ITC (1982)
Hayward (1981)

Expatriates from particular countries tend to be associated with particular occupations. The civil services in Middle-East countries tend to be filled by expatriates from other Arab countries (e.g. Palestine, Egypt, Lebanon, Syria), with construction workers usually coming from India and Pakistan. Asian countries (especially Korea and Japan) often supply technicians and supervisors, while multi-national oil companies tend to be staffed by Europeans and Americans.

9.2 Domestic Production

Domestic fresh fruit production in the Middle-East is not used for processing into juice products. The climate restricts the volume of fruit produced to such an extent that large volumes of fresh fruit must be imported to satisfy domestic requirements.

Juice processing industries have been established in nearly every Middle-East country, but all rely on imported raw materials. In Saudi Arabia, 50 per cent of the beverages consumed locally are produced domestically. The development of a domestic beverage industry is seen by many Middle-East countries as a means of diversifying their economy.

9.3 International Trade

In the world fruit juice market, the Middle-East accounts for over 12 per cent of imports, but little over one per cent of exports (Table 64). The majority of exports from the Middle-East are simply re-exports to other Middle-East countries.

Saudi Arabia accounted for nine per cent of world imports in 1981, spending over US\$161 million, up almost 50 per cent from 1977. The Yemen Arab Republic, increased imports of fruit juice by 75 per cent over the period 1977-1981, reaching US\$17.5 million. Apart from Saudi Arabia and Yemen A.R., the value of imports into other Middle-East countries has not changed significantly from 1977.

In terms of import sources, Table 65 reports the volume and value of imports into the Middle-East, together with the major source of supply. Japan, the United States, and Taiwan provide the bulk of supplies to each country. A number of other Asian countries including Hong Kong, Singapore and India also supply product to the Middle-East. European suppliers include Germany, the United Kingdom, Denmark, Italy and Austria.

The majority of imports into the Middle-East are of consumer packed products, though a growing proportion of juice is being imported as concentrates for subsequent processing in the domestic beverage industry. Japan and other Asian countries tend to supply fruit drinks and nectars, while pure fruit juice products are largely sourced from the United States and Europe. The United Kingdom and Denmark supply the majority of syrups, squashes, and cordials.

Table 65 also reports Saudi Arabian imports by juice type. Citrus juices make up 38 per cent of Saudi imports, mango and guava together account for nine per cent, apple three per cent and grape two per cent. 'Other' fruit juices and fruit juice concentrates account for 31 per cent and 11 per cent of imports respectively. Since 1977, the volume of both these import categories has increased by over 100 per cent. All other juice types, apart from citrus and grape, have declined by up to 84 per cent. The growth in concentrate imports illustrates the development of domestic processing facilities in the Middle-East.

TABLE 64

Middle East: Importance in World Trade of Fruit and Vegetable Juice (1977-1981)

	Year					Proportion of World Trade in 1981	World Ranking 1981
	1977	1978	1979	1980	1981		
	(US\$'000)					(%)	
<u>Imports</u>							
Bahrain	n.a.	n.a.	n.a.	4041	n.a.		
Kuwait	15857	7366	12218	12071	13000	1	23
Saudi Arabia	108644	160790	172655	182812	161824	9	5
United Arab Emirates	10176	5668	9464	13829	11000	1	25
Yemen Arab Republic	10000	21668	14552	16303	17500	1	19
Qatar	n.a.	2770	3555	n.a.	n.a.	-	n.a.
<u>Exports</u>							
Bahrain ^a	-	-	-	-	-	-	n.a.
Kuwait ^b	3171	1473	2444	2414	2600	-	n.a.
Saudi Arabia	2743	3893	4556	7334	6674	-	30
United Arab Emirates	2268	122	435	2832	2723	-	45
Yemen Arab Republic	n.a.	n.a.	n.a.	1367	n.a.	-	n.a.

n.a. not available

- less than 1

^a Bahrain has a free transit zone where both imports and re-exports are not recorded.

^b Re-exported approximately 20% of imports over 1975-1979 period. Assume 20% of imports detailed above are re-exported.

Source: ITC (1982, Hayward (1981))

TABLE 65

Middle East: Import Sources

Country (Year)	Volume	Value	Per cent of Value	Major Sources (per cent)
	(tonnes)	(BD'000)		
<u>Bahrain</u> (1980)	4764	1523		USA (23), Japan (17), UK (14), Taiwan (9), Denmark (9)
		(KD'000)		
<u>Kuwait</u> (1979)	16863	3374		Taiwan (44), Japan (17), USA (10), Singapore (5), Denmark (5)
		(SRLs'000)		
<u>Saudi Arabia</u> (1981)				
<u>Single Strength</u>				
Juices Prepared for Baby Food	2663	8142	1	Japan (53), W. Germany (26)
Date Molasses	375	1083	-	Japan (36)
Apple	6425	13931	3	USA (24), Austria (18)
Citrus	83470	208435	38	Japan (61), Denmark (12)
Mango/Guava	16127	50600	9	Egypt (51), Cuba (22)
Grape	4016	9141	2	Austria (27), W. Germany (19)
Other Fruit	68444	170852	31	Japan (65), USA (9)
Tomato	9475	21112	4	USA (33), Italy (16)
Other Vegetable	2230	5249	1	Japan (50), USA (15)
<u>Fruit Juice Concentrates</u>	12055	59226	11	USA (53)
Total	205280	547771	100	
		(Dh'000)		
<u>United Arab Emirates</u> (1980)				
Dubai	21851	47385	92	Japan (29), Taiwan (26), USA (23), Egypt (10)
Abu Dhabi	1567	3885	8	USA (26), Taiwan (19), Japan (11)
Total	23418	51270	100	
		(US\$'000)		
<u>Yemen Arab Republic</u> (1980)	16992	16303		Taiwan (18), India (16), Hong Kong (16), Saudi Arabia (10), UK (8), Japan (5)

Source: ITC (1982)

9.4 Consumption

Consumption of fruit juice products in Saudi Arabia and the United Arab Emirates is high by world standards, at 24 litres and 20 litres per capita respectively (Table 66). Bahrain and Kuwait with per capita consumption of over 10 litres, are intermediate consumers of fruit juice. Although the Yemen Arab Republic's consumption is only four litres per capita, significant sections of the population are not likely to consume any juice at all, so that consumption by actual juice purchasers would be much higher.

TABLE 66

Middle East: Fruit Juice Product Consumption

Country	Consumption per Capita
	(Litres)
Bahrain	13
Kuwait	11
Saudi Arabia	24
United Arab Emirates	20
Yemen Arab Republic	4

Source: ITC (1982)

Within the Middle East the juice product line consumed, and the importance of juice products in the overall beverage market varies considerably. Table 67 shows that Bahrain consumers prefer fruit drinks and cordials, UAE consumers prefer nectars, while pure juices are preferred by consumers in the Yemen A.R.

Within each market, high and middle income groups consume more pure juice products than low income consumers, who are more price conscious and so prefer fruit drinks. In most Middle-East countries expatriate populations are represented more in lower and middle-income groups, and so tend to be price conscious.

Apart from fruit juice products, Table 67 also reports the market shares of carbonated drinks and other beverages in the overall beverage market. Apart from Yemen A.R. where fruit juice products have a majority 54 per cent share of the beverage market (by value), juice products tend to hold from 25-30 per cent of the market. Carbonated beverages account for over 50 per cent of the total beverage market by value in Kuwait, Saudi-Arabia and UAE. In terms of sales volume, 'other' beverages dominate the Saudi market. The 'other' beverage category largely comprises mineral waters, the beverage with the fastest growing sales volume and value in the Middle-East.

TABLE 67

Middle East: Beverage Market Shares

Product	Bahrain	Kuwait	Saudi Arabia	United Arab Emirates	Yemen Arab Republic
(% by volume, 1981)					
<u>Fruit Juice</u>					
Pure Juice	15	n.a.	n.a.	20	65
Nectar	25	n.a.	n.a.	50	15
Fruit Drinks, Squashes, Cordials, Powders	60	n.a.	n.a.	30	20
Total	100	n.a.	n.a.	100	100
<u>Total Beverage Market</u>					
Fruit Juice Products	n.a.	25	25	n.a.	50
Carbonated Drinks	n.a.	50	25	n.a.	30
Other (mainly mineral water)	n.a.	25	50	n.a.	20
Total	n.a.	100	100	n.a.	100
(% by value, 1979)					
<u>Total Beverage Market</u>					
Fruit Juice Products	n.a.	30	30	24	54
Carbonated Drinks	n.a.	50	50	62	27
Other (mainly mineral water)	n.a.	20	20	14	19
Total	n.a.	100	100	100	100

Source: ITC (1982)
Hayward (1981)

Table 68 reports flavour preferences in the Middle-East. Apart from Yemen A.R., orange is the most preferred flavour in all countries. A marked preference for tropical flavours such as mango, guava and pineapple is also evident in all Middle-East countries. Kuwait is the only market where a temperate fruit, apple, accounts for a large market share.

TABLE 68

Middle-East: Fruit Juice Product Flavour Preference

Flavour	Bahrain	Kuwait	Saudi Arabia	United Arab Emirates	Yemen Arab Republic
	(%)	(%)	(Rank)	(%)	(%)
Orange	60	38	1	50	-
Apple	5	20	3	-	-
Mixed Fruit	-	17	4	-	-
Mango	20	10	2	20	60
Guava	-	5	6	3	20
Grape	5	3	5	-	-
Pineapple	10	3	-	10	-
Grapefruit	-	-	-	-	-
Other	-	4	-	17	20
Total	100	100		100	100

Source: ITC (1982)

9.5 Packaging and Pricing

The most popular package type used for juice produced in the Middle-East is the 170 ml can. Other popular can sizes include 245-275 ml, and the 1360 ml can for bulk purchases of pure fruit juices. The introduction of the aseptic 'Tetra Brik' carton was accepted by Middle Eastern consumers quickly, and the 250 ml unit is especially popular for pure juices, nectars and drinks. Syrups, squashes and cordials are usually sold in glass bottles with a capacity of around 750 ml. Glass and carton jars are popular units for powdered drinks.

The most recent pricing information relates to prices holding in November 1981 (ITC; 1982). Being out of date they are not reported in detail, apart from noting that the relatively free market for fruit juice products in the Middle-East makes for extreme price competitiveness. For example, a 170 ml can of pure juice sold for the equivalent of US\$0.46, while a 250 ml Tetra Brik packaged juice drink sold for US\$0.37. Nectars were priced at the same level as fruit drinks. A 750 ml bottle of juice squash sold for US\$1.39.

For exporters, price competitiveness is especially important if the product is aimed at middle and low income consumers. Consumers at the top end of the market are less price conscious, and pay premiums for internationally known branded juice products.

9.6 Market Structure: Distribution Channels and End Users

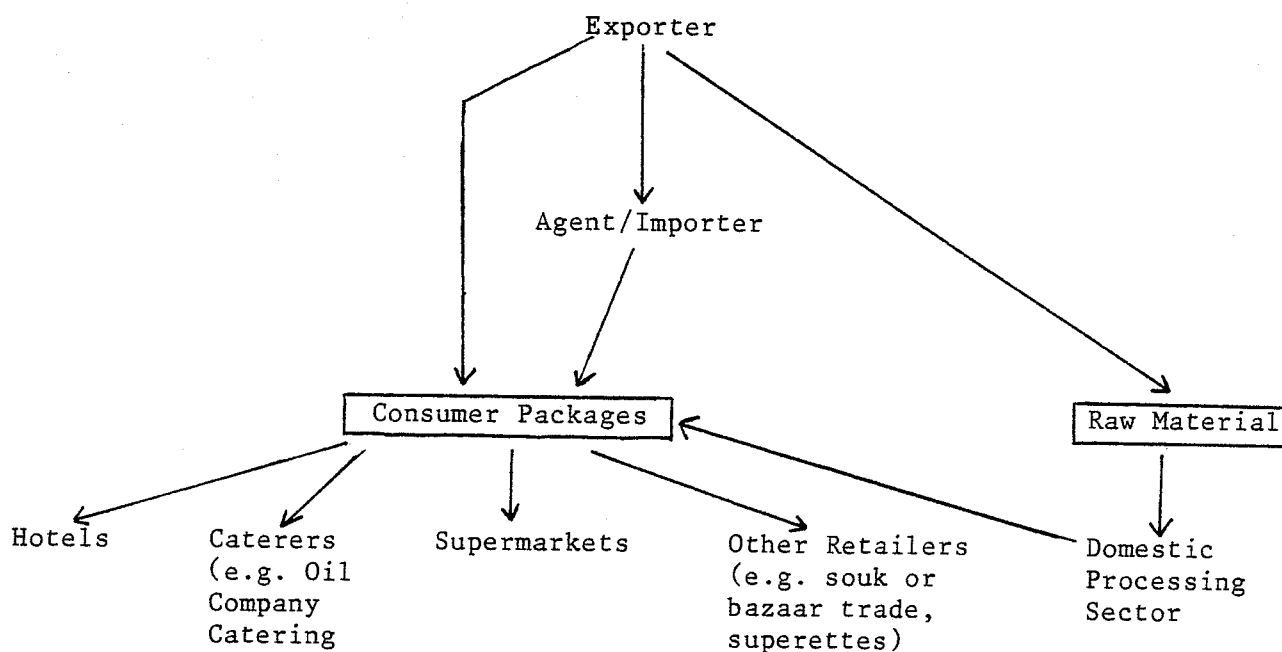
Figure 3 details the channels followed by juice products imported into the Middle-East. The pattern outlined in Figure 3 is typical for all Middle-East countries.

At present, the majority of imports are in finished consumer packages, with

the minority bulk juice imports going to the domestic beverage industry. The domestic beverage industry is expected to account for a greater share of imports in the future. Recognising this, many exporters to the Middle-East are entering into joint ventures with the domestic industry to produce the exporters' product line under licence. Thus, the exporters are able to maintain their identity in the market.

FIGURE 3

Middle East: Market Structure - Distribution Channels and End Users



Source: ITC (1982)

Imports into the Middle-East usually are undertaken via agents or importers, although significant volumes of consumer products are sold direct to larger outlets such as supermarkets. Importers usually fulfill the wholesalers role also, although some product is distributed to smaller wholesalers before entering the retail sector.

The major outlet for fruit juice products is the supermarket. Other important retailers include the souk or bazaar trade, and superettes, which are attached to apartment buildings.

Caterers and hotels are smaller but still important end users for juice products. Hotels especially tend to sell only premium quality and priced products.

Both Bahrain and Dubai are seeking to establish themselves as entry points

to the Middle-East. Each country is having to face the prospect of exhausted oil reserves, and hence must find alternative enterprises on which to build its economy. Bahrain already has a free trade zone for goods in transit to other Middle-East countries. Also, the completion of a causeway between the island of Bahrain and Saudi Arabia will open up both the Saudi Arabia and Kuwait markets via Bahrain.

9.7 Market Access

Access for fruit juice products into nearly all Middle East markets is not hindered by import barriers. Ad valorem duties for imports into Bahrain are 10 per cent, while imports into Kuwait enter duty free. Saudi Arabia imposes a three per cent ad valorem duty on juice imports, plus a 10 per cent surcharge. Individual Emirates in the UAE set their own tariff levels. Dubai and Abu Dhabi, the principal juice importers, have tariffs set at three per cent (two per cent by air) and one per cent respectively.

Yemen A.R. has the most restrictive import regime. Ad valorem duties amount to 35 per cent on pure juices, 20 per cent on concentrates, but only five per cent on concentrates imported for the domestic beverage industry. In addition to the custom duties, a five per cent defence tax and two per cent statistical tax is imposed. Non-tariff barriers also exist. Imports by land are forbidden, as are imports of mixed juices and carbonated juices.

CHAPTER 10

EUROPE - EEC

10.1 Introduction

With the accession of Greece to the EEC on 1 January 1981, the number of countries making up the community reached 10.¹ Other countries within the community include Belgium and Luxembourg (BLEU), Denmark, France, Federal Republic of Germany (GFR), Greece, Republic of Ireland (Eire), Italy, Netherlands, and the United Kingdom (UK).

The population of the EEC totalled over 271 million in 1982, less than four per cent higher than the total population in 1970. France, GFR, Italy and the UK each account for over 20 per cent of the EEC's population, while together the remaining six countries account for less than five per cent each. Total gross domestic product (GDP) in the EEC was US\$2347 billion in 1982, equivalent to US\$8660 per capita (Table 69). The economies of Germany and France produced the two largest GDPs and also had two of the highest per capita incomes. The smaller economies of Denmark and the Netherlands all had per capita incomes higher than the community average. Greece, Ireland and Italy all had per capita incomes of under US\$6500 in 1982, at least 25 per cent below the community average.

During 1983, growth of GDP in all EEC countries slowed considerably in comparison to the average growth rates achieved during the period 1971-1981.

TABLE 69

EEC: GDP Per Capita (1982)

Country	Gross Domestic Product			Gross Domestic Product Per Capita (1982)
	Total	Growth in Real GDP Per Annum 1971-1981	Growth in GDP 1983	
	(US\$ billion)	(%)	(%)	(US\$)
Belgium	83	2.7	0.25	8380
Denmark	56	2.1	1.00	10960
Germany	657	2.5	0.50	10570
Greece	38	3.9	0.50	3840
France	539	3.1	-0.50	9940
Ireland	18	3.8	-0.25	5180
Italy	348	2.9	-0.50	6180
Luxembourg	3	2.5	-1.25	8500
Netherlands	138	2.4	-1.25	9660
United Kingdom	469	1.4	1.75	8370
EEC - 10	2347			8660

Source: Barclays (1983)
OECD (1983)

¹ Belgium-Luxembourg Economic Union.

10.2 Domestic Production

Apart from Greece, Italy, and some regions in France (community members with Mediterranean climates allowing the production of citrus fruit), EEC fruit production is almost entirely pome (apples and pears) and berry fruit. In 1982, apple production in the EEC amounted to over 7.5 million tonnes; Italy, Germany and France being the principal producers (Table 70). Although EEC apple production in 1982 was over one third higher than the 1981 harvest, which was adversely affected by climatic conditions, in comparison to 1971 production it has declined significantly. Apple production in France declined 50 per cent over the period 1971 to 1982. In spite of the long-term decline of apple production in the EEC, the 1982 season still saw a "preventative withdrawal" of 700,000 tonnes of apples from the fresh market under the provisions of the Common Agricultural Policy (CAP). Continued overproduction of apples in the EEC has also led to incentives for orchardists to uproot treestocks.

The production data reported in Table 70 reveal that Italy and Greece, the two Mediterranean EEC members, show growth in nearly every fruit production category, particularly stonefruit and citrus. Greece, the most recent accession to the EEC, has undergone the most rapid expansion in fruit production of any EEC member. The implications of this for exporters of fresh and processed fruit to the EEC are evident. The consequence of higher EEC production of fruit which is presently imported is a higher level of self sufficiency, reducing the need for imports, and raising the competition between exporters to the EEC.

In terms of actual juice production, available statistics tend not to differentiate between juice produced from fresh domestic fruit, and juice produced from either imported fresh fruit, preserved fruit, or concentrated fruit juice. Given the type of fruit produced in the EEC, it is clear that apple and pear juice would dominate juice production in most countries. The fruit growing industry in the EEC is, apart from some citrus growing regions in Greece and Italy, orientated to fresh fruit production. Hence, juice production is dependent on the level of unmarketable surplus in any particular year.

Excluding Greece and Italy for which data are unavailable, Germany and France are the only EEC countries with a significantly large juice industry. Table 71 reports the level of juice production from fresh fruit for Germany and France. Both industries are dominated by apple and pear juice, although grape juice production in France is almost as important.

Over the period 1977-1981 apple juice production in France increased by over 80 per cent and grape juice by 34 per cent. Nectar production in France has been relatively stable, and is largely made from apricots (72 per cent) and pears (16 per cent). Juice concentrate is almost exclusively apple based. Production of concentrates in France has fluctuated considerably, for example, production in 1978 reached 24,000 tonnes, compared to under 6,000 tonnes in 1977. This instability reflects the dependence of juice production on seasonal fluctuations in the level of unmarketable fresh production.

TABLE 70

EEC: Fruit Production (1981)

Fruit	Belgium- Luxembourg	Denmark	France	Germany	Greece	Ireland	Italy	Netherlands	United Kingdom	EEC - 10
(000 tonnes)										
Apples	250	62	1954	1980	254	10	2250	470	307	7537
Pears	81	15	213	417	67	-	613	84	36	1526
Peaches	-	-	480	11	448	-	1550	-	-	2489
Apricots	-	-	85	1	104	-	113	-	-	303
Plums	-	2	154	171	14	-	180	-	14	535
Oranges	-	-	1	-	690	-	1778	-	-	2469
Mandarins	-	-	33	-	37	-	300	-	-	370
Lemons	-	-	1	-	210	-	720	-	-	931
Strawberries ^a	19	8	80	36	10	-	184	19	51	407
Raspberries ^a	-	-	8	19	-	-	1	1	19	48
Currants ^a	3	1	6	100	-	-	-	2	20	132
(% change over 1971)										
Apples	-10	-49	-50	-6	10	-44	17	-3	-41	
Pears	10	25	-61	-8	-40	-	-65	-29	-48	
Peaches	-	-	-17	-72	143	-	43	-	-	
Apricots	-	-	8	-80	181	-	84	-	-	
Plums	-	-50	-17	-65	-34	-	29	-	-73	
Oranges	-	-	-67	-	65	-	27	-	-	
Mandarines	-	-	371	-	16	-	6	-	-	
Lemons	-	-	-	-	56	-	-12	-	-	
Strawberries	-43	-32	23	60	-	-	107	-41	3	
Raspberries	-	-	48	-17	-	-	-	-85	2	
Currants	-42	-57	-18	-19	-	-	-	-74	-	

^a 1981 data

Source: FAO (1982)
CS (December, 1982)

TABLE 71

Germany and France: Fruit and Vegetable
Juice Production from Fresh Fruit

Product	Germany (1982)		France (1981)	
	(million litres)	(%)	(million litres)	(%)
<u>Fruit Juice</u>				
Apple and Pear	485	93	59	53
Grape	-	-	52	46
Berry	36	7	-	-
Other	-	-	1	1
Total	521	100	112	100
<u>Fruit Nectar</u>	n.a.	-	8	-
<u>Fruit Juice Concentrates</u>	n.a.	-	5642 (t)	-

Source: ITC (1982)

Annual Report of the Association of German Fruit Juice Industry
(Bonn 1983).

The data in Table 72 indicate a similar situation occurs in Germany for apple juice production. Germany, however, makes up for season variations in domestic fruit availability by importing processing quality apples from other EEC countries and Eastern Europe. Hence, while 78 per cent of juice produced in 1981 was extracted from fresh imported fruit, a substantial domestic harvest in 1982 reduced the import dependence to only 20 per cent.

10.3 International Trade

10.3.1 Importance and Place of World Trade in EEC Market

In 1981, fruit juice imports into the EEC totalled over US\$806 million, while exports amounted to nearly US\$434 million (Table 73). With over US\$800 million of imports, the EEC as a whole accounted for 43 per cent of world imports making it the single largest importer of fruit juices in the world. Individually, Germany accounted for 15 per cent of world imports, ranking second in importance only to the United States. The United Kingdom was ranked fourth in the world as an importer of fruit juice in 1981, accounting for 10 per cent of world imports. Belgium-Luxembourg, France, and the Netherlands were also ranked among the top ten importers of fruit juice in the world.

As exporters of fruit juice, EEC countries together accounted for 22 per cent of world exports, taking second place behind Brazil in the world as exporters. Among the community's nations, Italy was ranked the highest as a world exporter of fruit juice, yet still contributed only six per cent to world exports. Italy was ranked third behind Brazil and the US who together contributed almost 50 per cent of total world juice exports. Apart from Italy, it can be seen from Table 73 that Germany, the Netherlands and

TABLE 72

Germany: Dependence on Imported Fresh Apples and Pears for Juice Production

Year	Fresh Fruit		Juice Production			Import Dependence
	Domestic Production	Imports for Processing	From Domestic Fruit	From Imported Fruit	Total	
	(000t)		(million litres)			(%)
1977	1175	84	170	n.a.	n.a.	n.a.
1978	1782	59	234	n.a.	n.a.	n.a.
1979	1951	13	253	n.a.	n.a.	n.a.
1980	1880	29	257	161	418	39
1981	772	82	115	406	521	78
1982	2775	19	390	95	485	20

Source: Annual Report of the Association of German Fruit Juice Industry (Bonn, 1983).

TABLE 73

EEC: Importance in World Trade of Fruit and Vegetable Juice
1977-1981

	Year					Proportion of World Trade in 1981	World Ranking 1981	Percentage Change 1977-1981
	1977	1978	1979	1980	1981			
	(US\$'000)					(%)		
<u>Exports</u>								
Belgium-Luxembourg	27845	31816	33616	30884	32880	2	10	18
Denmark	11015	11484	12576	12440	18041	1	18	64
France	21836	35483	49095	36861	26183	1	16	20
Germany, Fed. Rep.	50999	64763	82037	99425	107993	6	5	112
Greece	36623	40349	41410	38858	28511	2	11	78
Ireland	-	-	-	-	-	-	-	-
Italy	78387	95361	133856	126802	115806	6	3	48
Netherlands	44665	53082	64279	79312	90427	5	6	102
United Kingdom	10384	16240	13691	13799	14000	1	19	35
EEC - 10	281754	348578	430560	438381	433841	22	2	54
<u>Imports</u>								
Belgium-Luxembourg	29898	37564	46031	50709	54057	3	8	81
Denmark	22419	21146	21797	21689	26030	1	14	16
France	68650	89445	97463	111962	98817	5	7	44
Germany, Fed. Rep.	162763	200127	233241	266538	273859	15	2	68
Greece	-	-	-	-	-	-	-	-
Ireland	4438	6425	8665	10022	11352	1	24	156
Italy	3743	6179	9945	14374	14351	1	22	283
Netherlands	77610	94278	117585	136674	145075	8	6	87
United Kingdom	91075	107548	151149	158305	182955	10	4	101
EEC - 10	460596	562712	685876	770273	806496	43	1	75

- Exports less than US\$2m.

- Imports less than US\$10m.

Source: ITC (1982)

Belgium-Luxembourg are also major exporters of fruit juice. It is significant that apart from Germany, the other two countries are not major producers of fruit juice. Hence, it is clear that the exports from these countries are in fact re-exports. Extending this analysis to all EEC countries enables individual countries to be classified according to the degree of re-exporting undertaken, and the level of juice production from domestically produced fruit. The analysis is summarised in Table 74. Ireland and the United Kingdom, with juice exports amounting to less than 30 per cent of juice imports, and with insignificant juice production from domestic fruit, can be classified as juice importers which utilise the fruit for domestic consumption. Imported juice supplies the majority of juice demand. France, though also an importer of juice for domestic consumption purposes, has a major juice industry based on domestic fresh fruit, so that imported juice has a lower share of the domestic market.

Belgium-Luxembourg, Denmark, Netherlands and Germany may all be classified as re-exporters. All four countries have exports of juice at over 60 per cent of the level of their imports. Apart from Germany, these countries also depend almost exclusively on imported juice to satisfy domestic requirements.

TABLE 74

EEC: Classification of Markets

Fruit Juice Production From Domestic Fruit Production	Exports as a Proportion of Imports		
	Importer	Re-Exporter	Exporter
	0-30%	30-120%	>120%
Low <50 million litres	United Kingdom Ireland	Belgium-Luxembourg Denmark Netherlands	-
Medium 50-200 million litres	France	-	-
High >200 million litres	-	Germany	Greece Italy

Both Greece and Italy are largely exporters of fruit juice. Imported juice does not contribute to any large extent to domestic juice requirements.

10.3.1 Imports by Product and Source(i) Citrus Juice

Citrus juice imports account for around 60 per cent of total juice imports into EEC member states. In 1981, over 85 per cent of citrus juice imports comprised orange juice. Grapefruit juice accounted for nine per cent of imports

in 1981, while the residual six per cent of imports was made up of 'other' (mainly lemon) citrus juice (Table 75). Total imports of orange juice increased by 68 per cent in volume terms over the period 1978-1981. During the same period, grapefruit juice imports increased by only 11 per cent, while 'other' citrus juice imports fell by one per cent.

Germany, the Netherlands and the United Kingdom each accounted for over 20 per cent of total EEC orange juice imports in 1981. Of these three countries, the Netherlands experienced the most rapid growth in orange juice imports. Over the period 1978-1981, Netherlands orange juice imports grew by 122 per cent in volume terms.

The United Kingdom accounted for 35 per cent of total EEC grapefruit juice imports in 1981, compared to 40 per cent in 1978. In volume terms, imports of grapefruit juice into the UK declined by 22 per cent over the period 1978-1982. Only Belgium-Luxembourg, Denmark, Italy and the Netherlands have shown significantly large increases in demand for grapefruit juice. However, together these five countries accounted for only 26 per cent of total EEC imports of grapefruit juice in 1981.

Germany dominates imports of 'other' citrus juice taking 45 per cent of total EEC imports in 1981. Apart from Belgium-Luxembourg and France, all other EEC members' imports of 'other' citrus juice have declined markedly or shown no increase from their 1978 levels.

By source of supply, Brazil, Israel and the United States are the major suppliers of both orange and grapefruit juice to the EEC. Argentina and Italy are the major suppliers of lemon and 'other' citrus juice (Table 76). It is significant that the citrus juice import sources for a number of EEC countries include Germany and the Netherlands, highlighting their roles as re-exporters within the EEC. As for most intra-EEC trade in fruit juices, finished consumer packed juices enter the trade rather than concentrates for further processing. Exports from Italy and Greece are exceptions to this.

(ii) Non-Citrus Juice

In Table 77, EEC import volume statistics for non-citrus juices are reported. The data show that for most countries, non-citrus juice accounts for between 40 per cent and 50 per cent of total juice imports. France and Germany, the two EEC members with non-citrus juice contributing over 50 per cent of imports, both have high levels of grape juice imports. Much of these imports are grape must i.e. unfermented grape juice destined for wine making, and hence are not consumed as juice.

Apart from grape juice, apple and pear juice is the most important non-citrus juice import in the EEC. Pineapple and tomato juice are the only other individual juice categories to show significance in every EEC country.

In terms of sources, Italy, France and Greece are the main suppliers of both apple and grape juice. Pineapple juice originates from a number of sources including Brazil, the Philippines, South Africa, Ivory Coast and Kenya. Israel is a major supplier of tomato juice. Both Germany and the Netherlands also appear as important suppliers of temperate and tropical juices for most EEC member states.

TABLE 75

EEC: Trends in Citrus Juice Imports (1978-1982)

Juice/Country	Year					Proportion of 1981 EEC Imports	Growth over 1978-81 (or 1978-82)
	1978	1979	1980	1981	1982		
	(tonnes)					(%)	(% change)
<u>Orange</u>							
Belgium-Luxembourg	29225	32934	35600	38539	32472	7.4	11
Denmark	9364	11588	12503	15024	n.a.	2.9	60
France	47558	55868	60764	69546	n.a.	13.3	46
Germany, Fed. Rep.	99839	109943	123988	142331	130042	27.3	30
Greece	-	-	-	174	n.a.	-	-
Ireland	6463	8417	8928	13281	13309	2.5	106
Italy	1159	2354	3552	3591	n.a.	0.7	210
Netherlands	56116	69131	86163	124349	n.a.	23.8	122
United Kingdom	61174	85711	87426	115437	93107	22.1	52
EEC - 10	310898	375946	418924	522272	n.a.	100.0	68
<u>Grapefruit</u>							
Belgium-Luxembourg	1434	1569	1868	2128	2315	3.9	61
Denmark	358	452	552	640	n.a.	1.2	79
France	10897	10770	9198	8253	n.a.	15.0	-24
Germany, Fed. Rep.	10079	11400	11551	12250	10843	22.3	8
Greece	1	247	42	24	n.a.	-	2300
Iceland	850	1146	916	884	604	1.6	-29
Italy	2848	4777	5498	6420	n.a.	11.7	125
Netherlands	3824	4976	4996	5006	n.a.	9.1	31
United Kingdom	19072	25423	22591	19338	14781	35.2	-22
EEC - 10	49363	60760	57212	54943	n.a.	100.0	11
<u>Other Citrus</u>							
Belgium-Luxembourg	1711	1624	1802	2516	1963	8.2	15
Denmark	1291	585	502	479	n.a.	1.6	-63
France	1835	2137	2814	3397	n.a.	11.1	85
Germany, Fed. Rep.	14019	12897	14105	13671	14197	44.6	1
Greece	21	752	2519	9	n.a.	-	-57
Ireland	548	439	686	478	515	1.6	-6
Italy	218	180	302	144	n.a.	0.5	-34
Netherlands	3919	5807	5717	2852	n.a.	9.3	-27
United Kingdom	7433	10347	7593	7124	7489	23.2	1
EEC - 10	30995	34048	36040	30670	n.a.	100.0	-1

Source: ITC (1982)

1982 data from Trade Statistics of Individual Country.

TABLE 76

EEC: Citrus Juice - Import Sources

Country (Year)	Volume	Proportion of Total Imports into Country	Major Sources (per cent)
	(tonnes)	(%)	
<u>Belgium-Luxembourg (1982)</u>			
Orange	32472	53	GFR (42), Netherlands (22), Brazil (21)
Grapefruit	2315	4	GFR (38), Netherlands (32), Israel (17)
Other Citrus	1963	3	GFR (48), Italy (21), Netherlands (9)
	36750	60	
<u>Denmark (1979)</u>			
Orange	11600	63	Brazil (75), Israel (5)
Grapefruit	500	3	Israel (40)
Other Citrus	600	3	
	12700	69	
<u>France (1981)</u>			
Orange	69520	42	Brazil (28), Israel (24), USA (23)
Grapefruit	8253	5	Israel (53), USA (21), Morocco (7)
Other Citrus	3571	2	Italy (45), Ivory Coast (23), Argentina (6)
	81344	49	
<u>Germany (1982)</u>			
Orange	130042	39	Brazil (63), Israel (9), USA (8), Italy (5)
Grapefruit	10843	3	Israel (54), USA (15), Argentina (13)
Lemon	8866	3	Argentina (43), Italy (24), USA (8)
Other Citrus	5497	2	Brazil (76), Netherlands (19), Italy (1)
	155248	47	
<u>Ireland (1982)</u>			
Orange	13309	82	GFR (27), BLEU (21), Israel (19), UK (17)
Grapefruit	604	4	
Other Citrus	515	3	UK (81)
	14428	89	
<u>Italy (1979)</u>			
Orange	2400	19	
Grapefruit	4800	38	Israel (58)
Other Citrus	200	2	
	7400	59	
<u>Netherlands (1981)</u>			
Orange	124349	52	Brazil (54), GFR (22), BLEU (10), USA (10)
Grapefruit	5005	2	USA (18), Argentina (18), Jamaica (14), Israel (13)
Other Citrus	2852	1	Italy (28), Brazil (26), USA (11), Argentina (10)
	132206	55	
<u>United Kingdom (1982)</u>			
Orange	93107	51	Israel (41), Netherlands (19), Brazil (17), GFR (9)
Grapefruit	14781	8	Israel (77), Netherlands (6)
Other Citrus	7489	4	Italy (39), Greece (19), USA (11), BLEU (8)
	115377	63	

Source: ITC (1982)
 CS (various)
 1982 data from Trade Statistics of Country.

TABLE 77

EEC: Importance of Non-Citrus Juice Imports

Country (Year)	Grape	Apple	Pear	Apple and Pear	Cherry ^a	Black- ^a Currant	Pineapple	Tomato	Other ^a Vegetable	Other Juice	Total
(tonnes)											
Belgium-Luxembourg (1981)	6361	-	-	14354			1530	2238		5735	24669
Denmark (1979)	1100	-	-	2700			300	500		1200	5800
France (1981)	56824	3161	163	5320			8407	2432		9784	86091
Germany (1982)	81025	26019	3719	24883	3324	2245	2378	8622	12383	14090	178688
Ireland (1982)	-	-	-	-			447	209		1102	1758
Italy (1979)	2300	-	-	1100			800	100		1100	5400
Netherlands (1981)	13629	-	-	73959			3687	6931		10011	108217
United Kingdom (1982)							12983	6242		47469	66694
(% of Total Juice Imports)											
Belgium-Luxembourg	9	-	-	21	-	-	2	3	-	9	40
Denmark	6	-	-	15	-	-	2	3	-	7	31
France	34	2	-	3	-	-	5	2	-	6	51
Germany	24	8	1	8	1	1	1	3	4	4	54
Ireland	-	-	-	-	-	-	3	1	-	7	11
Italy	18	-	-	9	-	-	6	1	-	9	42
Netherlands	6	-	-	31	-	-	2	3	-	4	45
United Kingdom	-	-	-	-	-	-	7	3	-	26	37

^a not reported separately for some countries; included in "Other Juice".

Source: ITC (1982)
CS (various)
1982 data from Trade Statistics of Country.

10.3.3 Germany, the Netherlands and Belgium-Luxembourg as Re-Exporters

The importance of Germany, the Netherlands, and to a lesser extent Belgium-Luxembourg as re-exporters has already been identified. In order to indicate the volume of product exported from these countries, and the destinations of this product, Table 78 reports some available export statistics. The statistics show that Germany exports significant quantities of concentrated apple and pear juice to both EEC and third countries. The USA in particular is important. Germany also exports large volumes of apple juice that is not concentrated, largely to the Netherlands as consumer packed products. Finished consumer packed orange juice is also exported, produced from concentrates imported from Brazil. Again, the Netherlands is the most important market, followed by BLEU. Apart from apple and orange juice, 'other' fruit juices (largely tropical) make up the next most important export category. Other EEC members are the principal destinations for this juice, although Scandinavia and the Middle-East are also important.

The Netherlands is established as an important fruit-juice re-exporter to EEC members. Citrus and tropical juices account for nearly all juice exports from the Netherlands, produced entirely from imported concentrates. Orange juice alone accounted for nearly 70 per cent of juice exports from the Netherlands in 1981, destined for Germany, the United Kingdom, BLEU and France. The Netherlands has established itself as a re-exporter because of the presence of an advanced food technology industry producing flavourings and juice blends, and because it is a major European trading and communications centre.

With exports of over 69000 tonnes of fruit juice in 1982, Belgium-Luxembourg has attained a level of re-exporting similar to the Netherlands. In terms of the volume of imports, exports of fruit juice by BLEU are 13 per cent higher, reflecting the reprocessing of imported concentrates into single strength consumer packed juice. The data reported in Table 78 show that orange and apple juice together account for 83 per cent of juice exports. The Netherlands is the single-most important export destination, followed by France, the United Kingdom, Germany and Ireland. Very little juice is exported outside the EEC.

10.4 Consumption

Of the 10 EEC member states, only United Kingdom, German and French fruit juice consumption levels exceed 10 litres per capita. Only German consumption exceeds 20 litres per capita (Table 79). Hence, EEC consumers cannot be regarded as heavy consumers of fruit juice. It is clear from the data reported in Table 79 that the beverage 'mix' consumed varies considerably among EEC countries. In both Italy and France, wine is the most important beverage consumed, consumption of wine being at least 250 per cent higher than in any other EEC country. Beverage consumption in Belgium-Luxembourg and Germany is dominated by beer, with per capita consumption reaching 127 litres and 146 litres respectively.

TABLE 78

GFR, the Netherlands and BLEU: Exports of Fruit and Vegetable Juices

Juice	Germany (1982)			Netherlands (1981)			Belgium-Luxembourg (1982)		
	Quantity	Proportion of Exports	Major Destinations (per cent)	Quantity	Proportion of Exports	Major Destinations (per cent)	Quantity	Proportion of Exports	Major Destinations (per cent)
	(tonnes)	(%)		(tonnes)	(%)		(tonnes)	(%)	
<u>Concentrated</u>									
Grape ^a	80	-					67	-	Netherlands (80)
Apple and Pear ^a	23521	11	USA (43), UK (19), Netherlands (13), BLEU (6)				9659	14	Netherlands (90)
Orange	2558	1		105	-	GFR (49), BLEU (31)	105	-	
Other Citrus	83	-		106	-	GFR (76), BLEU (18)	417	1	Ireland (33), UK (24), Netherlands (20)
Other Fruit	208	-		523	1	UK (23), USA (22), GFR (14)	354	1	Netherlands (34), Ireland (17)
Vegetable ^a	18	-							
<u>Not Concentrated</u>									
Grape ^a	5899	3					1351	2	Netherlands (32), UK (24), France (20)
Apple and Pear ^a	60605	29	Netherlands (82)				14712	21	Netherlands (77), UK (16)
Orange	66119	32	Netherlands (43), BLEU (26)	51283	68	GRF (28), UK (20),	33328	48	Netherlands (61), France (18), Ireland (9)
Grapefruit	3293	2		3317	4	UK (32), GFR (17), France (14), BLEU (10) Switzerland (10)	3599	5	Italy (49), Netherlands (23), France (12)
Lemon	1691	1		2429	3	GFR (54), Saudi Arabia (17), France (14)			
Other Citrus ^a	325	-					1187	2	UK (43), Norway (16)
Pineapple	361	-		5077	7	UK (61), GFR (13), France (9)	1263	2	France (47), Netherlands (27)
Tomato ^a	1281	1					2434	4	Netherlands (60) France (22), GFR (5)
Other Fruit ^b	34750	17		12250	16	GFR (70), France (10), BLEU (2)	933	1	Netherlands (39), France (26), GFR (15)
Other Vegetable ^b	6720	3		-	-		-	-	
Total	207516	100		75090	100		69409	100	

^a not reported separately for some countries.

^b including mixtures.

Source: Netherlands - ITC (1982)
Germany and BLEU Trade Statistics 1982.

TABLE 79

EEC: Beverage Consumption Per Capita

Country	Wine ^a	Beer ^a	Soft drink ^b	Bottled Water ^b	Fresh Milk ^a	Fruit Juice ^d
	(kg)	(kg)	(litres)	(litres)	(kg)	(litres)
Belgium-Luxembourg	18	127	60	53	92	7
Denmark	13	n.a.	n.a.	n.a.	148	2 ^c
France	93	45	26	52	76	9
Germany	24	146	71	40	90	21 ^b
Greece	n.a.	n.a.	25	10	n.a.	8 ^b
Ireland	3	84	n.a.	n.a.	289	n.a.
Italy	87	16	21	30	74	8 ^b
Netherlands	12	85	60	4	105	18
United Kingdom	8	n.a.	60	n.a.	157	10

^a 1978 data from OECD (1981)

^b 1979 data from BW (November, 1981)

^c Kilograms, 1974 data from OECD (1981)

^d Based on 1981 data reported in ITC (1982).

A feature of beverage consumption in continental Europe community members is the high consumption of bottled water. Only the Netherlands does not consume bottled water at levels similar to its EEC neighbours. One result of the high consumption of bottled water is the quite low consumption of soft-drinks by world standards. Growth in fruit juice sales must occur at the expense of both soft-drinks and bottled water. In the United Kingdom, fruit juices are largely competitive with tea and coffee rather than soft-drinks. The ITC (1982) reports that prior to 1975, 80 per cent of juice sales were consumed at breakfast time. By 1981 this figure was reduced to 40 per cent. Along with the change in image to an 'all-day' beverage, has been a shift away from young consumers to a broader range of consumers.

Although fruit juice consumption in the EEC is low, actual beverage consumption of fruit juice based drinks is often much higher than official juice consumption statistics. Table 80, which details sales of fruit drinks in both France and Germany, indicates total juice beverage consumption of 35 litres and 49 litres per capita respectively.

The data supplied in Table 80 indicate the recent growth in juice sales, with all countries reported showing juice sale increases of at least 52 per cent, and up to 129 per cent since 1976. Most of the growth has been in sweet juices such as orange and apple, rather than juices such as grapefruit. The relatively recent nature of the growth in juice sales has been largely attributed to the introduction of aseptic 'Tetra-Pak' packages, wider distribution at retail level, and the 'health' image of fruit juices. The introduction of multi-fruit, multi-vitamin juices on many markets has contributed to this health image. In France, a change in food regulations that

allowed reconstituted concentrates to be sold as pure juice also facilitated consumption growth.

TABLE 80

EEC: Fruit Juice Product Consumption per Capita

	Year			1981 Market Share	Change over 1976-1981 Period
	1970	1976 ^a	1981 ^b		
	(litres)			(%)	(%)
<u>Belgium Luxembourg</u>					
All Juice	n.a.	3.56	6.59	100	85
<u>France</u>					
Pure Juice	n.a.	2.08	3.24	9	56
Nectar	n.a.	0.17	0.15	-	-12
Fruit Drink (25% Juice)	n.a.	0.03	0.03	-	-
Fruit Drink (12-25% Juice)	n.a.	32.25	31.52	90	-2
Total		34.53	34.94		
<u>Germany</u>					
Pure Juice and Nectar	9.89	13.94	21.22	43	52
Fruit Drink	n.a.	10.27	7.19	15	-30
Fruit Flavoured Soft Drinks	n.a.	18.09	20.80	42	15
Total		42.30	49.21		
<u>Netherlands</u>					
All Juices	2.99	7.69	17.59	100	129
<u>United Kingdom</u>					
All Juices	n.a.	5.80	9.70	100	67

^a Netherlands data for 1975, UK data for 1977

^b German data for 1982.

^c Citrus 6% juice, Pome fruit and grapes 30% juice, Berry and stonefruits 10% juice.

^d Half the juice content of Fruit Drinks.

Source: ITC (1982)

Annual Report of the Association of German Fruit Juice Industry
(Bonn, 1983).

Fruit nectars are only a significant juice product in Germany. Within Germany, nectar consumption has grown rapidly, but largely at the expense of pure juice sales. Hence, the actual increase in juice consumption in single strength terms is likely to be lower than that reported in Table 80. In the Netherlands, almost no market exists for nectars due to drink and sugar taxes which make nectars almost as expensive as pure juices, which are exempt from the tax.

TABLE 81

EEC: Fruit Juice Flavour Preferences

Country	Orange	Grape fruit	Apple & Pear	Grape	Pine-apple	Tomato	Others
	(%)						
Belgium							
Luxembourg	60	3	20	4	2	3	7
France	37	4	31	18	4	2	3
Germany	-----62-----		19	-	-	-	20
Netherlands	50	3	37	5	-	4	1
United Kingdom	62	17	8	-	7	4	3

Source: ITC (1982)

Preferences in the major EEC member states for particular juice flavours is dominated by orange and apple which together usually account for over 75 per cent of total sales. In the United Kingdom, grapefruit is also important, though its market share has declined while apple and pineapple's shares have risen. Another market with flavour preferences different from the EEC norm is France, where grape juice has an 18 per cent share of the juice market. In relation to nectars sold in France, 72 per cent of the market is comprised of apricot nectar and 17 per cent pear nectar, while plum and blackcurrant nectars have six per cent and one per cent shares respectively. Fruit drink consumption in France is dominated by citrus which has over 80 per cent of the market, the residual market being filled by pineapple and grapefruit.

10.5 Retail Packaging

Aseptic 'Tetra-brik' packaging accounts for at least 50 per cent of juice sales in each of the major EEC juice markets (Belgium-Luxembourg, Denmark, France, Germany, Netherlands, United Kingdom). In the Netherlands, 90 per cent of juice sales are in 'Tetra-brik' packages.

Glass bottles continue to have a significant share of juice sales in both the United Kingdom and France, accounting for 25 per cent and 33 per cent of juice sales respectively. The use of glass bottles in the U.K. is expected to decline rapidly as bottlers convert to 'Tetra-brik' packaging systems. In France, however, glass bottles have an image of 'purity', and so are likely to retain a significant share of the juice market.

Retail packages tend to have capacities of 0.2 litres to 1.0 litre for 'Tetra-brik' units, while bottles are usually 0.7 litres or 1.0 litre.

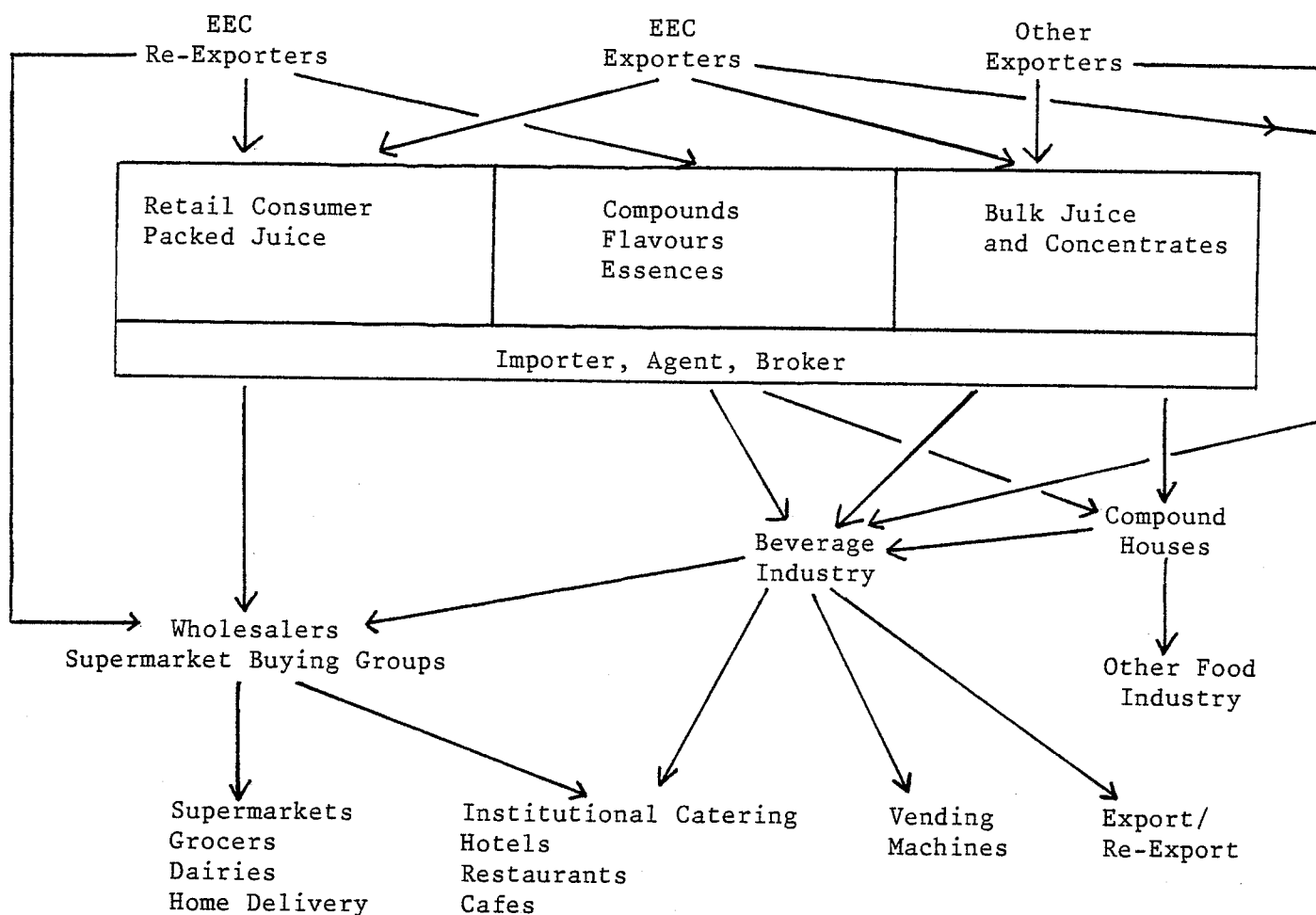
10.6 Market Structure: Distribution Channels and End Users

In Figure 4, an outline of distribution channels followed by imported bulk and consumer packed fruit juices is presented. The complexity of the distribution network matches the sophisticated United States market structure.

Imports originate from three major sources: EEC re-exporters, EEC exporters, and 'other' (third country) exporters. The three most important community re-exporters are the Netherlands, Germany, and Belgium-Luxembourg, though Denmark is also important. Re-exporters provide finished consumer packed juice produced from citrus and tropical juices originating in third countries. Also, compound or blending houses within the re-exporting country provide juice blends, flavours and essences for use in the importing country's beverage industry.

FIGURE 4

EEC: Market Structure: Distribution Channels and End-Users



EEC exporters supply juice produced by their domestic fruit growing industry. Italy and Greece in particular are major exporters of bulk citrus juice to other EEC member's beverage industries, or to compound houses for blending. Though importers, agents or brokers are usually intermediaries facilitating the trade, bulk shipments are also made direct to individual reprocessors and bottlers/packers. Within the EEC, Germany and France are also significant exporters of consumer packed apple and grape juice produced from domestically grown fruit.

Exporters from third (non-EEC) countries predominantly supply bulk, usually concentrated, juice. Major producing nations such as Brazil and Israel often supply direct to the beverage industry. Supplies of fruit juice not sold in large volumes are usually imported via brokers.

Between 80 per cent and 95 per cent of all bulk juice imported into the EEC is eventually used by the beverage industry. The residual bulk juice imported is utilised by the food industry which includes the dairy industry, bakeries, confectioners, jam manufacturers, baby-food manufacturers, and the fruit canning industry. Within the food industry the dairy industry is the main end-user of fruit juice, especially for the manufacture of yoghurt, the majority of which is fruit flavoured.

The beverage industry's main customers are retail outlets including supermarkets, grocers, dairies, and in the United Kingdom, milkmen who deliver fruit juice direct to the home. In most EEC countries, retail sales account for about 75 per cent of total fruit juice product sales. Major supermarket chains usually obtain consumer packed juice direct from beverage producers, while smaller retail outlets buy via wholesalers.

The institutional caterers and HORECA (hotels, restaurants and cafes) end-users account for around 20 per cent of juice consumption in most EEC member states. Juices consumed via caterers are usually dispensed from single serve 200 ml Tetra-brik packages or from one litre packages. Little bulk distribution is undertaken.

Vending machines are a recent innovation in the marketing of fruit juices. Their introduction has been facilitated by the development of long-life aseptically packaged juices.

Given the importance of intra-EEC trade in finished consumer packed fruit juice, a proportion of domestic fruit juice beverage production in every EEC member state is exported to other EEC countries. Third countries exporting bulk juice to a number of EEC countries are likely to have the juice packed under a number of national brands, competing against itself in each country. Of course, juice shipped in bulk loses any identity with the original exporting country. Nevertheless, it can be concluded that effective penetration of all EEC countries can be achieved solely by concentrating marketing effort on major beverage producers and compound houses in major re-exporting countries e.g. Germany, the Netherlands and Belgium-Luxembourg.

10.7 Market Access

While the EEC does not impose quantitative restrictions on fruit juice imports, import duties, value added taxes, and variable levies imposed on juices containing added sugar raise the landed price of imported juice considerably. In Table 82, the EEC's Common External Tariff for fruit juices is summarised. The general tariff ranges from 15 per cent to 50 per cent ad valorem, depending

on the juice and its degree of concentration. Generally, duty is highest on grape and apple juice, affording the large domestic production a high degree of protection. It is significant that the 63 African, Caribbean and Pacific (ACP) signatories of the Lome Convention are given free access for all juices. A number of Less Developed Countries (LDC) are also afforded free access for citrus and tropical juices. Many other countries, largely Mediterranean, are also allowed preferential duty rates.

TABLE 82

EEC: Common External Tariff (CET) for Fruit Juices

Product	General Tariff	ACP	LDC
(% ad valorem)			
A. Specific gravity exceeding 1.33 at 15°C			
Grape	50	Free	-
Apple and/or pear	42	Free	-
Other	42	Free	Free
B. Specific gravity of 1.33 or less at 15°C			
Grape	28	Free	-
Apple and/or pear	24-25	Free	-
Apricot and peach	21-22	Free	-
Orange	19	Free	-
Grapefruit	15	Free	Free
Lemon	18-19	Free	-
Other Citrus	18-19	Free	Free
Pineapple	19-20	Free	Free
Tropical fruit juice	19-23	Free	Free
Berryfruit juice	21	Free	Free

Source: ITC (1982)

Department of Trade and Industry, Wellington, pers. comm.

Apart from customs duty, a variable levy is also applied on fruit juice imports with added sugar. The variable levy was established not so much to protect the domestic juice industry, but rather to protect the EEC's sugar industry. A variable levy for sugar is calculated quarterly, essentially by estimating the difference between the average threshold sugar price (similar to a minimum import price) and the average c.i.f. sugar price in the previous quarter. This sugar levy is then applied to any imported product containing added sugar. For fruit juice, the difference between the actual sugar content of imported juice and the natural sugar content of that juice is calculated in order to assess the proportion of the sugar levy that should be paid as a variable levy. For example, on 1 June 1983, imports of fruit juice with added sugar contents of over 30 per cent paid a variable levy of US\$20 per 100 kg of product (NZ Embassy, Bonn, pers. comm.).

Value added taxes (VAT) are payable on the duty paid value of fruit juice imports, i.e. the c.i.f price plus customs duty and variable levy. VAT varies between different EEC members. In Table 83, where VAT are reported, it should be noted that fruit juices usually are classified under the standard rate, rather than the foodstuffs and essential goods rate. In most EEC member states, VAT are in the range of 10-20 per cent.

TABLE 83

EEC: Value Added Taxes (VAT)

Country	Standard Rate	Foodstuffs and Essential Goods	Luxury Goods Rate
		(%)	
Belgium	17.0	6.0	33.0
Denmark	22.0	-	-
France	18.6	5.5	33.3
Germany	13.0	6.5	-
Ireland	35.0	23.0	-
Italy	15.0	1-12	18 or 35
Luxembourg	10.0	2.0	-
Netherlands	18.0	4.0	28 or 35.5
United Kingdom	15.0	-	-

Source: Department of Trade and Industry, Wellington, pers. comm.

CHAPTER 11

EUROPE: NON-E.E.C.

11.1 Introduction

The European countries that are not members of the EEC can be sub-divided into two groups: the first group may be defined as 'West European' countries and include Austria, Finland, Norway, Portugal, Spain, Sweden and Switzerland. The second group comprises so-called 'East European' countries with a high degree of central planning in their economy. Countries in the centrally planned group include Bulgaria, Czechoslovakia, Democratic Republic of Germany (GDR), Hungary, Poland, Romania, Soviet Union (USSR) and Yugoslavia.

Total population in the Non-EEC European countries was over 478 million in 1981, 84 per cent of which lived in East European countries (Table 84).

TABLE 84

Europe Non-EEC: Population (1981)

Country	Population ('000)	Population Growth Since 1970 (%)
Austria	7559	1.8
Finland	4798	4.2
Norway	4100	5.8
Portugal	9908	14.8
Spain	37535	11.7
Sweden	8324	3.4
Switzerland	6380	1.8
Total West European	78604	8.5
Bulgaria	8900	4.8
Czechoslovakia	15330	6.9
German Dem. Rep.	16750	-1.8
Hungary	10713	3.8
Poland	35902	10.4
Romania	22427	10.7
USSR	267735	10.3
Yugoslavia	22520	10.5
Total East European	400277	9.3
Total Europe, Non-EEC	478881	9.2

Source: FAO (1982)

Of the West European countries, only Spain had a population of over 10 million in 1981, whereas only Bulgaria in East Europe had a population of under 10 million. In addition to being much larger countries in terms of total population, East European populations have also grown at a faster rate than those in the West. Apart from Portugal and Spain, population in Western Europe grew by less than five per cent during the decade ending 1981. By contrast most East European countries grew by between 7 and 11 per cent over the same period.

11.2 Domestic Production

Fruit production in non-EEC Europe is dominated by temperate pome, stone and berry fruit (Table 85). Citrus fruit is only produced in any volume in Portugal and Spain. Of the countries listed in Table 85, only fresh fruit production in Spain and Romania has shown definite growth trends since 1971 for most fruit categories. Apple and pear production in every East European country has also displayed growth over the last decade.

Given the limited range of fruit grown in Non-EEC Europe, juice production is also based on domestically grown apple, pear, peach and berryfruit.

11.3 International Trade

Non-EEC European nations do not figure prominently in the world fruit juice trade. Tables 86 and 87 which summarise the value of exports and imports respectively for each country, show that, individually, the top ranked exporter in 1981 was Austria (ninth) and the top ranked importer was Sweden (ninth). Collectively, the West European countries ranked eighth in the world as exporters, and sixth in the world as importers, though in percentage terms they only accounted for 3.8 per cent of exports and 7.8 per cent of world imports. East European countries together accounted for 2.5 per cent of world exports and 2.0 per cent of world imports, and so are ranked below West European countries.

Over the period 1977-1981, the value of exports from non-EEC European countries increased by 71 per cent to over US\$123 million, while imports reached US\$184 million, an increase of 39 per cent over 1977. The growth in exports from non-EEC countries is largely confined to two East European countries, Hungary and Yugoslavia. East European countries have also exhibited the most rapid increases in imports, particularly the Soviet Union and Poland. In West European countries, imports into Finland, Norway and Switzerland all increased by over 50 per cent over the period 1977-1981, while imports into Sweden declined by six per cent. Imports into Sweden, the most important non-EEC importer in Europe, have been stagnant at around US\$50 million for five years.

Only Spain and Yugoslavia are predominantly juice exporters in non-EEC Europe. All other countries tend to be largely juice importers, although Austria, Switzerland, Hungary and Poland all exported over US\$5 million worth in 1981, largely apple and berryfruit juice.

Juice imports into all non-EEC European countries are dominated by citrus juice. Data available for West European countries are reported in Table 88, showing that orange juice alone often accounts for around 90 per cent of imports. Citrus juice imports into West European countries usually originate from Brazil, the United States or Israel. Imports other than citrus juice are sourced from compound houses located in other European countries. Both these juice imports and citrus juice concentrates are usually destined for domestic beverage producers. Very limited imports of finished consumer packed juice occur.

TABLE 85

Europe Non-EEC: Fruit Production (1981)

Country	Apples	Pears	Peaches	Plums	Apricots	Oranges	Other Citrus	Bananas	Strawberries	Raspberries	Currants
	('000 tonnes)										
Austria	243	97	9	41	6	-	-	-	10	-	27
Finland	16	-	-	-	-	-	-	-	6	-	5
Norway	47	9	-	14	-	-	-	-	18	3	17
Portugal	97	44	35	3	6	92	39	26	2	-	-
Spain	1064	520	441	105	174	1500	1156	445	51	-	-
Sweden	92	13	-	5	-	-	-	-	-	-	-
Switzerland	240	130	-	55	5	-	-	-	4	-	-
Bulgaria	393	94	113	160	39	-	-	-	22	7	1
Czechoslovakia	170	27	19	69	25	-	-	-	17	1	22
German Dem Rep.	522	-	-	-	-	-	-	-	-	-	-
Hungary	1100	80	74	170	50	-	-	-	15	20	17
Poland	800	100	-	210	-	-	-	-	157	21	117
Romania	395	78	55	590	34	-	-	-	32	-	-
USSR	6000	620	250	520	125	250	-	-	80	80	52
Yugoslavia	380	110	80	809	30	4	-	-	46	13	-

Source: FAO (1982)

TABLE 86

Europe - Non-EEC: Exports of Fruit and Vegetable Juice (1977-1981)

Country	Year					Proportion of World Trade 1981	World Ranking 1981	Percentage Change 1977-1981
	1977	1978	1979	1980	1981			
	(US\$ '000)					(%)		(%)
Austria ^a	27172	30584	32855	37157	37492	1.9	9	38
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Norway ^a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain ^a	23946	25039	32394	34245	27023	1.4	13	13
Sweden ^a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Switzerland	4132	4351	4750	11684	9574	0.5	23	132
Total West European	55250	59974	69999	83086	74089	3.8	8	34
Bulgaria ^a	3000	5736	5276	6839	4691	0.2	36	56
Czechoslovakia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
German Dem. Rep.	2	81	124	37	2139	0.1	50	-
Hungary	1396	6383	5534	12755	10041	0.5	22	819
Poland ^a	4474	9689	8176	5515	5918	0.3	34	32
Romania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
USSR	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Yugoslavia	7726	9846	11591	13950	26230	1.3	15	240
Total East European	16598	31735	30701	39096	49019	2.5	9	195
Total Europe: Non-EEC	71848	91709	100700	122182	123108	6.3	3	71

^a not available but less than US\$2 million.

Source: ITC (1982)

TABLE 87

Europe - Non EEC: Imports of Fruit and Vegetable Juice (1977-1981)

Country	Year					Proportion of World Trade 1981	World Ranking 1981	Percentage Change 1977-1981
	1977	1978	1979	1980	1981			
	(US\$ '000)					(%)		(%)
Austria	22665	26464	26488	28813	27880	1.5	13	23
Finland	12851	16197	16714	24267	20245	1.1	15	58
Norway ^a	10903	12809	14014	16343	17664	0.9	18	62
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain ^a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sweden	50745	53831	53653	52476	47695	2.5	9	-6
Switzerland	19508	27614	33610	34193	34504	1.8	10	77
Total West European	116672	136915	144479	156092	147988	7.8	6	27
Bulgaria	798	1200	1500	2600	1700	0.1	30	113
Czechoslovakia	2500	3700	4800	6040	3100	0.2	28	24
German Dem. Rep.								
Hungary	2600	3900	2400	4300	4200	0.2	27	62
Poland	5800	5950	7900	11500	9980	0.5	26	72
Romania	933	1400	1700	787	2300	0.1	29	147
USSR	3621	4505	6249	10535	15067	0.8	21	316
Yugoslavia ^a	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total East European	16252	20655	24549	35762	36347	2.0	10	124
Total Europe: Non-EEC	132924	157570	169028	191854	184335	9.8	4	39

^a not available but less than US\$2 million.

TABLE 88

West European - Non-EEC: Trends in Major Juice Imports (1977-1981)^a

Country	Year				Proportion of Total 1981 Citrus and Pineapple Imports into Country	Growth over 1978-1981 Period
	1978	1979	1980	1981		
	(tonnes)				(%)	(%)
<u>Orange</u>						
Finland	10778	10834	16398	11301	93	5
Norway	6587	7226	7538	8476	88	29 ^b
Portugal	-	26	35	31	41	19 ^b
Spain	2358	3452	4272	3264	54	38
Sweden	27748	26716	25172	27063	92	-2
<u>Grapefruit</u>						
Finland	238	28	126	153	1	-36
Norway	313	480	288	338	4	8
Portugal	-	-	-	-	-	-
Spain	20	-	27	27	-	35
Sweden	481	515	561	510	2	6
<u>Other Citrus</u>						
Finland	158	154	86	110	1	-30
Norway	534	584	401	337	3	-37 ^b
Portugal	-	2	10	6	8	200 ^b
Spain	634	1006	796	734	12	16
Sweden	1152	1295	1200	1245	4	8
<u>Pineapple</u>						
Finland	496	321	744	567	5	14
Norway	101	248	329	493	5	388 ^b
Portugal	-	33	1	39	51	18
Spain	3009	3724	3550	1988	33	-34
Sweden	433	436	442	744	3	72

^a Austria and Switzerland excluded from table since do not provide data disaggregated into these juice types.

^b Per cent change over period 1979-1981.

Source: ITC (1982).

East European countries also import mainly concentrated citrus juice, though often the juice is obtained from other centrally planned economies, e.g. Cuba and Vietnam. Like West European countries, the imported juice is utilised by the domestic beverage industry. In East European countries, imported citrus juice is usually imported as flavouring for carbonated soft-drinks.

11.4 Consumption

11.4.1 West European Countries

In Table 89, beverage consumption data for non-EEC West European countries are reported. The three Scandinavian countries: Finland, Norway and Sweden are all relatively high consumers of beer and milk, while consumption of wine is very low at less than 10 kg per capita. Swedish consumers also drink 40 litres of soft-drinks per capita.

TABLE 89

West European - Non-EEC: Beverage Consumption Per Capita

Country	Wine	Beer	Fresh Milk	Soft-Drink	Bottled Water	Fruit Juice	
	1978	1978	1978	1979	1979	1979	1981
	(kg)	(kg)	(kg)	(Litres)	(Litres)	(Litres)	
Austria	35	103	149	n.a.	n.a.	12	13
Finland	8	55	246	n.a.	n.a.	14	20
Norway	3	46	222	n.a.	n.a.	8	9
Portugal	87	29	60	29	16	19	20
Spain	59	47	107	17	-	3	3
Sweden	9	51	156	40	-	21	21
Switzerland	40	67	174	51	35	21	21
	(% change over 1975)			(% change over 1977)		(% change over 1979)	
Austria	-3	-2	-	n.a.	n.a.	8	
Finland	-11	-	3	n.a.	n.a.	43	
Norway	-	2	-3	n.a.	n.a.	13	
Portugal	-34	-15	2	7	14	5	
Spain	-11	7	5	3	-	-	
Sweden	13	-15	-4	3	-	-	
Switzerland	8	-4	4	6	6	-	

Source: ITC (1982) Fruit Juices (1979 and 1981)
 OECD (1981) Wine, Beer and Fresh Milk (1978)
 BW (November 1981) Soft-drink, bottled water, fruit juices (1979).

Both Portuguese and Spanish consumers drink more wine than beer. Wine consumption in Portugal and Spain is around 59 and 87 kilograms per capita respectively, while beer is only 29 and 47 kilograms respectively. Swiss consumers have quite high wine consumption at 40 kilograms per capita, but still have the second highest per capita beer consumption in non-EEC West European countries at 67 kilograms. Both soft-drink and bottled water also contribute significantly to the beverage consumption of Swiss consumers, in per capita terms the highest of any non-EEC West European country.

Fruit juice consumption in Finland, Portugal, Sweden and Switzerland reached at least 20 litres per capita in 1981. Per capita consumption of fruit juices in non-EEC West European countries is less than 10 litres in only two countries, Norway and Spain. Overall, consumption of fruit juices in most West European countries has stabilised in recent years. Finland was the only country to experience a rapid increase in per capita consumption over the period 1979-1981. If consumption follows the trend of other countries, per capita consumption of fruit juice in Finland will not increase to the same extent in future years. For example, in both Switzerland and Sweden, dietary campaigns by consumer associations and more stringent laws regarding synthetic food additives imposed in the early 1970's, saw rapid increases in pure fruit juice consumption. Swedish fruit juice consumption increased from six litres per capita to 23 litres per capita in 1977, before stabilising at 21 litres in 1981 (ITC; 1982).

Most of the juice consumed in West European countries is pure juice. Nectars and fruit drinks are not regarded as either natural or 'healthy'. In many countries fruit syrups are more accepted since they are traditional home-made products.

Flavours in non-EEC West European countries are dominated by apple and orange, which together share around 80 per cent of the market. Apricot, peach, grape and berryfruit account for a further 15 per cent of the market while tropical juices contribute around 5 per cent, usually in blends with apple or orange. Consumers are generally regarded as being conservative, showing only novelty, rather than long-term, interest in new flavours.

Fruit juices are sold in both glass bottles and aseptic 'Tetra Brik' packages.

11.4.2 East European Countries

East European consumption is dominated by domestically produced temperate juices, especially apple. Very little citrus juice is consumed as pure juice, most being used in the manufacture of soft-drinks.

11.5 Distribution and Market Access

11.5.1 West European Countries

The majority of fruit juice imports into non-EEC West European countries enter the beverage industry, often via agents or importers, but for high volume citrus juices, usually direct to the reprocessor and packer. In some West European countries, juice is imported for blending by domestically based "compound houses", although most countries rely on other European countries to fulfill this function. The majority of consumer packed juice is sold through retail outlets, with the catering and hotel/restaurant trade accounting for around 25 per cent of sales.

Tariff information for three of the most important non-EEC West European countries: Austria, Switzerland, and Sweden, is reported in Table 90. The tariff in each country is specific, although an ad valorem duty on unconcentrated apple juice imported into Austria is applied. Both Austria and Switzerland have much higher tariff barriers than Sweden, which lacks a domestic juice industry. While Swiss tariffs do not vary according to juice type, Austrian tariffs are highest for apple and berryfruit, juices produced domestically in large quantities. Tariffs in all countries increase with increasing degree of concentration, the addition of sugar, and decreasing size of containers.

11.5.2 East European Countries

Imports into East European countries tend to be juice concentrates for further processing by domestic beverage industries. Monopoly, state-controlled foreign trade organisations control the level of juice imports so that tariffs, although they exist, do not determine the ability to trade. State trading organisations are influenced by the need to conserve foreign exchange and the desire to protect domestic producers of temperate fruit juices from import competition. Hence, domestic juice consumers are given little choice among various juice flavours. East European countries also attempt to source imports from other centrally planned economies.

In most East European countries, a small volume of consumer packed juice is imported for sale in "hard currency" and duty free shops and some hotels, for sale to tourists, diplomats, and nationals with the necessary hard currency.

TABLE 90

West European - Non-EEC: Tariff Barriers^a

Product	Switzerland		Sweden		Austria	
	(Fr/100 kg)	(NZ\$/100 kg)	(kr/100 kg)	(NZ\$/100 kg)	(sch/100 kg)	(NZ\$/100 kg)
<u>Apple juice</u>						
Concentrates	-	-	-	-	630	54
Other	-	-	-	-	25% a.v.	-
Unsweetened	28	20	10-12.50	2-2.50	-	-
Sweetened	30-70	22-50	30	6	-	-
<u>Orange juice</u>						
Concentrates	-	-	-	-	105-420	9-36
Other	-	-	-	-	105-150	9-13
Unsweetened	28	20	5-7.50	1-1.50	-	-
Sweetened	30-70	22-50	30	6	-	-
<u>Berryfruit juice</u>						
Concentrates	-	-	-	-	105-420	9-36
Other	-	-	-	-	-	-
Unsweetened	28	20	10-12.50	2-2.50	175	15
Sweetened	30-70	22-50	30	6	500	43

^a tariff ranges reflect different sized containers. Small consumer packed juice at upper end of range, bulk juice at lower end.

Source: NZ Department of Trade and Industry, Wellington, pers. comm.

CHAPTER 12

THE WORLD FRUIT JUICE MARKET:

SITUATION AND PROSPECTS

12.1 Introduction

The preceding Chapters have described in some detail the production, trade, consumption, and distribution of fruit juice products on individual world markets. In this Chapter, a number of overall features of these individual markets are discussed, first in terms of juice production and trade, and then in terms of consumption, consumer preferences and habits. Having described the current situation in the world market for fruit juice products, the remainder of the Chapter identifies markets where opportunities exist for exporters of particular product types.

12.2 Major Features of Fruit Juice Production and Trade

12.2.1 Brazil: the Dominating Factor on the World Markets

Brazil is the major exporter of fruit juice on the world market, and given supply predictions, will continue to have increasing volumes of juice available for export. In recent years, increases in Brazilian juice production have found ready markets in the United States, due to poor citrus harvests in Florida. The existence of higher than expected supply deficits in the United States has masked the fact that the world juice market is generally in a state of over-supply. Trade in fruit juices doubled in both volume and value terms over the period 1977-1981. The commodity trade nature of the market for the major fruit juices (orange, grapefruit, apple and pineapple) will ensure that excess supply will be reflected in a weakening of export prices.

12.2.2 Trade in Raw Materials Increasing Faster than Trade in Consumer Products

The growing commodity trade nature of the world juice market is reflected in a continuing trend towards trade in juice concentrates and pulps rather than finished consumer packed juice products. High transport costs penalise the shipment of single-strength or diluted juices, while tariff and other trade barriers encourage the development of domestic beverage industries. Even in markets with minimal trade barriers, such as the Middle-East, Hong Kong and Singapore, domestic beverage industries are developing rapidly.

12.2.3 Emergence of Third World Suppliers of Tropical Juices

Tropical Asian, African and Latin American countries increasingly entered the world juice market during the 1970's, establishing themselves as suppliers of tropical juice raw materials. Juice production for export is seen as one method of encouraging development of their agricultural sector. Fruit growing for juicing has been undertaken using large scale plantation agriculture systems, rather than traditional small scale techniques. Often, multi-national companies have supplied the capital, technology, and market outlets in the development of a vertically integrated processing industry. Juice processing industries have also developed as an adjunct to tropical fruit canning operations.

12.2.4 Peaking of Fresh Fruit Consumption in Developed Countries

With the peaking of fresh fruit consumption in many developed countries, short run surpluses in domestic fruit production due to favourable growing conditions are tending to be diverted into juicing. The volume of processed fruit also increases in years of adverse climatic conditions which reduce the quality of fruit below that acceptable for fruit sold in a fresh state. The European, Australian and Japanese fruit growing industries are all orientated towards production of fresh fruit and hence the volume of fruit processed depends on the amount of unmarketable fruit produced. Juice production in these countries, and hence demand for imported juice, is therefore inherently unstable. Of course, some countries, such as the EEC have, chronic excess supply problems for some fruit.

Countries with fruit growing industries orientated to the production of fruit marketed fresh can be contrasted with the almost entirely juice orientated fruit growing industries of Brazil and the USA (especially Florida).

12.2.5 Re-exporting Roles

A feature of the growth in the world fruit juice market has been the emergence of a number of re-exporting countries. These re-exporters tend to dominate trade within a particular region, for example, West Germany, the Netherlands and Belgium are re-exporters to the rest of Europe, both inside and outside the EEC. Singapore and Hong Kong are important regional re-exporters to Asia, while Bahrain and Dubai are developing a similar role in the Middle-East.

Usually, re-exporting countries are also food technology centres, performing juice blending and flavouring functions for countries lacking similar facilities. While re-exporting countries often export their blended juices in bulk and concentrated forms, a much higher proportion of their output is shipped in finished consumer packages.

12.3 Major Features and Trends in Fruit Juice Consumption, Consumer Preferences and Consumer Habits

12.3.1 Competition with other Beverages

In most countries sales of fruit juices are less than 10 per cent by volume of total beverage sales. While sales of fruit juices have risen dramatically in recent years, other beverages such as sparkling and still mineral water, white wine, and sugar-free carbonated soft drinks have also experienced rapid sales growth in many countries. Western developed economies have been characterised in the last few years by low population and disposable income growth, slowing down the expansion of the overall beverage market. Thus, increasing sales of a particular beverage must be to some extent at the expense of market share for other beverages. Declining real incomes and inflationary price pressures have also encouraged 'trading down' from pure juice products to fruit drinks and cordials with lower pure juice contents.

12.3.2 Flavour Preferences and Acceptance of New Flavours

The growth of fruit juice consumption throughout the world has been encouraged by low cost supplies of citrus juices from Brazil and the United States. Hence, citrus juice flavours, particularly orange, tend to dominate flavour preferences in nearly every market. Apart from orange, other flavours with significant market shares are grapefruit, apple, grape and pineapple.

In recent years, tropical juices have begun to become established in North America, Europe, Japan and Australia and are already finding acceptance in Asia, the Middle-East, and the Pacific Islands. Tropical juices, including pineapple juice, are largely used in blends with citrus and temperate juices. For the majority of markets, tropical flavours are an acquired taste, so that a long period occurred before significant consumer acceptance developed. Even then, consumers have not accepted them in the form of single flavour pure juice products, though this has resulted from their high price as much as their taste.

A significant feature in the acceptance of tropical juices has been the increased level of imports of fresh tropical fruit into temperate countries. Consumers familiar with eating fresh tropical fruit more readily accept tropical fruit juice. The prospects for the juice of a particular fruit are also closely associated with the image of its fresh counterpart, since the processed product tends to be marketed emphasising the attributes of the fresh fruit. An exotic fresh fruit marketed successfully at a premium price will also attract a premium as a juice. An unknown or unpreferred fresh fruit cannot be sold at a premium in juice form.

12.3.3 Product Developments

Product developments for fruit juices have centred in three areas. Firstly, in response to consumer demand for more service in a product, ready to drink juice products have sold faster than juices requiring preparation. This is particularly true in the pure juice market where consumer packed frozen concentrates are giving way to chilled and aseptic single-strength products.

The second development relates to the growth in products incorporating juice blends or combinations. Also, multi-flavour products often incorporate multi-vitamin ingredients. Blended juice products have usually been introduced where the single-flavour juice market is well developed and mature, so that the multi-flavour juice products represent a response to an increasingly sophisticated and discriminating consumer. To some extent however, multi-flavour products have also been a response to manufacturers' desires for greater profitability. The competitiveness of the single-flavour market, dominated by commodity traded juices has squeezed the profitability of juice marketing.

The third area of product development has been in relation to combinations with other beverages, particularly mineral water and milk. Milk beverages with juice ingredients include flavoured UHT milk, cultured yoghurt-type drinks, and lacto-serum sports drinks.

12.3.4 Packaging Development

The development of aseptic cardboard-foil juice packages giving extended shelf life without refrigeration has revolutionised the juice market where it has been introduced. Consumers have found aseptics a convenient package, especially the single serve 200ml and 250 ml sizes. Aseptics have also allowed distribution of fruit juices to a much broader range of retail outlets.

12.3.5 Demographic Changes

In the past fruit drinks have tended to be consumed mainly by children, teenagers and women in the 25 to 50 age range. Demographic changes, particularly in western developed economies, have led to juice products being re-positioned in the market in order to appeal to a broader group, particularly

males over 25 years old. Aseptic packaging and product developments have contributed greatly to this re-positioning.

Demographic changes in western economies include slow population growth and declining household size. A decline in population growth is producing an older age distribution, with an absolute decline in the youth market size. Smaller household sizes decrease the unit volume of products purchased. The increase in the number of women working outside the home, and the increase in the number of two income households has developed a market for prepared foods and meals outside the home. Such consumers tend to be less price conscious. The rise in the number of men shopping has also led to the growth in convenience orientated shopping. Some western economies are also experiencing ethnic composition changes. In the United States in particular, the Black and Hispanic populations are growing faster than the white population. For exporters of tropical juice, the Hispanic population is an important market segment, being more familiar with fresh tropical fruit.

Asian, Pacific Island and Middle-Eastern countries all show rapid population increases, creating a greatly enlarged youth market, a positive factor encouraging future increases in aggregate juice consumption.

12.3.6 Growing Health Consciousness

Consumer awareness of the health attributes of food products consumed has led to a much greater concern by manufacturers for the image of their products. Concern over food additives and preservatives has created a market for natural foods. The desire to reduce calorie intake has tended to reduce demand for beverages with a high added sugar content. Finally, the desire for a balanced diet has been a positive factor in creating demand for products with high vitamin content.

Among beverages, soft-drinks have tended to suffer the most from the growing health consciousness, due mainly to their sugar and caffeine contents. Both mineral waters and fruit juices are regarded as more natural and healthy, and hence have tended to gain market share at the expense of soft-drinks. The healthy image of fruit juice products is largely limited to pure juices, with both fruit drinks and nectars being associated with added sugar.

12.3.7 Growth in the Foodservice Sector

The increasing proportion of meals eaten outside the home, whether in hotels, restaurants, cafes, take-away fastfood and lunch bars, employee canteens or educational institutions has increased the demand for fruit juices, particularly in the daytime non-alcoholic drinks market. Aseptic packaging not requiring refrigeration has increased the use of vending machines in these outlets, selling single serve packages. Specialist gourmet and health food shops selling take-away food are also mainly selling single serve packages of fruit juice.

12.4 Market and Product Opportunities

12.4.1 Introduction

Having summarised briefly the major features and trends of trade and consumption in fruit juices, this section indicates the characteristics of particular markets, and the opportunities for individual fruit juice products in

these markets. The number of factors that must be considered in identifying a market-product opportunity are large, including:

- (i) the level of domestic production in relation to the level of total demand,
- (ii) the current level of demand in relation to income levels and total population,
- (iii) consumer product preferences,
- (iv) the distribution outlets that reach particular market segments, and
- (v) the accessibility of the market for exporters.

These factors are discussed in the sections below.

12.4.2 Domestic Production and Total Demand

In order to categorise individual markets, the level of fruit juice production in each market can be compared with the degree to which the country is an exporter or importer of fruit juice. The results of such a comparison are summarised in Table 91.

Although rather arbitrary in terms of the range for each classification factor, the analysis presented in Table 91 highlights which markets can be largely disregarded and which are likely to be most favourable as export destinations. Obviously, the self sufficient juice exporters comprising Latin America, Mediterranean Europe, and less developed tropical Asian countries do not present significant market opportunities. The predominantly juice importing countries do present opportunities for juice exporters, the degree of opportunity being largely determined by the level of domestic production, and the trade barriers in existence. The higher the level of juice production from domestically grown fruit, the less the country depends on imports to meet domestic consumption requirements. Thus, both the United Kingdom and the Middle-East stand in contrast to Australia and the United States, where importers face considerable competition from juice produced from domestically grown fresh fruit. In the United Kingdom and the Middle-East, the greatest source of competition originates from other exporters.

TABLE 91.

Domestic Juice Production and Importance of Imports

Fruit Juice Produced from Domestic Fruit Production	Exports as a Proportion of Imports		
	0-35% Importer	35-120% Re-Exporter	>120% Exporter
Low (<50 million litres)	Pacific Islands Hong Kong Middle-East United Kingdom Ireland Switzerland Norway Finland Portugal Sweden Romania Czechoslovakia USSR	Belgium-Luxembourg Denmark Netherlands Singapore Bahrain Dubai	Chile German Dem. Rep.
Medium (50-200 million litres)	Japan Korea Taiwan France Canada	Malaysia Poland	Philippines Indonesia Argentina Austria Bulgaria Yugoslavia
High (>200 million litres)	Australia United States	German Fed. Rep.	Brazil Greece Italy Spain Hungary Thailand

The group of countries classified in Table 91 as "re-exporters" afford similar opportunities as "importers", except for those countries with high domestic juice production (e.g. Germany). In these countries, only particular types of juice will be required, to fill the gap in the domestic juice product range, and provide for production of juices for re-export.

12.4.3 Consumption, Income and Population

Even if a country has a low level of domestic production and relies heavily on juice imports to satisfy domestic demand, the country may not be a good prospect as an export market if the overall juice market is very small, either in terms of per capita consumption or total population. Also, the level of income in a country is a good indicator of the ability of consumers to pay for imports.

In Table 92, markets are classified according to per capita levels of juice consumption, per capita incomes, and total population. In general,

TABLE 92

Fruit Juice Consumption Compared to Income and Population Levels

Juice Consumption Per Capita	Income Per Capita (US\$)								
	Low (<\$2500) Population ^a			Medium (\$2500-\$7500) Population ^a			High (>\$7500) Population ^a		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
Low (<10 Litres)	Pacific Is.	Taiwan Malaysia Yemen A.R.	Korea Indonesia Philippines Thailand	Hong Kong Singapore Ireland	Greece Bulgaria Hungary Czech. German D.R.	Italy Spain Poland USSR	Luxembourg Norway	Belgium Denmark	Japan France
Medium (10-20 Litres)		Portugal					Finland U.A.E. Bahrain Kuwait	Australia Netherlands Austria	U.K.
High (>20 Litres)								Canada Saudi Arabia Sweden Switzerland	USA German F.R.

^a Low = <5 million
Medium = 5-30 million
High = >30 million

countries with high disposable incomes also recorded the highest levels of per capita juice consumption. Japan with its high level of protection for the domestic juice industry, and a number of European countries, proved exceptions to the rule.

The Pacific Islands and all Asian and East European countries recorded per capita juice consumption of under 10 litres. Many of these countries, however, with their medium to high populations, and fast rates of population and income growth, still constitute large and potentially important markets for fruit juices.

12.4.4 Consumer Product Preferences

The mix of juice products consumed differs markedly between countries. Consumer income, product image, and the cost and availability of juice raw materials are all important factors influencing the mix of juice products consumed in a particular country. Table 93 contains a summary of juice product preferences for the countries and regions examined in previous chapters.

Only in North America and Western Europe does pure juice consumption dominate over fruit drink consumption. Australia, Japan, Asia and the Middle-East all tend to consume fruit drinks in preference to pure juices. To some extent this preference is due to the higher cost of raw materials in these countries, but consumer attitudes to added sugar and preservatives are also less hostile than North America and Europe. However, in Australia especially, consumers are becoming more aware of the attributes of particular juice products, and are exercising greater discrimination between products, mainly on the basis of juice content.

Nectars have quite varied images depending on the market in which they are sold. As with juice drinks, European and United States consumers regard nectars as less healthy and natural than pure juices, mainly as a result of the added sugar content. Canada, Australia and the Middle-East all have a significant demand for nectars, although in Canada the product is seen as a cheaper alternative to pure juices. In contrast, in Australia, nectars are sold at a premium in relation to pure juices. The Middle-East is the only market where nectars make up a large share of the total juice market, accounting for 30 per cent of juice sales in most Middle-Eastern countries.

Fruit flavoured carbonated soft-drinks and drink mixes tend to have a very limited range of flavours available (mainly citrus), and contain very low pure juice contents. The United States is the only country where drink mixes account for a substantial proportion of overall fruit flavoured beverage consumption, and where a wide range of flavours are available. Drink mixes with pure juice contents of 10 per cent are gaining market share in a market dominated by artificially flavoured mixes.

Multi-vitamin enriched fruit drinks, electrolyte sports drinks, flavoured mineral waters (especially sparkling water), flavoured milk, flavoured cultured milk, cordials, squashes and fruit syrups complete the mix of fruit drink products available to consumers. Vitamin enriched drinks, sports drinks and flavoured mineral waters are finding greatest acceptance in the higher income industrialised economies such as the United States, Canada, Australia, Japan and the EEC. Cordials have importance in Australia, Asia, the Middle East, the Pacific Islands and the United Kingdom. A feature of the cordial market is the much broader flavour spectrum available, and their positioning as a cheaper alternative to pure fruit juices.

TABLE 93

Juice Product Preferences

Country or Region	Pure Juice	Fruit Drink	Nectar	Fruit Flavoured Carbonated Soft-Drink	Drink Mix	Other
United States	70% of juice consumed pure, 30% juice drinks. Multi-flavour trend		Very small, mainly tropical	Mainly, citrus, trend to diet Soft Drinks	Growth area. Juice content increasing	Vitamin enriched drinks Electrolyte drinks Flavoured mineral water
Canada	Dominated by orange and apple. Tropical, berry flavours unknown.		Mainly apple, Sold at discount	Lemon-lime only	Small market	Vitamin enriched drinks.
Australia	Mainly 25-50% juice content products sold. Single flavour orange dominates but multi-flavour trend.		Small market, Sold at premiums	Citrus flavours	Lemon, lime, orange, only	Cordials Flavoured milk Flavoured cultured milk Flavoured mineral water.
Japan	65% juice consumed as drinks. Imposed mikan flavour preference.		Limited by lack of raw materials	Lemon-lime and grape	Small market	Electrolyte sports drinks
Pacific Islands	Little pure juice sold, mainly to expatriates and tourists.					Cordials
Asia	Fruit drinks dominate due to cost of raw materials and natural sweetness of tropical fruit.		Limited by cost of raw materials		Small market	Cordials Flavoured milk Flavoured cultured milk.
Middle-East	20% juice consumed pure, 50% fruit drinks (including cordials and squashes).		30% market	Fruit-flavour important	Small market	Cordials, squashes.
EEC	UK and Germany pure juice dominates, Fruit drinks dominate in France.		Small market except in Germany	Fruit-flavour important	Small market	Cordials in UK Fruit flavoured mineral waters in Germany Electrolyte sports drinks.
Europe - Non-EEC	Pure juices dominate in Western Europe. Fruit drinks unnatural image.		Not regarded as natural or healthy	Dominant juice consumption in Eastern Europe		Fruit syrups

Overall, the markets undergoing the greatest changes in product mix preferences would be Canada, Australia and Asia where the introduction of aseptics is proving to be a catalyst in both increasing consumption levels and changing the product mix towards pure juice consumption. In more mature markets such as the United States, the EEC and the Middle-East the major changes are occurring in respect of flavour preferences, with the proliferation of multi-flavoured juice products. Similar changes would also occur in the Japanese market should import restrictions on raw materials be relaxed. Canada and non-EEC European countries tend to be more conservative in terms of flavour preferences, with little possibility of accepting new flavours in their own right. Exotic flavoured juices tend to be restricted to gourmet and health food stores.

Competitively, fruit juices compete mainly with soft-drinks, bottled water, tea and coffee, and to a lesser extent with wine and beer. While the competitive position of fruit juices in comparison to these other beverages varies considerably between countries, the nutritional benefits perceived from fruit juice consumption stand out as a major factor encouraging consumer acceptance. Other factors include price, convenient packaging and storage, and wide distribution. The growth of bottled water sales in many countries has mirrored the growth in fruit juice sales, at the expense of soft-drink sales which have plateaued or declined. Sugar and caffeine free soft-drinks will increasingly challenge further growth of fruit juice and bottled water sales.

12.4.5 Distribution

In the majority of fruit juice markets, the retail sector accounts for over 85 per cent of all fruit juice sales (Table 94). Only in the United States and Western Europe (including EEC) does the foodservice sector account for between 25 and 30 per cent of sales.

For the markets where the foodservice sector accounts for only 10 to 15 per cent of total sales, the sector tends to be dominated by hotels and restaurants catering for higher income consumers (including tourists). Hence, though a small segment of the fruit juice market, premium prices are paid.

Supermarkets account for the major proportion of retail sales in most countries. In North America, Australia, Japan and Europe, supermarkets compete for custom largely on the basis of price competitiveness. Gourmet and health food shops cater for consumers who are convenience rather than price conscious and so tend to reach higher income consumers. In the Pacific Islands, the Middle-East and Asia, supermarkets tend to be important for higher income nationals and expatriates. Price is not always the most important factor influencing buying decisions for these purchasers, who prefer high quality internationally known branded products.

12.4.6 Access

In many countries tariff and quantitative barriers markedly limit the growth of fruit juice consumption as well as limiting the range of flavours available to consumers. Japan, Eastern Europe and Asia (excluding Hong Kong and Singapore) are all markets where little prospect exists for significant export growth.

It is significant that trade barriers for bulk packed juice and consumer packed juice do not tend to be significantly different in most markets. Markets with high trade barriers exclude major imports of both bulk and consumer packed juice (Table 95). North America, Australia, Hong Kong, Singapore, most Pacific

TABLE 94

Importance of Distribution Outlets for Fruit Juice Product Sales

Country	Retail	Foodservice ^a
United States	70% sales, largely supermarkets but also specialist health food shops selling single-serve take-away food. Supermarkets very price competitive, health food shops not.	30% sales, 85 per cent of which in commercial catering. Limited flavour lines sold except in hotels/motels. 15% foodservice sales in non-commercial catering, including military and government. Vending sales in schools increasing with ban on carbonated drinks.
Canada	85% sales, largely supermarkets	15% sales.
Australia	90% sales, largely supermarkets	10% sales.
Japan	85% sales	15% sales, especially restaurants and non-commercial catering.
Pacific Islands	Supermarkets important for higher income expatriate populations.	Hotels, cafes, important for tourist trade.
Asia	Supermarkets important for higher income nationals and expatriate population. Supermarkets for price conscious low income nationals don't stock imported goods.	Hotels and restaurants important for tourists from Europe, North America and Asia. Growth of fast food outlets.
Middle-East	Supermarkets most important outlets. Bazaar trade and superettes important for lower income consumers.	Hotels a small outlet, sell only premium quality and priced products.
EEC	75% sales supermarkets, grocers, dairies, home delivery. Exotic juices important in gourmet and health food shops.	25% sales, 80% of which from commercial catering, 20% non-commercial.
Europe - Non EEC		
West European	75% sales.	25% sales.
East European	95% sales.	5% sales.

^a Foodservice includes:

- (i) commercial catering - restaurants, cafes, bars, taverns, hotels, motels, sports centres, mobile caterers.
- (ii) non-commercial catering - employee canteens, educational institutions, hospitals, community centres.
- (iii) government and military institutions.

Islands, the Middle-East, the EEC (as long as there is no added sugar) and some other European countries all have low to medium trade barriers. Developing countries (the major suppliers of tropical juices) usually obtain preferential treatment, often free access, in the tariff schedules of most countries.

TABLE 95

Barriers to Access for New Zealand

Country	Bulk-Packed Juice	Consumer-Packed Juice
United States	Low	Low
Canada	Low	Low
Australia	Free	Free
Pacific Islands		
- New Caledonia, Fr. Polynesia	High	High
- Fiji, Papua New Guinea	Medium	Medium
- Others	Low-Medium	Low-Medium
Asia		
- Singapore	Free	Free
- Other	High	High
Middle-East	Low	Low
EEC	Low-High ^a	Low-High ^a
Europe - Non-EEC		
- Western Europe - Sweden	Low	Low
- Austria, Switzerland	High	High
- Eastern Europe	High	High

Low = less than 25% tariff

Medium = 25-50% tariff

High = Import quotas, over 50% tariffs, or preferential trade with other countries.

^a High if added sugar, and due to preferential trade with Third World.

12.4.7 Market Opportunities

Having categorised the countries surveyed in this report according to their level of domestic juice production, trade in fruit juice, income, population, the level of juice consumption and product preferences, and taking account of access barriers, a number of product-market opportunities can be identified (Table 96). Generally, these opportunities exist for any potential exporter, the successful exporter being able to provide the appropriate products more successfully than competitors. While particular flavour preferences have not been noted, the markets chosen tend to be those more receptive to new flavours. Thus, while the Netherlands, Belgium and Luxembourg are markets with

TABLE 96

Product - Market Opportunities

Country	Size of Domestic Juice Production	Important Market Features				Population	Access Barriers	Products of Greatest Potential	Target Consumers	Distribution Outlets
		Importer (I), Exporter (E), or Re-Exporter (R)	Consumer Income	Juice Consumption	Juice Consumption					
United States	Large	I	High	High	High	Low	Pure Juice (incl. multi-flavours, multi-vitamin) Drink Mixes Flavoured mineral water Electrolyte sports drinks	Upper income, Two-income households, 18-44 year olds, working women	Health food shops Supermarkets Hotels, motels, Sports clubs	
Canada	Medium	I	High	High	Medium	Low	Pure Juice (incl. multi-vitamin)	Upper income	Gourmet and health food shops	
Australia	High	I	High	Medium	Medium	Low	Pure juice Nectar Flavoured mineral water	Upper income	Health food shops Supermarkets	
							Fruit drinks (incl. multi-flavours) Cordials	Middle Income Youths	Supermarkets	
Pacific Islands	Low	I	Low-High	Low	Low	Medium	Pure juice	Upper income indigenous popn, expatriates and tourists	Hotels, Supermarkets	
							Cordials	Lower income	Supermarkets	
Singapore, Hong Kong	Low	R, I	Medium	Low	Low	Low	Pure juice Fruit drinks	Upper income indigenous popn, expatriates and tourists	Hotels, Supermarkets	
							Cordials	Lower income	Supermarkets	
Middle-East	Low	I	High	High	Low-Medium	Low	Pure Juice Nectar	Upper income indigenous popn. and expatriates	Hotels, Supermarkets	
							Fruit Drinks Cordials, Squashes	Lower income	Supermarkets	
Germany, Fed. Rep. of	High	R	High	High	High	Medium	Pure Juice (incl. multi-flavours, multi-vitamin) Flavoured mineral water	Middle-Upper income	Supermarkets Health food shops, Foodservices	
United Kingdom	Low	I	High	Medium	High	Medium	Pure Juice (incl. multi-flavours)	Upper income	Supermarkets, Health food shops, Foodservices	
Sweden	Low	I	High	High	Medium	Low	Pure Juice	Middle-Upper income	Health food shops, Supermarkets, Foodservices	

similar characteristics and product preferences as Germany, consumers in these countries are regarded as conservative in terms of accepting new flavours.

Overall, it is clear that the majority of opportunities are for pure juice products, aimed at more affluent consumers. Multi-flavoured products are likely to be important in a number of markets. Flavoured sparkling mineral water, nectars, and cordials have potential in a more limited number of markets.

12.5 Conclusion

The preceding discussion has identified a number of markets in which specific opportunities exist for exporters of fruit juice products. The ability of New Zealand to exploit these opportunities depends on a number of factors not covered in this report. These factors include:

1. The cost at which New Zealand fruit-growers can produce processing quality fruit: New Zealand's fruit growing industry, especially those growers producing export quality fruit, is fresh fruit orientated. Orchards tend to be small scale and labour intensive. While processing into juice is a convenient method of disposing of excess or unmarketable fresh fruit, a juice processing industry based on such an input will tend to be high cost in comparison to overseas industries. It is significant that the internationally competitive Brazilian and United States juice industries, and the developing tropical fruit juice producing Asian industries, are both large scale and almost exclusively processing orientated.

The quality of fruit juice produced by New Zealand juice processors will also be affected by the fresh fruit orientation of the industry. Varieties required for the fresh market may not have optimal processing characteristics.

2. The juice flavours produced by New Zealand: It is apparent that acceptance of a juice flavour in the international market is closely associated with the image and acceptance of the associated fresh fruit. Thus, New Zealand juices will find greatest acceptance in markets where fresh fruit marketing is well developed, and the New Zealand fruit is regarded as a premium fruit. Hence, for example, kiwifruit juice will find a ready markets in both North America and Europe, whereas blackcurrant juice would be restricted to, at most, health food shops.

3. Relative transport costs of exporting consumer packed juice and bulk packed product: Given New Zealand's isolation, on-shore consumer packaging may be unprofitable, requiring the development of off-shore processing and packaging.

4. Retaining the identity of New Zealand juice products: Associated with the probable need to engage in off-shore processing and packaging is the problem of retaining a separate identity for juices originating in New Zealand. Simply exporting raw materials to the beverage industry in importing countries for sale under foreign labels turns New Zealand juice into a commodity. Since New Zealand is unlikely to be a low cost supplier, New Zealand juice would not compete well with much larger scale competitors. Any off-shore processing and packaging would have to be done so that the resultant product was still identified and promoted as originating from New Zealand. The development of a New Zealand identity would also require a diversified range of flavours in a product line. A single flavour of one product type is unlikely to create much impact in the market, unless accompanied with massive promotion (as Sunkist Orange and 7UP lemon-lime have done in the soft-drink market). An additional problem in retaining a New Zealand identity is the trend for supermarket chains.

to sell fruit juice and other products under their own label.

It can be concluded that while opportunities do exist on many markets for fruit juice products, the markets are extremely competitive. Successful exporters will be those who ensure production costs are contained, and who pay great attention to the positioning of their product, in terms of product image, distribution outlets, and pricing, on the market.

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