3 ANALYSIS OF EXPORT AND INVESTMENT

3.1 Chilean Export

3.1.1 Historical Overview and Recent Performance

Chilean exports steadily increased during the years 1985-1999 (Figure 3.1.1). However, there was a temporary decrease in 1998 due to the Asian economic crisis followed by a rebound in 1999, though the peak achieved in 1997 was never fully recovered. Reflecting the steady increase in exports, the Chilean trade balance improved and recorded a surplus almost every year. The balance deteriorated from 1996 to 1998, though it was not for the stagnation of exports but rather for a hike in imports that can be attributed mainly to the high growth of the Chilean economy. In 1999, the balance improved and recorded again a surplus of US$1,670 million. During the past 14 years, the figure is recognized as being the second highest, though it was yielded by a sharp decrease in imports due to the temporarily stagnated economy rather than by the recovery of exports.

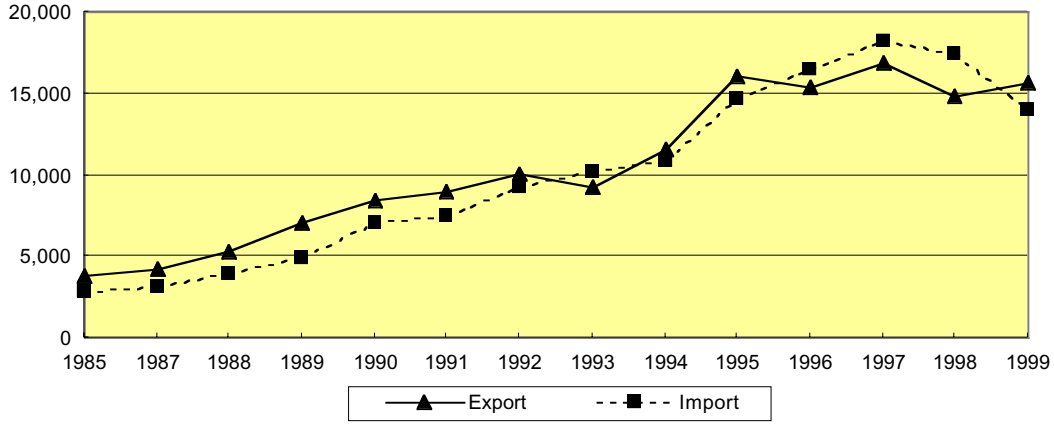


Figure 3.1.1 Chilean Trade during 1985-1999 (US$ millions)

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999; and unpublished data of ProChile.

The breakdown of Chilean exports by destination reveals that the composition is relatively balanced among the Americas (North, Central, and South), Asia, and Europe (Table 3.1.1 and Figure 3.1.2). However, exports to Asian countries sharply dropped in 1998, which caused a considerable decline in total exports. Of the total decrease in exports in 1998, Japan, Korea, and Taiwan together accounted for around 70%.[1] This demonstrates how the Asian economic crisis and the persistently stagnated Japanese economy have adversely affected Chile's export performance. The decrease in exports directed towards the three countries is particularly remarkable in the copper sector (Table 3.1.2), implying that Chilean exports still concentrate in several areas and countries though they have significantly diversified. Therefore, it is necessary for Chile to continue efforts to diversify its exports as it has done during the past ten years. At the same time, Chile must improve its policy for risk management to confront challenges that may originate from dependence on a limited number of products directed towards certain destinations.

[1] ProChile, *Análisis de las Exportaciones Chilenas*, 1999.

The breakdown of Chilean exports by sector and region indicates that exports to Asia and Europe are vulnerable to their economic downturns as minerals occupy a rather high percentage, accounting for 50-60% of total exports to these regions (Table 3.1.3). This is true because mineral consumption is significantly influenced by the business cycle due to the nature of raw materials. In contrast, exports to countries located in the American continent are composed mainly of manufactured goods.

Table 3.1.1 Chilean Exports by Destination (US$ millions)

	1993	1994	1995	1996	1997	1998
America	3,592	4,527	5,565	5,741	6,345	6,229
Asia	2,960	3,861	5,661	5,258	5,891	3,920
Europe	2,639	2,945	4,840	3,996	4,374	4,309
Others	221	310	385	398	404	294
Total	9,414	11,644	16,453	15,394	17,010	14,753

Note: "America" includes the North, Central, and South Americas.
Source: ProChile, *Analisis de las Exportaciones Chilenas* 1999.

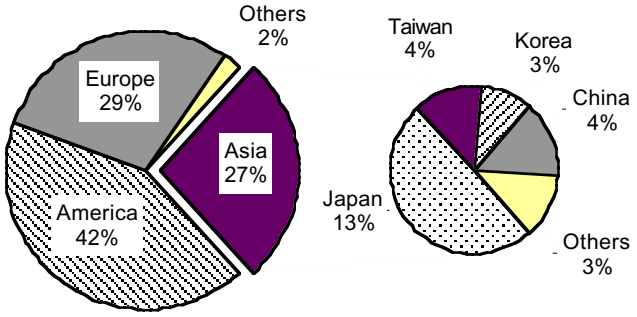


Figure 3.1.2 Chilean Exports by Region and by Asian Country in 1998

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999.

Table 3.1.2 Copper Exports to Major Asian Countries during 1997-1999

Refined Copper (US$ millions)

	1997	1998	1999
Japan	1,225	650	869
Korea	610	299	500
Taiwan	529	365	n.a.
Total	2,364	1,314	n.a.

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999; and country reports for Japan and Korea.

Table 3.1.3 Composition of Exports by Sector and Destination (%) in 1998

	America	Europe	Asia
Agriculture	17	9	5
Minerals	22	61	53
Industry	61	30	42
Total	100	100	100

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999.

Two important features may be observed from the past trends of Chilean exports by type of commodity. First, natural resource-based products account for the majority of Chilean exports. However, “miscellaneous manufactured goods” grew most rapidly, followed by “machines and transport equipment” during the years 1985-1997 (Table 3.1.4). On the other hand, the growth rate regarding the exports of natural resource-based products was rather modest. Among the exports of machines and transport equipment, general machinery exhibited the highest growth. This may have important

implications for Chile's international competitiveness in the machinery sector, where Chile is generally considered less significant due to its relatively small domestic market. In other words, Chile may have increased its potential to expand "general machinery" exports (SITC 72 and 74). Among basic manufactures, the growth of wood-based product exports accounts for the second highest, while the growth of non-ferrous metal exports, mainly copper, is relatively modest.

Table 3.1.4 Chilean Export by Type of Commodity during 1985-1997 (US$ millions)

SITC	Commodity	1985	1990	1991	1992	1993	1994	1995	1996	1997	Growth 87-95: %
	All commodities	3,665	8,522	8,960	9,913	9,308	11,368	15,901	15,406	16,678	13.5
0	Food and live animals	864	1,883	2,183	2,575	2,365	2,729	3,472	3,733	3,634	12.7
1	Beverage and tobacco	20	64	103	150	153	178	203	319	452	29.7
2	Crude materials excluding fuels	1,130	1,737	2,072	2,424	2,244	2,906	4,724	3,947	4,150	11.5
3	Minerals, fuels, etc.	17	43	45	33	16	23	40	29	50	9.4
4	Animal, vegetable oils and fats	36	15	27	18	21	48	76	62	29	-1.8
5	Chemical, related products nes.	96	285	316	329	359	521	541	545	762	18.8
6	Basic manufactures	1,435	3,915	3,331	3,515	3,163	3,810	5,614	5,339	6,111	12.8
7	Machines, transport equip	25	92	109	178	246	312	285	372	428	26.7
8	Miscellaneous manufactures	11	138	210	264	332	345	357	344	378	34.3
9	Goods not classified by kind	27	344	556	424	402	497	586	712	680	30.8
7	Machines, transport equip	25	92	109	178	246	312	285	372	428	26.7
72, 74	Machinery	--	--	--	--	--	57	81	100	136	--
77	Electrical machinery	--	--	17	25	33	37	38	52	57	--
78, 79	Transport equip	16	62	56	102	157	199	148	177	205	23.7
6	Basic manufactures	1,435	3,915	3,331	3,515	3,163	3,810	5,614	5,339	6,111	12.8
62	Rubber related	--	26	33	39	48	53	70	64	81	--
63	Wood related	11	37	33	54	65	79	82	109	116	21.7
64	Paper related	61	98	119	112	141	184	240	238	240	12.1
65	Textile related	--	37	48	57	67	81	94	122	147	--
67	Iron and steel	34	70	78	70	51	58	97	92	96	9.0
68	Non-ferrous metals	1,314	3,598	2,971	3,132	2,738	3,281	4,928	4,563	5,277	12.3
69	Metal manufac-tures nes.	8	28	30	39	39	51	69	111	97	23.1
68	Non-ferrous metals	1,314	3,598	2,971	3,132	2,733	3,261	4,928	4,563	5,277	12.3
681	Silver, platinum, etc.	67	91	59	91	82	114	134	153	127	5.5
682	Copper excluding cement, copper	1,244	3,504	2,901	3,032	2,646	3,160	4,782	4,401	5,142	12.6

Source: UN, *International Trade Statistics Yearbook*, various issues.

Merchandise trade by category demonstrates how the export structure changed during the years 1965-1998 (Table 3.1.5). The share of "commodities" and "manufactures" changed drastically from 1965 to 1990, while it remained relatively constant after 1990. Attention must also be given to the substantial change that occurred between 1970 and 1990. The percentage of "scale- and natural resource-intensive" manufactures dramatically decreased owing to the change in the national industrial policy from import substitution to export-oriented. As part of this change, the Chilean scale-industry lost its international competitiveness due to the relatively small size of its domestic market, while being deprived of a base for survival. Another remarkable change is the steady increase in the percentage of "diffusion of technical progress," though the number is

still small.

Table 3.1.5 Structure of Merchandise Trade by Category during 1965-1998 (US$ millions)

Export	1965	1970	1980	1990	1994	1995	1996	1997	1998
Total commodities	25.2	13.2	19.9	27.5	30.9	31.2	32.1	30.9	30.6
Agriculture	4.2	3.2	8.6	16.5	17.2	14.7	16.3	15.3	17.9
Mining	21.0	10.0	11.2	11.1	13.7	16.5	15.7	15.5	12.7
Energy	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Total manufactures	74.6	86.6	79.5	71.1	67.4	67.4	66.0	67.3	67.4
Traditional [1)]	3.1	3.5	13.2	16.2	20.7	19.4	21.5	20.3	20.6
Scale-intensive [2)]	70.9	82.2	64.3	53.5	43.2	45.7	41.5	43.9	42.8
Durable	0.2	0.6	1.4	0.5	2.0	1.1	1.3	1.4	2.0
Diffusion of technical progress [3)]	0.4	0.2	0.6	0.9	1.5	1.2	1.7	1.7	2.0
Other	0.2	0.1	0.6	1.4	1.7	1.4	1.9	1.8	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total	688	1,234	4,584	8,292	11,060	15,530	14,979	16,296	14,566

Notes: 1) Food, beverages, and tobacco.
2) Petrochemicals, paper, pulp, cement, and basic metals.
3) Machinery, scientific instruments, and fine chemicals.
Source: CEPAL, *Economic Indicators*, November 1999.

Among its principal destinations, Chilean commodity exports are well balanced, while manufactures are mainly directed towards Latin America, the European Union, and the United States (Table 3.1.6). Manufacturing exports to Japan occupied less than 10% of total exports in 1998. Especially, for example, the exports of "diffusion of technical progress" are concentrate in Latin America, while its exports to Japan accounted for only 0.2% in 1998. This implies that Chile's competitiveness in this sector is still limited to Latin America.

Table 3.1.6 Designated Markets for Merchandise Exports by Category in 1998 (%)

Export	Region*	USA	Japan	EU	Asia**	Others	World
Total commodities	16.8	22.1	27.3	19.1	9.3	5.4	100.0
Agriculture	18.8	33.2	19.7	19.9	4.6	3.9	100.0
Mining	13.9	6.4	38.1	18.0	15.8	7.7	100.0
Energy	73.1	0.0	0.0	26.1	0.0	0.8	100.0
Total manufactures	27.8	13.3	8.7	31.2	14.8	4.2	100.0
Traditional	34.9	19.0	16.3	14.4	6.2	9.2	100.0
Scale-intensive	19.6	10.6	5.8	42.1	20.3	1.6	100.0
Durable	84.2	5.5	0.0	0.7	0.2	9.3	100.0
Diffusion of technical progress***	73.0	19.3	0.2	3.6	0.7	3.3	100.0
Other	15.2	8.5	1.6	13.8	1.5	59.4	100.0
Total	24.2	15.9	14.2	27.2	12.9	5.7	100.0

Note: *) Latin America and the Caribbean.
**) Excluding Japan.
***) Including machinery, scientific instruments, and fine chemicals.
Source: CEPAL, *Economic Indicators*, November 1999.

The degrees to which Chilean products have penetrated major markets vary by type of product (Table 3.1.7). While products categorized as SITC 0, 1, 3, 4 and 6 have penetrated worldwide, products of SITC 5, 7 and 8 have entered only Latin American markets. A closer look at exports by commodity clearly shows that agriculture and livestock products, particularly fresh fruits, have well penetrated North American but not Asian markets (Table 3.1.8). The same may be said regarding chemical products and machinery and equipment.

Table 3.1.7 Evolution of Chilean Exports

		SITC			
		0, 1, 2, 3, 4	5	6	7, 8
Local markets	Meet domestic demand	x	x	x	x
Regional markets	Meet Mercosur and other Latin American demand	x	x	x	x
International markets	Meet US or EU demand	x		x	
	Meet Asian demand	x		x	

Table 3.1.8 Chilean Exports by Commodity and by Area in 1998 (US$ millions)

Code	Sector	America	Europe	Asia	Africa	Oceania
100	Agricultural products	1,078	396	196	8	1
200	Minerals	1,389	2,629	2,061	7	5
300	Industrial products	3,704	1,270	1,653	51	53
110	Agriculture, fruits, livestock	1,067	378	164	7	1
120	Forest products	4	7	18	0	0
130	Fisheries	5	10	13	0	0
210	Natural gas and carbon	0	0	0	0	0
220	Copper and Iron	1,077	2,118	1,932	1	1
230	Other minerals	311	511	129	8	4
310	Food products, beverage and tobacco	1,392	660	1,012	10	34
320	Textile, leather goods	163	17	3	0	1
330	Wood products	409	42	260	17	1
340	Paper and paper products	380	276	296	6	2
350	Chemical products	538	162	61	12	10
360	Stone and cement products	47	1	0	0	0
370	Basic metal products	156	59	6	0	2
380	Machinery and equipment	592	47	11	5	1
390	Other manufactured products	22	3	0	0	0
	Total	6,229	4,309	3,920	67	59

Source: ProChile *Analisis de las Exportaciones Chilenas*, 1999.

Exports to Japan are far greater than those to Korea, China, and Hong Kong. When the share of each product category is compared, “minerals” have a larger share of total exports to Korea and China than those to Japan, while “industry” has a larger share of total exports to Hong Kong than those to Japan (Table 3.1.9). Chilean products have penetrated the Japanese market in terms of the number of products and exporters (Table 3.1.10). This situation suggests that Chilean exporters of such products have salenetworks in Japan and, therefore, there is potential to expand exports to Japan by utilizing such already established networks and business connections. The same can be said regarding the Korean and Chinese markets because, when Chile aims to expand its exports, a large number of exporters will prove a great asset.

Table 3.1.9 Chilean Exports to Major Asian Markets by Sector in 1999

Share (%)	Japan	Korea	China	Hong Kong
Agriculture	2.3	3.8	9.9	17.2
Minerals	46.1	79.4	71.6	17.5
Industry	51.5	16.8	18.5	65.3
Total	100.0	100.0	100.0	100.0
Total exports (US$ millions)	2,276	683	359	192

Source: ProChile, country reports for Japan, Korea, China, and Hong Kong.

Table 3.1.10 Degree of Penetration of Chilean Exporters in Asian Countries

		1995	1996	1997	1998	1999
Japan	No. of products	324	333	320	580	309
	No. of exporters	541	554	564	592	576
	Concentration					46.3
Korea	No. of products	196	113	160	86	217
	No. of exporters	161	193	221	147	204
	Concentration					84.1
China	No. of products	46	63	133	156	137
	No. of exporters	83	90	159	258	255
	Concentration					68.2
Hong Kong	No. of products	98	164	94	29	62
	No. of exporters	198	204	204	54	128
	Concentration					87.2
Singapore	No. of products	86	66	61	53	n.a.
	No. of exporters	108	111	105	84	n.a.
	Concentration					n.a.
Taiwan	No. of products	131	113	140	119	n.a.
	No. of exporters	202	211	264	226	n.a.
	Concentration					n.a.
Thailand	No. of products	40	44	43	35	n.a.
	No. of exporters	80	119	118	71	n.a.
	Concentration					n.a.
Indonesia	No. of products	37	34	32	21	n.a.
	No. of exporters	80	78	74	43	n.a.
	Concentration					n.a.
Malaysia	No. of products	37	43	30	41	51
	No. of exporters	66	71	79	70	77
	Concentration					92.1

Note: "Concentration" = % share of top 10 exporters' exports in total exports.
Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999; and country reports for the respective countries.

3.1.2 Secrets of Successful Export Diversification

The most salient feature of Chilean exports during the past 10 to 15 years is diversification, which can be observed in various aspects. Statistics provided by ProChile show the evolution of such diversification (Table 3.1.11). The number of exporters increased from 3,666 in 1987 to 5,847 in 1998 and the number of products and markets also dramatically increased during the same period. The number of exporters for major markets is of particular importance. In 1998, for example, around 1,700 exporters directed their products to the U.S., while around 600 directed products to Japan, a country that is geographically located very far from Chile.

One secret for such successful export diversification corresponds to the activities implemented by ProChile. This program contributes greatly to the diversification of Chilean exports by diminishing export initiation risks, while facilitating small- and medium-sized companies to participate in export business. However, at the same time, several facts as indicated in the statistics should be considered. First, the number of enterprises that leave the export business each year is large, while the number of

enterprises that enter the export business is also great (Table 3.1.12). This is a loss to the Chilean economy because it implies that the Chilean asset for export expansion is eroding. The second fact worth emphasizing is, though Chilean exports have diversified, they still concentrate in certain areas and destinations in terms of export value. Chilean exports suffered geatly from the adverse effects of the Asian economic crisis in 1997-1998. The Chilean export portfolio is well balanced as far as destinations are concerned, but the portfolio of export products is skewed toward natural resource-based products (86% of total exports, Table3.1.13). It is therefore necessary to accelerate diversification. The third and probably most critical fact is that the exports of value added products have not grown so rapidly, while the value enhancement of agro-based products has been particularly slow (Table 3.1.14).

Table 3.1.11 Diversification of Chilean Exports

(1) Number of Products, Markets and Exporters

	Products	Markets	Exporters
1975	200	50	200
1987	1,400	120	3,666
1988	1,487	121	3,461
1989	1,490	121	3,465
1990	2,300	122	4,100
1991	3,275	143	5,384
1992	3,433	155	5,453
1993	3,507	151	5,469
1994	3,622	141	5,844
1995	3,647	157	5,817
1996	3,890	168	5,839
1997	3,756	170	5,767
1998	3,828	172	5,847

(2) Number of Exporters by Destination in 1998

America		Europe		Asia	
Argentina	1,773	Germany	539	Japan	592
USA	1,697	England	483	China	258
Peru	1,369	Spain	464	Taiwan	226
Bolivia	1,187	Holland	406	Korea	148
Brazil	868	France	386	Singapore	84
Uruguay	653	Italy	357	Thailand	71
Paraguay	632	Belgium	210	Malaysia	70
Ecuador	597	Denmark	135	Hong Kong	55
Mexico	555	Sweden	124	Israel	44
Colombia	519	Switzerland	116	Indonesia	43
Total	5,029	Total	1,641	Total	885

Source: ProChile, *Analisis de las Exportaciones Chilenas* 1999.

Table 3.1.12 Changes of Chilean Exporters during 1993-1998

	New entry	Going-out	Addition	Constant	Total
1993	2,098	2,047	51	3,398	5,496
1994	2,239	1,891	348	3,605	5,844
1995	2,066	2,093	-27	3,748	5,813
1996	2,094	2,102	-8	3,711	5,805
1997	1,988	2,026	-38	3,779	5,767
1998	2,007	1,927	80	3,840	5,847

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999.

Table 3.1.13 Portfolio of Chilean Exports in 1998

(1) Type of product		(2) Destination		(3) Exporters by sales	
Agriculture, fisheries, and livestock	11	America	42	- 100,000	3,379
Minerals	44	Europe	29	100,000 - 1 million	1,491
Industry	45	Asia	27	1 million- 10 millions	745
(of which natural-resource-based)	(31)	Others	2	10 millions - 100 millions	204
				100 millions -	21

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999.

Table 3.1.14 Chilean Value Added Exports during 1985-1997

SITC	Commodity	1985	1990	1991	1992	1993	1994	1995	1996	1997
0	Food and animals	864	1,883	2,185	2,575	2,368	2,729	3,472	3,733	3,634
1	Meat and preparations	8	20	32	29	23	36	27	33	61
3	Fish and preparations	116	467	572	696	738	806	1,021	1,042	1,216
4	Cereals and preparations	10	56	46	66	67	75	94	123	139
5	Vegetables and fruits	436	900	987	1,137	1,042	1,170	1,374	1,568	1,388
585	Juice of vegetables and fruits	5	26	62	76	50	47	96	126	86
	(% rate of 585 in 5)	1.1	2.9	6.3	6.7	4.8	4.0	7.0	8.0	6.2
7	Coffee, tea, cocoa, spices	--	--	--	--	--	31	47	62	61
9809	Miscellaneous food preparations	--	--	--		--	53	155	166	90

Source: UN, *International Trade Statistics Yearbook*, various issues.

3.1.3 Keys to Export Expansion

Based on the above analysis of the Chilean export statistics, as well as interviews with people concerned, the Study Team proposes the following keys to realize export expansion.

(1) Strengthen risk management

ProChile has so far succeeded to diminish export initiation risks, though it is still necessary to strengthen risk management to maintain the attained export expansion. Though export risks are to be controlled principally by each exporter, there exist some areas to be managed by the government. One example is to provide exporters with information on the situation of supply and demand regarding world markets of major Chilean export products such as copper, fresh fruits, and salmon. Compared with large-sized exporters, generally speaking, small- and medium-sized exporters require such information more since it is not so easy for them to collect it independently. Without proper risk management, it may become difficult to maintain the current level of exports even for these competitive products.

Risk management is also needed in areas related to environmental management. Since Chilean exports are concentrated in natural resource-based products and foodstuffs, Chilean exports will be immanently, and in fact have begun to be, affected by increasing environmental concerns in international communities. To avoid deterioration in exports due to inappropriate environmental management, it is essential to maintain a close eye on related issues and to manage risks as much in advance as possible.

(2) Follow up exporters' performance

As stated in Section 3.1.2, the number of enterprises leaving the export business is quite large. If they had remained in the business, Chilean exports would have increased at a greater rate. In this regard, ProChile should be more sensitive to investigate the

reasons for such failure of the export business. This task may appear to have little importance but, as time continues, it will provide a good insight into the Chilean export business. For example, factors regarding reasons for withdrawal from the export activity could become a hint for export expansion.

A valuable effort in this regard is the New Exporters Project, introduced by ProChile in 2001. This project attempts to identify and support those SMEs that have high potential to become consistent exporters. It aims at transforming 1,000 such high-caliber SMEs nationwide into full-fledged exporters by 2005.

(3) Assist exporters to design marketing strategies

In 1998, 5,840 businesses realized exports (Table 3.1.15), while their problems vary according to the manner by which their export business has evolved. Among the 5,840 exporters, 21 that form part of the top tier are highly experienced in the export business and have various means of know-how. For this reason, they may not feel the need to have special assistance from the government or anyone else. The 204 exporters that form part of the second top tier are also well experienced in the export business and are knowledgeable regarding how to expand their exports, though they may still require additional support from the government on specific matters. Their exports have penetrated Latin American and U.S. markets, but in order to enter other international markets, they may need some support. The 745 exporters that form part of the third tier may be beginner-exporters and if this is the case, they will still require different kinds of governmental support in order to expand their exports. Priority should be given to the approximately 1,000 exporters in the second and third tiers because they are likely to be exporters that have a high potential for export expansion. It is advised that ProChile extends assistance to exporters in order to design export expansion strategies in line with their export experiences and positions. In such a way, it is important to begin the organization of meetings between ProChile and "second tier" and "third tier exporters."

Table 3.1.15 Exporters by Export Value in 1998

Tier	Export value (US$)	Number of enterprises	Share (%)	Value (US$ millions)	Share (%)
5	- 100,000	3,379	57.9	77	0.5
4	100,000 - 1 million	1,491	25.5	545	3.7
3	1 million- 10 millions	745	12.8	2,369	16.1
2	10 millions - 100 millions	204	3.5	5,197	35.2
1	100 millions -	21	0.4	6,568	44.5
	Total	5,840	100.0	14,756	100.0

Source: ProChile, *Analisis de las Exportaciones Chilenas*, 1999.

(4) Solve phytosanitary problems quickly to expand fresh fruit exports to Asia

Chile is strongly competitive in the world fresh fruit market, while it has been exporting various varieties internationally apart from Asian countries (Table 3.1.16). The reason why Chile has not successfully penetrated Asian markets is due to strict phytosanitary control. The current phytosanitary problems that Chilean exporters face, as shown by country in Table 3.1.17, clearly indicates that Chile can expand its fresh fruit exports to Asia once it solves such challenges. This has been testified by the success story regarding the export of lemons and oranges to Japan, as well as the export of vegetables.

(5) Accelerate R&D activity to cultivate new kinds of fish and shellfish

Chilean fisheries have demonstrated on an international level that the country has vast potential to farm fish and shellfish. Following salmon and scalops cultivation, the Chilean fishery industry is now engaged in research and development to farm abalone, turbot, and so on. However, it will take some years to farm successfully on a commercial basis, in order to produce large enough quantities to export. Considering the nature of research and development, it is advised to start, or speed up existing projects as soon as possible.

Table 3.1.16 Fresh Fruit and Vegetable Exports by Destination

Fruit	USA	Europe	L. America	Far East	Middle East	Others	Total
Table grapes	48.5	34.0	7.7	7.3	2.5		100.0
Green apples	17.0	63.3	11.9	1.3	6.3	0.2	100.0
Red apples	2.7	31.4	33.3	9.8	21.4	1.4	100.0
Pears	18.0	59.8	13.4	2.7	6.1		100.0
Asian pears	56.1	23.1	10.9	8.0	1.9		100.0
Nectarines	47.5	24.2	23.8	1.4	3.1		100.0
Peaches	52.1	6.1	41.6	*	0.1	0.1	100.0
Plums	34.2	32.7	24.7	5.5	2.9		100.0
Apricots	47.2	11.9	38.0	*	2.7	0.2	100.0
Kiwi fruits	28.6	36.2	30.6	4.2		0.4	100.0
Avocado	97.5		2.5				100.0
Lemons	56.6	9.6	1.0	27.6	5.2		100.0
Oranges			51.2	48.8			100.0
Raspberries	77.2	21.4	0.4	0.3		0.7	100.0
Strawberries	*	*	85.7	7.8	*	6.5	100.0
Blueberries	87.4	8.8	0.1			3.7	100.0
Custard apples	80.4	0.5	18.5	0.6			100.0
Persimmons	58.7	20.4	12.4	2.3	6.2		100.0
Asparagus	80.2	17.3	1.3			1.2	100.0
Onions	18.3	71.0	7.5		3.2		100.0

Note: * = Included in "Others."
Source: ProChile, *Chile: Nature at Its Best*.

(6) Explore Asian markets by paying attention to cultural similarities

Products that have penetrated the Japanese market will potentially be exported to other Asian countries whose cultures, ways of living and consumption habits are similar to those of Japan. Such products, as listed in Talbe 3.1.18, have potential to be exported to Asian markets. The first step is to investigate why a particular product sells well in one market but not in another despite apparent similarities.

(7) Identify types of competitive non-natural-resource-based manufactures

The recent export expansion of Chilean general machinery suggests the possibility that there exist other manufacturing areas that are internationally competitive. In this case, it is not appropriate to categorize them by the traditional industrial classification. This is because their competitiveness may be related to the business type, or the way of doing business by which those products are manufactured and marketed rather than the nature of the industry to which they belong. In order to diversify Chilean exports towards non-traditional areas, the following deemed necessary: 1) identify product areas; 2) analyze sources of competitiveness; 3) generalize them into a product and manufacturing concept; and 4) to design policies and strategies for export expansion of such products.

Table 3.1.17 Phytosanitary Problems for Chilean Fresh Fruits

Product	Canada	USA	Mexico	EU	Argentina	Brazil	Korea	Japan	China	Taiwan
Cherries, prunes, peaches, nectarines	A	A	C	A	A	A	B	B	B	C
Custard apples	A	A	A	A	A	A	B	C	B	C
Apricots and pears	A	A	C	A	A	A	B	B	B	F
Raspberries and blackberries	A	A	A	A	A	A	D	C	D	C
Lemons	A	A	D	A	A	A	B	C	B	F
Apples	A	A	C	A	A	A	B	B	C	C
Avocados	A	A	A	A	A	A	B	C	B	C
Grapes and kiwi fruits	A	A	A	A	A	A	C	C	C	C
Garlic	A	A	A	A	A	A	D	C	E	C
Artichokes	A	A	A	A	A	A	D	C	A	C
Onions	A	A	A	A	A	A	A	C	E	C
Tomatoes	A	A	A	A	A	A	B	C	B	C
Almonds and nuts without shell	A	A	A	A	A	A	A	C	A	A
Raisins and dry prunes	A	A	A	A	A	A	A	C	A	A
Strawberries	A	A	A	A	A	A	A	C	A	A

Notes: A: Access permitted.
B: Access not permitted due to insects.
C: Access permitted for some regions.
D: Ask permission before access.
E: Access on negotiation.
F: Access not permitted.

Source: Ministerio de Agricultura, Comite de Inversiones Extranjeras, Fundacion Chile, *Chile Un Pais para Invertir*.

Table 3.1.18 Import Structures among Asian Countries in 1999 (US$ millions)

	Japan	Korea	Taiwan	China & Hong Kong
Frozen trout	131			
Fishmeal	98	2	53	21
Frozen grouper and cod	54			5
Frozen trout fillets	35			
Grapes		7	1	23
Wood chips	133			
Frozen salmon	276		1	
Globefish	24			
Wine	21		1	1
Fresh apples			16	3

Note: Numbers for Taiwan are as of 1998.

Source: ProChile, country reports for Japan, Korea, China, and Hong Kong.

3.2 Foreign Direct Investment in Chile

3.2.1 Historical Overview and Recent Performance

Total foreign direct investment (including that under Chapter XIX and others) to Chile jumped in 1986 owing to the introduction of a foreign debt-equity swap program in the wake of a foreign debt crisis (Figure 3.2.1). The second wave came in 1990, when portfolio investment via ADR was introduced, and the third was the movement of privatization for public utility and infrastructure.

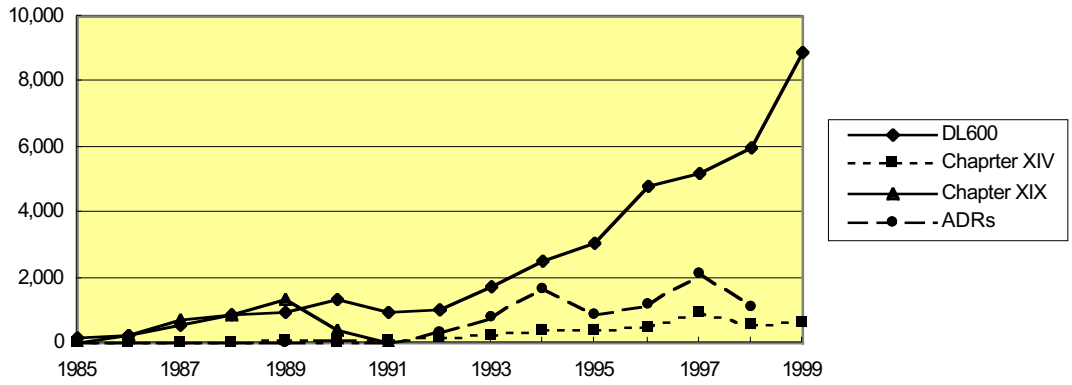


Figure 3.2.1 Foreign Investment in Chile by Mechanism of Capital Inflow in 1985-1999

Note: In US$ millions. Materialized base.
Source: Foreign Investment Committee

Foreign direct investment in Chile under DL600 increased remarkably after 1993, while it remained rather stable in 1974-1992 (Table 3.2.1). Cumulative investment during the period of 1974-1992 accounted to US$5,111 million, while investment in 1997 alone of US$5,235 million exceeded the total investment during 1974-1989. Principal contributors to these figures were the mining, services, public utility, and manufacturing sectors (Figure 3.2.2), while increase in manufacturing was rather modest. However, investment in manufacturing gradually expanded together with investment in traditional Chilean industries such as agriculture, forestry and fisheries. It is worth noting that privatization of public utilities and infrastructure encouragd a new wave of foreign direct investment to Chile.

Table 3.2.1 Foreign Direct Investment (DL600) in Chile by Sector in 1974-1999

(US$ millions)

	Total	Service	Manufac-turing	Mining	Agricul-ture	Const-ruction	Transport & telecom	Forestry	Fisheries	Public utility
1974--89	5,111	1,401	1,145	2,400	79	123	304	10	17	0
1990	1,314	372	104	797	8	5	6	14	5	0
1991	982	208	238	440	14	32	32	10	5	0
1992	998	218	121	568	11	23	47	6	1	0
1993	1,729	254	473	883	15	21	54	22	1	2
1994	2,518	234	314	1,756	22	37	73	12	53	12
1995	3,039	366	329	1,709	9	59	412	55	43	54
1996	4,823	1,958	916	998	16	27	478	19	21	386
1997	5,235	1,197	599	1,705	14	113	170	28	11	1,394
1998	5,997	2,008	561	2,394	12	268	211	37	8	495
1999	8,908	1,909	759	1,068	21	216	353	19	1	4,559
Total	40,654	10,125	5,559	14,718	221	924	2,140	232	166	6,902

Note: Materialized base.
Source: Foreign Investment Committee

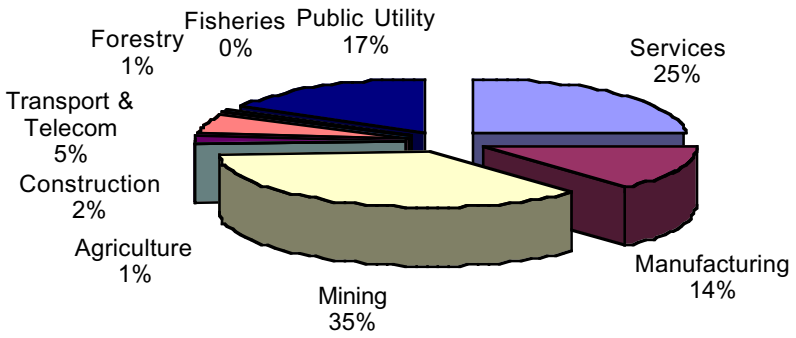


Figure 3.2.2 Sectoral Distribution of Foreign Direct Investment (DL600) in Chile in 1974-1999

Source: Foreign Investment Committee

By region, and reflecting the above-mentioned trends according to industry, those regions with the greatest foreign investment were Regions I, II, III, and IV, and the Metropolitan Region (Table 3.2.2). According to zone, the North Zone and the Metropolitan Region should also be included (Figure 3.2.3). Multiregional investment was also large with a steady rate of increase especially in the latter half of the 1990s.

Table 3.2.2 Evolution of Foreign Direct Investment by Region (DL600)

(US$ millions)

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Multi-regional	Metro-politan	Total
74--89	67	665	67	210	87	20	85	54	8	94	6	303	732	2,705	5,110
1990	9	402	225	12	-	1	6	12	33	12	-	3	97	496	1,314
1991	5	105	72	11	3	4	5	52	16	62	0	1	200	441	982
1992	274	43	83	6	14	2	26	20	6	15	2	1	91	410	998
1993	358	91	305	4	6	7	79	41	4	28	1	25	170	603	1,729
1994	180	1,023	245	184	9	22	62	44	3	10	1	5	215	506	2,518
1995	366	1,024	127	65	9	6	31	27	1	52	94	58	559	615	3,039
1996	247	646	100	15	3	127	9	91	3	6	4	218	1,101	2,247	4,823
1997	855	574	101	176	18	8	8	48	1	10	20	145	1,820	1,445	5,235
1998	611	1,006	25	461	20	2	53	80	-	36	23	155	1,066	2,452	5,997
1999	18	90	87	495	602	6	29	75	-	19	-	103	4,910	2,466	8,908
Total	2,997	5,674	1,441	1,644	776	210	397	551	80	348	155	1,020	10,967	14,392	40,660

Note: Materialized base.
Source: Foreign Investment Committee

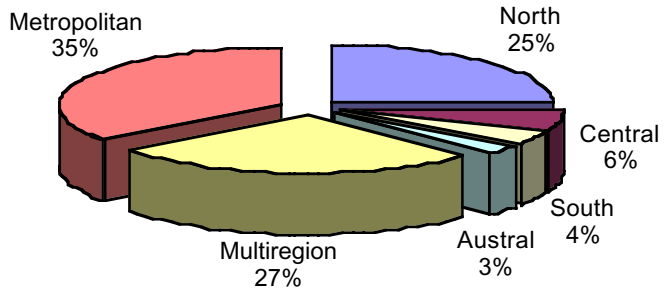


Figure 3.2.3 Zonal Distribution of Foreign Direct Investment (DL600) to Chile in 1974-1999

Note: North = Regions I, II, and III; Central = Regions IV and V; South = Regions VI, VII, VIII, IX, and X; and Austral = Regions XI and XII.
Source: Foreign Investment Committee

By country, North America and Europe hold high positions, while Japan is ranked sixth, following the United States, Spain, Canada, the United Kingdom, and South Africa (Table 3.2.3). A point worth mentioning when one considers foreign direct investment is the long distance from Japan to Chile. It should also be noted that Argentina is ranked number twelve, though the amount of investment is far smaller than the top ten countries.

Table 3.2.3 Foreign Direct Investment (DL600) of Major Investors by Country

(US$ millions)

	1974-1994	1995	1996	1997	1998	1999	Total
USA	4,791	1,550	2,263	934	1,339	1,734	12,614
Spain	734	55	489	1,497	897	4,578	8,253
Canada	2,293	575	568	814	949	450	5,651
UK	801	90	231	200	532	310	2,167
South Africa	241	219	74	475	329	40	1,381
Japan	492	25	147	164	323	224	1,378
Australia	556	27	108	181	385	6	1,265
Holland	263	39	121	362	168	182	1,138
France	203	26	65	62	137	608	1,104
I. Cayman	132	3	12	194	86	214	643
Finland	237	120	59	12	83	2	517
Argentina	169	41	96	59	96	47	511
Switzerland	247	4	46	45	103	43	491
Bermuda	123	38	1	10	240	41	456
Italy	48	5	324	18	5	51	453
Belgium	17		79		103	104	304
Germany	115	56	-6	25	24	69	285
Brazil	123	19	16	25	25	47	258
Int'l Organizations	146	11	5	12	33	0	208
Total	12,661	3,041	4,822	5,230	5,973	9,086	40,813

Note: Materialized base.
Source: Foreign Investment Committee

The investment strategy of each country is reflected in the investment by country, i.e., which country invests in what industry (Table 3.2.4). The United States invests in most industries, while other countries invest in more specific areas, which differ according to country (Table 3.2.5). Spain and France concentrate investment in public utility and services, while Canada and the United Kingdom invest mainly in industry and mining. Japan, South Africa, Australia, and Finland concentrate investment in mining. Japan's investment in public utility and infrastructure is very small, most likely because public utility companies have monopolized such fields in Japan and thus Japanese corporations do not possess much management know-how in these areas. It should be noted, however, that Japanese corporations have begun to show some interest in these fields along with the privatization of the utility industry in Japan. One example is investment directed at independent power producers in foreign countries.

Japan concentrates investment in the mining sector, while it is ranked fifth and third for fisheries and forestry, respectively, though the investment amount is not compatible to that of mining. It is clear that Japanese corporations regard Chile as an important country for their investment in these fields (Table 3.2.6). Additionally, China has shown interest in investment in the services and forestry sectors, while Korea in industry (Table 3.2.7).

Table 3.2.4 Investment (DL600) by Country and Industry in 1974-1999

(US$ millions)

	1974–1999	Agricul-ture	Const-ruction	Electricity, gas, water	Industry	Mining	Fisheries	Services	Forestry	Transport & telecom.
USA	12,810	58	34	1,115	1,614	5,589	16	3,251	81	1,048
Spain	8,254	1	542	4,576	160	2		2,636		332
Canada	5,607	8	1	167	1,120	3,909	18	339		41
UK	2,046	16	1	8	454	1,257	6	270		30
South Africa	1,381				33	1,303	4	38		
Japan	1,375	4	1		185	1,029	7	113	28	4
Australia	1,265			26	57	1,153		26		1
Holland	1,137	7			374	12	1	738		1
France	1,116	6	114	554	161			263		15
I. Cayman	631	5	1	37	19	2		420		144
Finland	518				1	453	62			
Argentina	511	2	29	186	159			96		36
Switzerland	491	8	27	14	249			165	21	4
Bermuda	456	1			113	7	1	312		19
Italy	453	7	2		51			8		383
Belgium	304	1		253	23			26		
Germany	407	23	19		103	5	1	244	6	3
Brazil	262		54	3	130			70		3

Note: Materialized base.
Source: Foreign Investment Committee

Table 3.2.5 Investment Behavior by Country (DL600)

Type	Areas	Country
1	All industry	USA
2	Public utility, services	Spain, France
3	Industry, mining	Canada, UK
4	Mining	Japan, South Africa, Australia, Finland
5	Industry, services	Holland
6	Services	I. Cayman, Bermuda

Table 3.2.6 Major Investors by Industry (DL600)

(US$ millions)

Agriculture	Construction	Electricity, gas, water	Industry	Mining	Fisheries	Services	Forestry	Transport & comm.
USA(58)	Spain (542)	Spain (4,576)	USA (1,614)	USA (5,589)	Finland (62)	USA (3,251)	USA (81)	USA (1,048)
Luxembourg (33)	France (114)	USA (1115)	Canada (1120)	Canada (3,909)	Norway (38)	Spain (2636)	China (38)	Italy (383)
Germany (23)	Brazil (54)	France (554)	UK (454)	South Africa (1,303)	Canada (18)	Holland (738)	Japan (28)	Spain (332)
UK (16)	Panama (38)	Belgium (253)	Holland (374)	UK (1257)	USA (16)	Cayman (420)	NZ (23)	Cayman (144)
NZ (14)	USA (34)	Argentina (186)	Switzerland (249)	Australia (1,153)	Japan (7)	Canada (339)	Austria (21)	Canada (41)
				Japan (1,029)				

Table 3.2.7 Investment by Asian Countries (DL600)

(US$ millions)

	Agriculture	Construction	Industry	Mining	Fisheries	Services	Forestry	Transport & comm.	Total
China	0.4	1	0.3		0.2	44	38		84
Korea			22		0.4	0.5	0.5	1	24
Japan	4		185	1029	7	113	28	4	1,375
Malaysia		18				4			22
Singapore	1					2			4
Taiwan			0.3			0.2			0.5

Source: Foreign Investment Committee

3.2.2 Characteristics of Foreign Investors and Their Views of Chile

A. Japanese Investors (Present and Potential)

Japan was the sixth largest investor in Chile following the United States, Canada, Spain, the United Kingdom, and South Africa but accounted for only 4.5% of total foreign

direct investment in Chile in 1998. As part of this study, a questionnaire survey was conducted in order to identify reasons for Japanese corporations' relatively non-aggressive attitude towards investment in Chile and to discover clues to increase such investment in the future.

Forty-two Japanese corporations responded to the questionnaire.[1] As for investment orientation of the corporations, about half treat domestic and foreign investment as equals and will consider new investment if a worthy opportunity presents itself. In addition, 40% of these corporations are generally interested in investing in Asian countries, while only 18% are interested in investing in Latin America. As for sectors, over 50% are interested in investing in the manufacturing sector followed by natural resource development, services, and infrastructure.

Among the 42 corporations that responded, 22 were interested in or considering some kind of investment in Chile in the future. Their motives for such a decision are to secure natural resources (31%), to expand business opportunities (23%), to develop export-oriented investment (16%), to secure a market share in Chile (11%), to gain profit in Chile (11%), and to establish a trade base in Latin America (11%). To further understand the perspectives of the corporations regarding investment in Chile, interviews were conducted with 13 corporations including two trading companies, three automobile/automobile parts manufacturing companies, one paper manufacturing company, one building material manufacturing company, two mining companies, and four food-related companies. An overall impression stemming from the interviews demonstrates that small- and medium-sized corporations show a relatively higher interest and flexibility in investing in Chile compared to larger-sized corporations. Their views regarding investment are not limited to traditional areas such as mining, but rather there is interest to seek alternative investment opportunities.[2]

B. Other Investors

The Study Team conducted an interview survey regarding how foreign investors in Chile assess the Chilean investment environment by sub-contracting a Chilean consulting firm to complete the task. Though the number of investors interviewed is not so large due to time and budget constraints, the results of the survey reveal some interesting hints for the promotion of investment in Chile. Results are demonstrated in Table 3.2.8

All of the investors have favorably assessed the Chilean investment environment. They have listed the following reasons regarding why they chose to invest in Chile as opposed to other countries. Most of them have cited political and economic stability as a decisive factor for their choice.

[1] Questionnaire survey was distributed to 260 Japanese corporations in Japan. For the detailed results, see Appendix A.

[2] A summary of these interviews is presented in Appendix B.

Table 3.2.8 Foreign Investors Interviewed in Chile

	Country of Origin	Area of Investment
A	Canada	Construction
B	USA	Publicity and media services
C	USA	Products for mining industry
D	Venezuela	Construction
E	Canada	Forestry
F	Italy	Household appliances
G	USA	Steel products for mining trucks
H	Spain	Tourism
I	Cayman	Electrical goods
J	Canada	Construction

- Political and economic stability in Chile
- Suitable local partners
- Availability of raw materials (e.g., wood)
- Low level of corruption
- Adequate investment legislation
- Largest market in Latin America (for certain kinds of products)
- Low level of crime, as compared with other countries
- Quality of human resources
- Business-friendly taxation system

They assess the following as positive aspects of Chile as a host country.

- Relative economic and political stability
- Quality of human resources
- Low level of corruption
- Stability of and respect for basic rules of investment
- Favorable/consolidated business environment
- Government collaboration and incentive policies
- Competitive systems
- Stability and simplicity of economic policies and regulations

On the other hand, there is a negative feeling regarding the following aspects.

- Underdeveloped financial system
- Unsophisticated and over-regulated financial markets
- Excessive centralization of decisions in Santiago, especially in terms of suppliers of goods and services and banks
- Limited market size
- Excessive bureaucracy
- Inadequate incentive schemes for SMEs
- Distance from major markets, in terms of both supply and demand
- Increase in crime rates
- Insufficient and/or underdeveloped infrastructure

The majority of the investors expect Chile to receive increased foreign investment in the future because of favorable economic and political conditions. On the other hand, some have suggested that the Chilean government must improve infrastructure and introduce new investment promotion policies. They listed the following sectors as prospective recipients of future investment.

- Industry where the availability of natural resources is important or whose market size is large enough for an international company to operate

- Natural resource-based industries such as forestry and mining
- Services (e.g., finance, management, engineering, etc.)
- Services for mining
- Infrastructure
- Those related to new technologies (e.g., computer software, biotechnology, etc.)

3.2.3 Key to Investment Promotion

The following keys to investment promotion are derived mainly from: 1) the analysis of past trends of foreign direct investment in Chile; 2) the questionnaire survey and interviews with Japanese corporations conducted in Japan; 3) interviews with Japanese corporations operating in Chile; and 4) an interview survey of other foreign corporations based in Chile. In addition, concerning recent investment behavior of Japanese corporations, sectors that seem to have potential for Japanese investment in Chile are the mining, food processing, fish and shellfish cultivation, forestry-related industries, and some commercial sectors.[3]

(1) Reinforce Chile's function as the "gateway" to South America from Asia

Chile's geographic position as a gateway to South America from Asia and the Pacific is attractive to Japanese investors. This is because its position can encourage various business opportunities not only in the commercial sector but also in the industrial sector such as processing industries of raw materials for export. When considering investment in Chile, Japanese corporations still hold concerns regarding the small size of Chile's domestic market. This is because they are accustomed to invest principally to secure market shares in host countries. The "gateway" concept will be useful to alleviate this concern and meet their demand regarding the market size of host countries.

Chile's function as a "gateway" will be substantially strengthened when products cultivated or manufactured in Asia are increasingly shipped to Brazil or Argentina through Chilean ports, and when Asian corporations based in Chile extend their business to Brazil or Argentina or both. This will also be true when products cultivated or manufactured in Brazil or Argentina are shipped to Asia through Chilean ports. Probably, a greater percentage of Chilean people view their country as a gateway to Asia from South America rather than as a gateway to South America from Asia. In order to attract more investment from Asia, however, it is important to reinforce the latter function, i.e., the gateway to South America from Asia.

It should be emphasized that the function of an international gateway is not merely to provide transport and other infrastructure but, more importantly, to facilitate business activities through furnishing various kinds of services and public institutions, exactly as Singapore does in Asia. Such services include finance, information systems, fair legal systems, transparent public policy, lower level of corruption, public security and safety, higher education, and social and cultural events including quality tourism. Chile is potentially equipped with these services and public institutions but must examine how to realize such a potential in the near future to attract additional foreign investment from Asia.

[3] For the evolution of foreign direct investment by Japanese corporations, see Appendix C.

(2) Promote cross-investment between Chile and Argentina

Japanese corporations may participate in Chile-Argentina cross-investment projects, e.g., special purpose companies established by Chilean and Argentine corporations. Owing to the recent improvement of diplomatic relations between the two countries, Argentine corporations are becoming more important investors to Chilean corporations with hopes to utilize the latter's sales networks in Asia, i.e., Chile as a gateway to Asia. Chilean corporations are also investing in Argentine corporations with a view to utilize the latter's sales networks in Europe, i.e., Argentina as a gateway to Europe. Participation in such cross-investment projects can be an alliance strategy for Japanese corporations and should be encouraged to attract additional Japanese investment to Chile.

(3) Provide information on specific investment projects rather than on general business environment

Chile's consolidated investment environment is relatively well known among Japanese corporations, but Japanese corporations require information on potential investment projects and partners rather than on Chile's general business environment. Japanese corporations strongly feel it necessary to diversify their business while strengthening their core activity. Foreign direct investment is one possible measure to achieve such a goal. They have become more aggressive towards foreign direct investment and thus are examining those projects that may bring high return. Their concern is where investment opportunities exist. Countries that solicit for foreign investment tend to appeal to potential investors by emphasizing their favorable business climate. However, it is crucial to provide more detailed and specific information to materialize investment.

(4) Strengthen approach directed at Japan's medium- and small-sized enterprises

Chile should seriously consider how to approach to medium- and small-sized enterprises (SMEs) in Japan in order to gain additional Japanese investment in new sectors. It will take some time to materialize investments, while the amounts may be small compared to investment by large enterprises since they generally do not have ample financial resources. However, their ideas towards investment are not conventional but often innovative, while decision-making is fast and flexible. While a percentage of SMEs interviewed in Japan are interested in investing in Chile, the Chilean approach in return has been limited. Therefore, it is advised to organize periodical investment conferences not only in large cities such as Tokyo and Osaka, but also in some local cities. In this way, Chile will become familiar with the concerns of SMEs in Japan, as well as in what areas they may be interested in investing.

It should also be noted that the need for more detailed and specific information on investment opportunities as described in (3) was stressed especially by SMEs during the interviews conducted in Japan.

(5) Conduct investment survey periodically

The Study Team has realized that the questionnaire survey on potential Japanese investors is useful not only to learn whether they are interested in investing in Chile, but

also to inform them where investment opportunities exist in Chile. However, the usefulness of such a survey will be reduced unless it is conducted periodically, e.g., at least once every two years. The cost to conduct the survey is not so high once its program is already established.

(6) Develop various investment schemes by financial engineering

New investment schemes should be developed and designed by financial engineering in order to promote foreign direct investment in Chile for two reasons. First, it seems rather difficult for Japanese corporations to invest in Chilean industries at the grass-root level. Second, it also seems to be difficult to invest in existing corporations because Chilean corporations, except public ones to be privatized, are generally reluctant to invite foreign investors as their major shareholders. This appears especially true for family-run businesses. Therefore, it would be useful to research new investment schemes, such as investment through redeemable preferred stocks, special purpose companies, and investment funds.

(7) Strengthen clusters of natural resource based industries

It is necessary to maintain Chile's competitiveness in natural resource-based industries by strengthening their clusters. Japanese potential investors share the view that Chile is endowed with abundant, high quality natural resources and that the strength of industrial clusters based thereon is an important factor to convince them to invest in Chile.

(8) Maintain and enhance competitiveness of fresh foodstuffs

Japanese food processing and trading companies see foodstuffs as a potential sector that may gain increased export-oriented investment from Japan in the future. By taking advantage of seasonal differences, some Japanese corporations are already importing fresh fruits and seafood from Chile. However, Chile must maintain and enhance its competitiveness in terms of quality and production costs in order to attract additional investment because other countries in the Southern Hemisphere, such as South Africa, Australia, and New Zealand, also have a similar seasonal advantage.

(9) Accelerate TodoChile's activity

The program, TodoChile, is a joint effort between the government and the private sector to promote investment in the regions outside of the metropolitan region. It is characterized as not being limited to foreign investment (see the next page for its outline), while its activity must be accelerated in order to gain increased investment in the regions. Upon the selection of priority sectors and budget allocation, CORFO's regional offices must formulate effective and feasible plans of activities for the promotion of investment in their respective regions. Promotion tools, such as investor's guides, must be attractive and easy for Asian investors to understand and distributed more vigorously through those channels accessible to investors (e.g., ProChile's overseas offices and JETRO).

TodoChile:
Program of Investment Promotion and Attraction to the Regions[4]

In 1998, CORFO, in collaboration with various private and public organizations related to economic development, began to articulate the Program of Investment Promotion and Attraction to the Regions, TodoChile, with hopes to reduce the disparity between the Metropolitan Region and other regions and thus to increase the country's competitiveness as a whole.

This program is an unprecedented effort in Chile in that the government and the private sector have, for the first time, agreed to work towards a common strategy to attract investment towards higher value added sectors of the regions, focusing not only on investment promotion but also on the improvement of the investment environment. Since March 1997, when the Chilean government decided to provide decisive support for regional development through the Regional Productive Development Policy, CORFO has structured this program and ensured the participation of regional governments, ProChile, the Foreign Investment Committee, the Ministry of Economy, the Commerce and Production Confederation, and the Manufacturing Promotion Society (SOFOFA), as well as universities and entrepreneurs at the regional level. Funds committed to this program are presented below.

Funds Committed to TodoChile in 1998-2001

Entities	Million pesos
National Fund for Regional Development (FNDR)	695.5
CORFO	276.0
Prochile	27.0
United Nations Development Program (UNDP)	22.0
Total	1020.5

The program is implemented using three steps: 1) the selection of a regional product considered to have a comparative advantage by local public and private organizations; 2) the designing and execution of a promotion strategy to provide local, national, and foreign investors relevant information regarding investment opportunities in each region; and 3) the provision of financial and technical support, both by the government and the private sector, to approved investment projects. Sectors that are given greater priority by each region are as shown below.

Priority Sectors by Region for TodoChile

Economic Sectors	**Region**											
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Agro-Industry	*		*	*	*	*	*	*	*			
Biotechnology								*				
Development of Knowledge/Culture					*				*			
Floriculture									*			
Infrastructure							*					
Manufacturing Industry (Technology)					*							
Metal Mechanical Industry								*				
Wood Processing Industry								*	*			*
Mining		*	*	*								
Fisheries and Agriculture		*	*	*						*	*	*
Wastes Recycling						*						
Services	*	*										
Seeds						*			*			
Tourism	*	*	*	*	*	*	*	*	*	*	*	*
Port Maritime					*							
Viniculture							*					

During 1999, there was a portfolio of 56 investment projects, of which 36 were materialized with total investment accounting to US$21,045,609, creating 1,040 jobs. Year 2000 saw an even stronger surge, with investment commitment reaching US$100 million.

[4] Based on information provided by CORFO.

3.3 Asian Markets and Investors: Survey and Recommendations

3.3.1 Outline of the Asian Surveys

To investigate the export and investment potential of Asian countries, two separate surveys were conducted as part of this Study: a questionnaire and interview survey of Japanese importers/investors and an interview survey of importers/investors of South Korea, China and Hong Kong.

(1) Japanese Survey

The Japanese survey was conducted during May-June 2000. A questionnaire was sent to 264 Japanese corporations which might have some interest in importing Chilean commodities or investing in Chile. Respondents were 42 (16%). Out of them, the JICA Study Team further interviewed 13 corporations for their specific views of Chile and Chilean exports. The results are summarized in Appendices A and B. As is seen particularly in Appendix B, their answers provide some illuminating insight into how Japanese business people perceive Chile and how Chile might approach potential business partners in Japan.

(2) Korea/China/Hong Kong Survey

For the second survey, two members of the JICA Study Team visited South Korea, China and Hong Kong during November 22 and December 21, 2000. The members' itinerary was as follows:

Nov 22, 2000	Tokyo Seoul
Nov 22 – Dec 1	Seoul
Dec 2	Seoul Beijing
Dec 3 – Dec 6	Beijing
Dec 7	Beijing Shanghai
Dec 8 – Dec 12	Shanghai
Dec 13	Shanghai Shenzhen
Dec 14 – Dec 15	Shenzhen
Dec 16	Shenzhen Hong Kong
Dec 17 – Dec 20	Hong Kong
Dec 21	Hong Kong Tokyo

During the visit, the survey team met with professionals from various organizations and companies including government offices, trade organizations, business and industry associations, and major importers (see the last section of this Chapter for a complete list of the interviewees).

3.3.2 Japan

For Chile, Japan is by far the largest trade partner (importer, particularly) in Asia. Also, it is almost the only source of investment coming from Asia. The economic importance of Japan to Chile is beyond question. However, to the majority of Japanese companies, Chile still remains an obscure country on a faraway continent. This is very frustrating to Chilean business people who want to see the economic relations between the two countries expand and deepen further. The problem is that few attempts have been made specifically to see how Japanese companies view Chile

and why they hold back from making investment in Chile. This survey was an attempt to probe into these mysteries.

The results of this Japanese survey were analyzed and presented in Section 3.2.2 above. To repeat the main findings: 40 % of the respondents are interested in investing in Asia while only 18% of them are interested in Latin America. However, 32% have already made some investment in Chile and 17% have considered doing so before. As for sectors, over 50% of them are interested in investing in manufacturing followed by the natural resources development, services, and infrastructure.

Among the 42 corporations that responded, 22 corporations were interested in or considering some kind of investment in Chile in the future. Their motives for the investment decision are to secure natural resources (31%), to expand business opportunities (23%), to develop export-oriented investment (16%), to secure a market share in Chile (11%), to gain profit in Chile (11%), and to establish a trade base in Latin America (11%).

Main reasons for their reluctance to invest in Chile are 1) concern with the Chilean investment climate (16%), 2) long distance from Japan (13%), and 3) small domestic market (12%). Generally, Japanese investors are holding back from foreign investment because of the lingering recession in Japan. However, they also indicate that if Chilean or Latin American economy shows a strong growth, they might seriously consider investment there.

To gain more insight into the thinking and behavior of Japanese potential investors, interviews were conducted with 13 corporations including two trading companies, three automobile/automobile parts manufacturing companies, one paper manufacturing company, one building material manufacturing company, two mining companies, and four food-related companies. As a general rule, small- and medium-sized corporations showed a relatively higher interest and flexibility in investing in Chile than larger corporations. They look eagerly for new areas of investment as well as traditional areas such as mines.

3.3.3 South Korea

Regarding trade, South America is strategically very important to South Korea because a substantial part of its trade surplus originates in the region. Among others, Chile continues to be an important trade partner both as the major consumer of Korean manufactured products (for example, Chile is the No.1 importer of Korean-made automobiles in Latin America) and as the major supplier of natural resource-based commodities.

(1) Chilean exports

Observations obtained during the interviews with respect to Chilean exports are summarized below.

1) Copper will continue to be a steady export.

2) Log wood (pine), lumber and wood products are rapidly losing their competitive

edge compared with those from New Zealand and Russia. Chilean log prices are rising and this also affects other products' competitiveness.

3) Pulp will be a steady export.

4) Wooden furniture may be difficult to sell. However, Korean demand is changing and younger generations may find DIY types of simple furniture attractive.

5) Exportable fruit is limited to grapes, kiwis and, currently under negotiation, lemons, though demand is steady and may increase. Possibility does not exist for the export of apples, cherries, pears or plums due to domestic production in Korea.

6) Fish is a rather neglected product, though the Korean fishing sector is one of the few that have invested in Chile. South Korea already imports Chilean skate but imports little salmon because today salmon is not a popular food item for Korean dishes.

7) Wine has a very good prospect. However, wine consumption is not yet widely popular in South Korea. Rather, high-quality, high-price wines for special occasions may prove more profitable. Therefore, its promotional strategy should differ from the strategy directed towards Japan: while carefully nurturing the reputation of "high quality," increase the exposure of ordinary people to wine.

8) Manufactured goods may sell in South Korea if they are of good quality and exportable to Japan.

(2) Export promotion strategy

The following outlines the general export promotion strategy suggested for South Korea:

1) Sell the country of "Chile" first. For example, most Koreans have little knowledge of Chile or its products. Expose them to the country, while differentiating it from other stereotypical "Latin" countries.

2) Create the "high quality" and "reliable" image of Chile in South Korea.

3) If the Korean market is the principal target, test the products first in the Japanese market. If they sell in Japan, they will also sell in South Korea.

4) Attract Korean tourists. This will account for an effective part of the "country sales."

(3) Investment in Chile

Some Korean experts clearly understand that it is possible for Chile to become the gateway to MERCOSUR and other Latin American countries. Such a strategic consideration is one reason why South Korea has selected Chile as its first FTA partner. However, for the time being, Korean investors do not have the energy to realize foreign investment initiatives. In addition, even when the economy improves, few industries will be interested in investing in Chile. Some existing possibilities and difficulties are outlined below:

1) The auto parts industry appeared to have potential, as mentioned by two,

independent South Korean experts. However, this prospect has turned out premature. According to Korea Auto Industries Cooperative Association, Korean auto parts companies simply follow Korean auto factories overseas. Since there does not yet exist a full-fledged factory in Chile or in neighboring countries, auto parts companies are not interested to invest in Chile.

2) The textile and garment industry may be a potential candidate because currently this industry is under increased pressure to re-locate abroad due to rising labor costs. However, Chile may not be the most favorable destination.

3) The electronic and IC industries appear possible in the long run.

4) A South Korean company that produces tools and small equipment already has factories overseas and may have strong potential to locate in Chile as well.

5) The metal industry has little interest to realize investment in Chilean mines or smelters.

(4) Investment promotion strategy

A South Korean expert suggests that if Chile wants to increase exports to or receive investment from Asia, it must first develop a very close relationship with an East Asian country. If the relationship is successful and proves mutually beneficial, other neighboring countries will become "envious" and seek close ties with Chile.

A good way to establish such a "close relationship" is through an FTA. Korean experts interviewed were unanimously and strongly in favor of elaborating an FTA with Chile. Once such an agreement is reached, both trade and investment will surely be stimulated. Experts believe that there must be some wayout from the strong opposition voiced by the Korean agricultural sector.

Similar to export promotion, Chile must first "sell" itself to Korean investors. Conventional investment promotion activities will be the first step in this direction.

3.3.4 China

China will eventually become a great economic player in the world. Its participation in WTO, expected to realize later in 2001, will only boost its ascent to join the world's top rank of economic might. Chinese manufacturing, for instance, will become sophisticated enough to produce high-quality, high-tech products. Some predict that such Chinese products will eventually dominate the world market just like Japanese-made electronics did during the last decades of the 20th century. Regarding foreign investment, China has already shifted its policy from "absorption only" to "invest for ourselves." In fact, Chinese companies have realized some major overseas investments in recent years (an iron ore mine in Peru, a copper mine in Zambia, factories in South Africa, etc.), while a number of prospective investors are queuing up to follow suit. In sum, China has potential to become a rich source of investment as well as a huge export market for Chile during the 21st century

(1) Chilean exports

As its economy grows, China will become a huge market. One billion people will consume more goods of a wider range as production expands and income increases.

For example, one-kilogram of consumption per capita translates into one million tons nationwide. China as a market is practically bottomless.

China cannot supply all the necessities independently, however. It is able to be self-sufficient for some commodities (e.g., grains, coal) but not for others. For example, the country already imports such principal resources as oil, copper, iron, wood and timber, and pulp.

The commodities imported from Chile to China increased drastically in 2000 from US$570 million to almost US$970 million. China's import portfolio, however, is limited to several commodities. Copper dominates Chilean exports to China (over half) and niter follows, while traditional exports such as fishmeal, wood and timber, and paper pulp come next. Chilean wine (though bulk mostly) has already made a debut in China and fresh grapes and apples started to sell in 2000. These seven major export items account for over 90% of total export.

Not surprisingly, Chinese traders and companies generally do not have much information about Chilean products or suppliers (or even the existence of ProChile offices in China). However, some of them do have interest redarding Chilean deals as long as the terms of conditions are good. Four examples:

1) Copper: Chinese demand for copper (approximately 1.8 million tons in 2000) will increase. It cannot be self-sufficient of copper and currently imports around 20 to 30% of the total supply. Chile already is a major supplier to China. This status will continue. One general tendency regarding Chinese traders is their preference for spot markets, while they shy away from deals based on long-term contracts. This also applies to the copper industry. However, Chinese mineral trading companies have recently bought a copper mine in Zambia and Iran, respectively. In fact, the survey team visited a private trading company in Beijing that was very much interested to invest in a Chilean copper mine. Another company showed strong interest to import copper concentrate from Chile. Such examples demonstrate that prospects for Chilean copper are very bright in China. This is particularly important considering the fact that Japanese demand for Chilean copper, accounting for the greatest percentage, has leveled off and will remain so in the future.

2) Pulp: A recent policy change has drastically increased pulp import. Due to worries about forest depletion and severe pollution, the Chinese government in 1998 ordered the closure of about 5,000 small-scale paper mills and shifted to rely on imported pulp for raw materials. As a result, pulp import jumped six times from 480,000 tons in 1998 to over 3 million tons in 1999. This trend will continue as Chinese consumption of paper (which is about half the international average) will steadily increase over coming years. In China, Chilean pulp is well recognized as being of high quality.

3) Wine: The Chinese market for wine is just burgeoning. One particular government policy will definitely foster market growth in this industry: aware of possible food shortages and to reduce grain consumption for the production of traditional Chinese liquor, the government now recommends people to shift to wine. Currently, only a very limited percentage of Chinese drink imported wine, though young generations in urban areas have begun to demonstrate a liking.

Chilean bottled wine is imported to the country though it is sold principally to five-star hotels and top-notch restaurants. However, market potential is so great. For example, if only 0.1% of the population drinks one bottle of wine a year, it accounts to one million bottles in total. Surprisingly, the French are very aggressive to promote wine to this country. For instance, they organize wine seminars in Shanghai together with a Taiwanese wine specialist and are serious to maintain their top position, while continuing to expand sales. In this regard, Chile must learn from such aggressive promotion activities.

4) Fruit: In the future, Chile will face fierce competition from China as a major fruit producing and exporting country. Nonetheless, Chile must take advantage of existing seasonal differences and its unique climatic conditions. Prospects for Chilean fruit export will very much depend on the progress of the negotiations between both governments regarding the import of nine fruit varieties, including the orange and lemon.

(2) Investment in Chile

China is already realizing investment overseas. Its primary aim is to secure basic resources such as oil, copper and wood. Manufacturers are the second to deploy abroad. It is true that to date, few Chinese companies have invested abroad, though the number will surely grow before long.

Chinese companies seem to maintain a unique perspective regarding investment-making, differing from the ultra-cautious Japanese companies. This does not imply, however, that they make investment decisions in a blind manner. They are also cautious. They do differ from Japanese counterparts in that they are very willing to take risks. The problem is that Chile and its products are not widely known to Chinese business people who are generally aggressive, pursuing whatever opportunity is available. Since they are not aware of Chile and its advantages, there is little possibility that Chile will be considered as a destination.

(3) Strategy

Some strategic considerations regarding China are as follows:

1) As an importer, China will give top priority to three commodity categories: energy sources, other primary resources and food (grains). Chile can thus continue to be a strategically important supplier of copper, pulp and fishmeal to China.

2) China will also become a major source of investment worldwide. Some Chinese investors will very likely be interested in South America where Japanese or Korean presence is still weak.

3) "Chile as the gateway to South America" can be a realistic option for Chinese exporters and investors. Since China has little experience in conducting business in South America, it will first create a base somewhere in the region to acquire local knowledge. Chile may become the location for such a purpose.

4) It is advisable to attract Chinese businesses using all means possible while other South American countries are not yet aware of its potential. It is the prime opportunity for Chile to take the lead.

5) Chinese business people highly appreciate special favors directed specifically at them. In this way, incentives can be a very effective means to attract Chinese businesses.

6) Chile must have a long-term Chinese strategy. Chile should regard China as one of its key economic partners. In terms of both trade and investment, China has potential to become Chile's strategic alliance, though few Chileans truly realize this possibility. Promoting Chile in China is thus guaranteed to be highly effective.

7) It is recommended to station more local experts in the offices of ProChile in China in order to realize such strategic considerations.

3.3.5 Hong Kong

Experts agree that Hong Kong will lose much of its transit cargo to and from mainland China as Chinese infrastructure improves and direct trade increases. Much of Hong Kong's manufacturing base has already moved to mainland China and this trend will only continue. However, Hong Kong will remain a major center for management, finance and services at least in the foreseeable future.

Trade between Chile and Hong Kong will also experience some structural changes. As a market, Hong Kong is limited in size (population: 7 million) and primarily consumes finished, consumer products. Chilean exports to Hong Kong will therefore be confined to food, such as fruits and fish, and wine. However, there still remains considerable room for such products to enter the market.

On the other hand, Chile cannot expect Hong Kong to be a major source of incoming investment. Generally, Hong Kong businesses are not interested to invest in countries outside China or, at best, Asia.

3.3.6 What the Asian Surveys Taught

The Asian Surveys conducted by the Study Team allowed for some useful hints regarding the relations between Chile and Asian countries, which are outlined below:

1) Chile and Asia are located far apart geographically, and belong to quite different cultures. The physical and cultural distance definitely matters in trade and investment. The physical distance is hard to shorten but the cultural distance can be overcome. Chile must learn more about Asia, while Asia must learn more about Chile. Visit Asia. Invite and welcome Asian counterparts. Seek help from those Asian people who are familiar with Chile.

2) Information is crucial. For instance, a number of Chinese buyers are interested in Chilean products but are not sure of where or whom to contact. Provide specific and exact information.

3) It is also important that Chile creates and maintains a good image. Most Asian people are only familiar with Chile by name. The instinct or feeling associated with the name "Chile" will affect the decision of business people. Create a good image of Chile. Disseminate it in Japan, South Korea and China.

4) Differentiate Chilean products from other national products as well as from

competitors' products. Copper cathodes will sell as long as they are of good quality and prices are reasonable. So will pulp. So will fishmeal. Manufactured goods may not. Additionally, the design, appearance and taste also make a difference. Take wine for an example. Chilean wines are recognized as being of good quality at a reasonable price. The problem, according to a Hong Kong distributor, is that they taste very similar irrespective of their labels or prices. Differentiation is necessary to expand and deepen this market.

5) Japan is an important Asian country, as being the second largest economy worldwide and Chile's second greatest trading partner. Chile has put much effort in fostering this relation with Japan. It should be realized, however, that South Korea and China are Asian partners of similar importance. Both deserve special attention. China, in particular, should be approached with care, persistence and a well-thought strategy. Such effort is sure to pay off.

3.3.7 Interviewees

The survey team interviewed the following offices, organizations and companies in South Korea, China and Hong Kong:

South Korea
Chilean Embassy/ProChile
Korea International Trade Association (KITA)
SAMMI Corporation
Handock Wine Co., Ltd.
JETRO Seoul Center
Korea Agriculture and Fisheries Food Trade Association
Mitsubishi Corporation (Korea) Ltd.
Mitsui & Co. Korea Ltd.
VINOCO
Poongsan Corporation
The Federation of Korean Industries (FKI)
Del Monte Fresh Produce (Korea) Ltd.
Korea Foods Industry Association
Korea Paper Manufacturers' Association
LG Cable Ltd.
Korea Automobile Manufacturers Association
The Korea Chamber of Commerce and Industry
Korea Trade-Investment Promotion Agency (KOTRA)
Korea Institute for International Economic Policy (KIEP)
LanChile Airlines GSA Korea--Meebang Air Agencies, Ltd.
IntNet
Korea Auto Industries Cooperative Association

China
Chilean Embassy
Mitsubishi Corporation
China Paper Association
Chinese Academy of International Trade and Economic Cooperation (CAITEC)

China National Nonferrous Metals Industry Trading Group Corporation (MINMETALS)
China National Pulp & Paper Corporation
China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC)
Mitsui & Co., Ltd.
China Council for the Promotion of International Trade (CCPIT)
SINO-MINEMET International Trade (Tianjin) Co., Ltd.
China Chamber of Commerce for I/E of Light Industrial Products & Arts-Crafts
Montrose International Corp.
Mitsubishi Corporation Shanghai Office
CITIC Shanghai Forestry Corporation
ProChile Shanghai
Shanghai Wei-E Trade Development Limited (Kinswell Wine Cellar)
Mitsui & Co., Ltd. Shanghai Office
Force & Cellars
Shanghai Deepsea Fisheries Co.
Shanghai Fruit Co., Ltd.
China Council for the Promotion of International Trade, Shanghai Sub-Council
Shanghai Metals and Minerals Import and Export Corporation
China Nonferrous Metals Import & Export Shenzhen Corporation
Shenzhen Council for the Promotion of International Investment
Shenzhen Yidu Import & Export Trade Co., Ltd.
Shenzhen Trade Development Bureau

Hong Kong
ProChile
Mitsubishi Corporation (Hong Kong) Limited
Mitsui & Co. (Hong Kong) Ltd.
Hong Kong Trade Development Council
Jet All Trading Co.
Joyful Fairy (Fruits) Limited
Northeast Wine Co.
AW & W Co., Ltd.

4 ZONAL ECONOMIES AND THEIR PROSPECTS OF EXPORTS AND INVESTMENT PROMOTION

4.1 North Zone

4.1.1 Geographic and Socio-Economic Characteristics

(1) Geographic Characteristics

The North Zone, including Region I (Region de Tarapaca), Region II (Region de Antofagasta), and Region III (Region de Atacama), is located in latitude between 18 and 29 degrees south. The zone has an arid climate and, in particular, the Atacama Desert is said to be the most arid in the world. In the coastal area of Region I, the average annual temperature is around 20 ^{0}C and has almost no rainfall due to the Pacific Ocean anticyclone whose winds are warm and dry. Along the coast of this zone runs the Humboldt Current, which is created by cold water (12 to 15 ^{0}C) emerging from the seabed. Although the east wind, *chaco*, brings about snow and rain in the Andes and their foothills, the water never reaches the ocean because of the porous volcanic soils and high temperature in the desert.

(2) Socio-Economic Characteristics

The population of the North Zone is 982,000, accounting for 7.4 % of the national population (Table 4.1.1). The population is more concentrated in the coastal area, except for Region III, whose population is concentrated in the inland capital, Copiapo. The total surface of this zone is 258,665 km^2, which is 34 % of total surface of the country (except the Antarctic territory). The population density of this zone is 3.8 persons/km^2, much lower than the national average (6.6 persons/km^2). The small share of population in comparison to the share of area and the low population density are brought about by the arid conditions of the zone.

Table 4.1.1 Population, Size of Land, Population Density, and GDP

	Population		Area		Population Density	GDP	
	(Persons, 1992)	Share (%)	(km^2)	Share (%)	(Persons/km^2)	(US$ millions)	Share (%)
Region I Tarapaca	340,000	2.6	56,698	7.5	6.0	2,459	3.9
Region II Antofagasta	410,724	3.1	126,444	16.7	3.2	5,213	8.4
Region III Atacama	230,873	1.7	75,523	10.0	3.1	1,570	2.5
North Zone Total	981,597	7.4	258,665	34.2	3.8	9,242	14.8
National Total	13,234,093	100.0	756,626	100.0	17.5	62,446	100.0

Source: For population and area, *Population Census 1992*; and for GDP, Regional Unit of the Ministry of Economy, 1997.

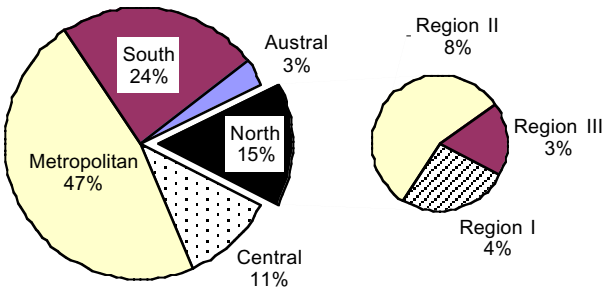


Figure 4.1.1 GDP Share in 1997

Source: Regional Unit of the Ministry of Economy, based on data provided by INE.

The North Zone's share of GDP was 15% in 1997 (Table 4.1.1 and Figure 4.1.1). Region II accounted for 57% of zonal GDP, followed by the 26% of Region I. The zone's share of GDP is significantly larger than its share of the national population owing to the export-oriented mining sector that concentrates in the zone. The zone is now trying to become a gateway between Asia and the Pacific and South America, taking advantage of the Free Trade Zone of Iquique (ZOFRI), port facilities, and the markets of neighboring countries such as Argentina, Bolivia, Peru, Brazil, and Paraguay. This effort is because of the small size of its own market and because of the long distance from the largest domestic market, i.e., Santiago.

The economy of the North Zone depends heavily on the mining sector (Table 4.1.2). Other sectors in the zone are also dependent on the mining sector. The manufacturing sector has also largely grown as supporting industries for mining. Especially for Region II and Region III, the mining sector accounts for about half of their regional GDP. For Region I, the commercial sector comes first because of ZOFRI, which has been an international trade center not only for the zone but also for the border areas of Peru and Bolivia. But the mining sector plays an important role in the region's economic development, accounting for 15%. The structure of the North Zone economy is much less diversified.

Table 4.1.2 Composition of Gross Regional Products by Economic Sector as of 1996

	Region I	Region II	Region III
Agriculture and Forestry	1.1	0.1	14.3
Fisheries	2.5	0.6	2.9
Mining	15.2	62.5	47.0
Manufacturing	17.8	5.4	1.9
Electricity, Gas and Water	1.9	5.8	4.8
Construction	7.3	6.5	5.4
Commerce and Restaurant	30.7	4.2	11.1
Transport and Communications	7.2	6.0	3.7
Financial Services	6.3	3.6	3.6
Real Estate	4.0	1.8	2.2
Personal Services	5.0	4.2	4.0
Public Administration	4.6	1.1	1.2
Minus Banking Accounting	-3.5	-1.9	-2.0
Total	100.0	100.0	100.0

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Economy of Region I

ZOFRI has made a great contribution to the region's economic development, particularly for the expansion of international trade of goods and services. Consequently, the share of commerce has become large (Figure 4.1.2).

The region's major manufacturing industries, e.g., metalworking and machinery, have grown as supporting industries for the mining sector. Taking advantage of the Law of Arica I, which provides subsidies and tax exemption, and of the merits of ZOFRI, not a few manufacturing industries are located in Arica and Iquique. As the Law of Arica II was recently put into effect, more industries are expected to be located in this region.

The production of refined copper has reached 217,751 tons in 1998, increasing from 18,269 in 1990 (Table 4.1.3). The production of both gold and silver significantly decreased between 1990 and 1998, i.e., from 3.0 tons and 26.8 tons to 0.1 tons and 1.2 tons, respectively. The production of salt was 5.5 million tons in 1997, which covers 100% of the country's total production.

Some agricultural products, such as olives and tomatoes, are also grown in this region by using cultivation techniques introduced from Spain and Israel. Their production has been gradually increasing, which may suggest some potential of arid and semi-arid agriculture in the future.

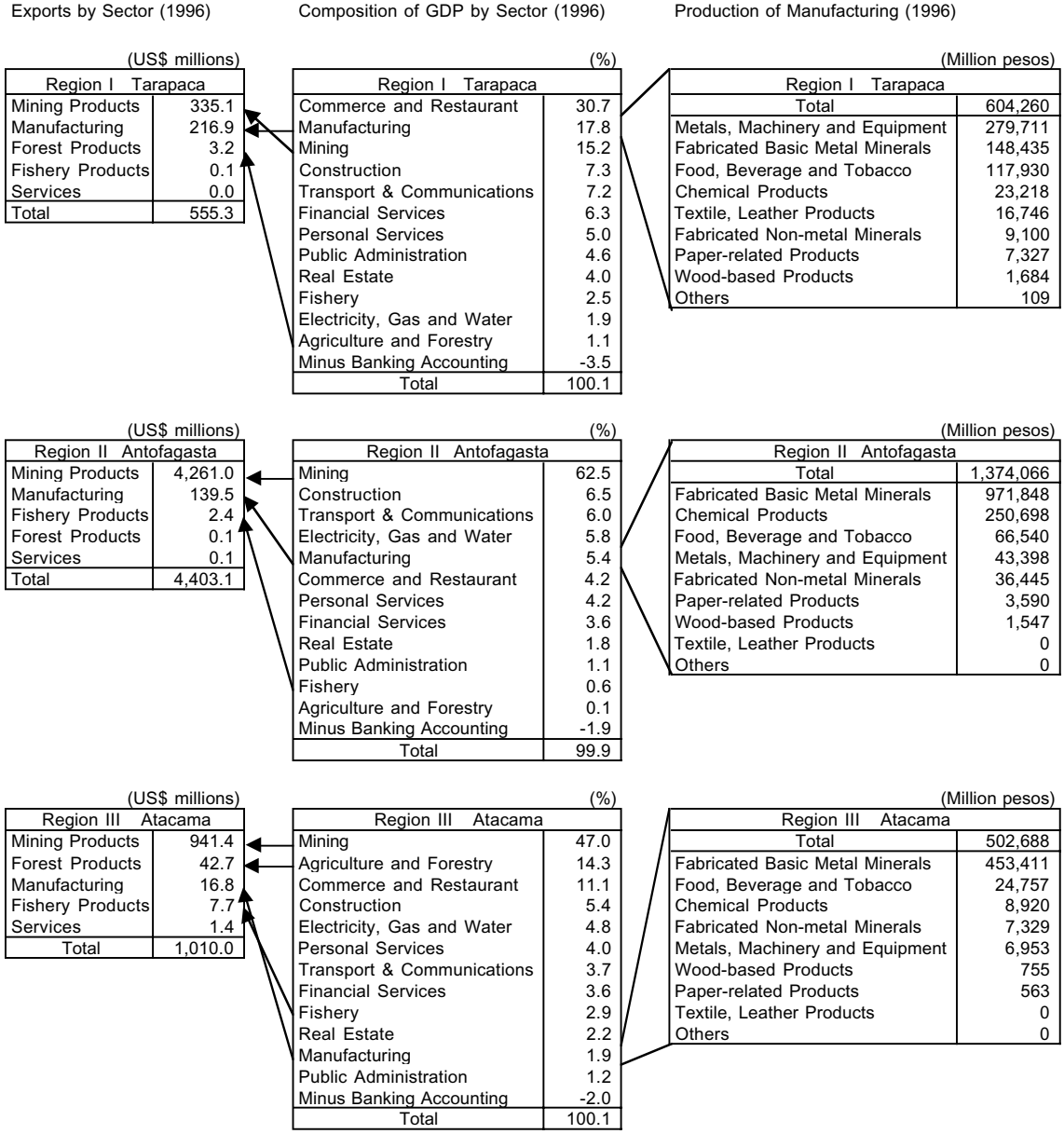


Figure 4.1.2 Economic Structure of North Zone in 1996

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Economy of Region II

The production of refined copper increased from 0.8 million tons in 1990 to 2.24 million tons in 1998, covering about 60% of national production (Table 4.1.3). The remarkable increase was caused by the development of the Escondida mine and the high productivity of CODELCO's Chuquicamata mine. The productions of gold and silver also increased 1.6 tons and 261.9 tons in 1990 to 9.0 tons and 360.0 tons in 1998, respectively.

The sectors of manufacturing, construction, transportation and communications, and electricity are all closely related to mining activity. Among manufacturing industries, more important are metalworking, machinery, and chemical products. Electricity supply has become comparable to that of Santiago in terms of both quantity and price because of the construction of a gas pipeline from Argentina. One of the problems for further industrial development is water supply; though it will be solved by the construction of a desalination plant expected to accomplish in 2002.

Table 4.1.3 Major Mining Products of North Zone in 1990 and 1997/1998

	Region I		Region II		Region III	
	1990	1998	1990	1998	1990	1998
Metals						
Copper (tons, refined)	18,269	217,751	821,615	2,238,388	154,966	414,313
Gold (kg, refined)	3,009	138	1,602	8,968	8,535	19,406
Silver (kg, refined)	26,786	1,224	261,865	360,023	198,419	735,008
Molybdenum (tons, refined)	-	-	9,332	15,074	573	1,741
Iron (tons, refined)	-	-	-	-	2,706,136	3,128,781
	1,990	1,997	1,990	1,997	1,990	1,997
Non Metals (tons)						
Apatite			6,534	8,252	374	-
Barite					2,606	2,015
Bentonite	1,207	717				
Boronatrocalcite	121,784	149,826	9,969	20,779		
Limestone			707,053	617,454	158,035	708,618
Lithium carbonate			9,082	26,050		
Quartz			104,160	193,265	78,353	83,628
Dolomite					-	11,840
Marble					1,347	1,248
Pozzolance			59,297	99,134		
Salt	1,827,790	5,488,135	7,181	-		
Sodium sulfate	3,374	-	10,123	1,335		
Talc					-	129
Plaster			6,193	7,040		
Iodine	1,029	3,550				

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Economy of Region III

The production of refined copper increased from 155,000 tons in 1990 to 414,000 tons in 1998 (Table 4.1.3), which was brought about by the development of CODELCO's El Salvador mine. The productions of gold and silver also increased from 8.5 tons and 198.4 tons in 1990 to 19.4 tons and 735.0 tons in 1998, respectively. Iron production of 1998 was 3.1 million tons, accounting for 60% of the country's total production.

Agricultural production has increased in the last 10 years due mainly to irrigation development. Crops cultivated in this region are wheat, tomatoes, potatoes, sweet corn, peas, and wine grapes (Table 4.1.4). Fish catches have decreased recently presumably because of irregular climatic changes including *El Nino*, which occurred in 1997.

Scallops are widely cultivated in this region, but the prices have been deteriorated by entries of China and Peru into the world market.

Table 4.1.4 Agriculture Production: Area Planted in 1998

Region	Cereals	Vegetables	Fruits	Wine grapes	Total
I	174	3,019	2,171	38	5,402
II	88	775	129	0	991
III	220	1,856	8,803	937	11,816
Total	482	5,650	11,103	975	18,209

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Table 4.1.5 Fishery Production in 1997

	(tons)	(%)	(tons)	(%)	(tons)	(%)	(tons)	(%)
Total	1,381,860	69.8	362,967	18.3	236,133	11.9	1,980,960	100.0
Seaweed	1,705	1.5	25,212	21.9	88,408	76.7	115,325	100.0
Fish	1,373,580	74.2	333,063	18.0	143,693	7.8	1,850,336	100.0
Mollusks	6,078	43.6	4,110	29.5	3,745	26.9	13,933	100.0
Crustaceans	42	25.1	82	49.1	43	25.7	167	100.0
Others	455	37.9	500	41.7	244	20.4	1,199	100.0
Industrious	1,348,871	75.3	326,805	18.3	114,590	6.4	1,790,266	100.0
Fish	1,348,871	75.3	326,805	18.3	114,590	6.4	1,790,266	100.0
Mollusks	0	..	0	..	0	..	0	..
Crustaceans	0	..	0	..	0	..	0	..
Others	0	..	0	..	0	..	0	..
Traditional	31,167	43.3	10,924	15.2	29,941	41.6	72,032	100.0
Fish	24,709	41.1	6,258	10.4	29,103	48.4	60,070	100.0
Mollusks	5,961	56.3	4,084	38.5	551	5.2	10,596	100.0
Crustaceans	42	25.1	82	49.1	43	25.7	167	100.0
Others	455	37.9	500	41.7	244	20.4	1,199	100.0
Cultivation	117	3.5	26	0.8	3,194	95.7	3,337	100.0
Fish	0	..	0	..	0	..	0	..
Crustaceans	117	3.5	26	0.8	3,194	95.7	3,337	100.0

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

4.1.2 Export: Past Performance and Future Prospects

(1) Past Performance

The mining sector accounted for 97% of the increase in the zone's exports between 1990 and 1996 (Table 4.1.6). Major products exported by the mining sector are copper cathode, copper ores and concentrates, silver alloy ingots, iron pellets, and gold (Teble 4.1.7). However, fishery products are the fastest growing sector. They include frozen octopus, seaweed, scallops, and anchovies. The third fastest growing sector is agriculture, whose principal product is table grapes. The manufacturing sector also posted a high growth led by transport vehicles, canned anchovies, canned jack mackerel, and fishmeal.

(2) Future Prospects

Mining products, especially copper, will continue to be the zone's principal export items and remain competitive in the world market in the future. As mining exports have been well consolidated, this section discusses other products that seem to have export potential based mainly on information obtained during the field visits to the zone.

Table 4.1.6 Exports North Zone by Sector in 1990-1996

(US$ millions)

Sector	1990	1991	1992	1993	1994	1995	1996	Growth Rate (%) (90-96)	Rate of Contribution (90-96)
Agriculture	36.0	23.7	26.7	25.4	29.4	20.5	46.0	4.2	0.4
Fisheries	4.4	2.6	4.8	4.5	5.3	7.9	10.2	15.0	0.2
Mining	2,969.8	2,996.6	3,266.3	2,859.3	3,546.9	5,578.0	5,537.5	10.9	97.3
Manufacturing	311.6	325.9	382.1	314.0	365.7	416.4	373.2	3.1	2.3
Services	6.7	8.4	10.6	8.2	4.6	0.5	1.5	-22.1	-0.2
Total	3,328.5	3,357.2	3,690.5	3,211.4	3,951.9	6,023.3	5,968.4	10.2	100.0

Note: "Rate of contribution" is exports in 1996 minus exports in 1996 divided by the total increase in exports between 1990 and 1996.

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

Table 4.1.7 Major Export Products of North Zone by Region in 1998

Region I	FOB (US$ millions)	Share (%)
Copper cathodes	262.5	44.5
Iodine	84.1	14.3
Fishmeal	66.5	11.3
Transport vehicles with piston engines	63.6	10.8
Rock salt	20.2	3.4
Boric acid	12.1	2.1
Transport vehicles, cab chassis	6.7	1.1
Copper ores and concentrated	3.9	0.7
Fresh or refrigerated jack mackerel	2.3	0.4
Frozen, dried, or salted octopus	2.1	0.4
Others	65.3	11.1
TOTAL	589.3	100.0

Region II	FOB (US$ millions)	Share (%)
Copper cathodes	2,483.0	61.8
Copper ores and concentrated	987.7	24.6
Iodine	87.5	2.2
Other ashes and residues of metals	68.6	1.7
Potassium nitrate fertilizer	66.4	1.7
Unrefined copper, blister	53.7	1.3
Sodium nitrate	41.3	1.0
Lithium carbonate	38.5	1.0
Potassium sodium-nitrate fertilizer	34.0	0.8
Gold, other than powder	14.7	0.4
Others	143.1	3.6
TOTAL	4,018.4	100.0

Region III	FOB (US$ millions)	Share (%)
Copper cathodes	348.9	36.5
Copper ores and concentrated	247.8	26.0
Iron pellets	119.4	12.5
Gold, other than powder	107.6	11.3
Silver, alloy ingots	62.7	6.6
Fresh grapes	41.7	4.4
Gracilaria, Lessonia, and Iridaea seaweed	7.2	0.8
Gold ores	3.8	0.4
Fishmeal	2.9	0.3
Unrefined copper, blister	2.5	0.3
Others	10.2	1.1
TOTAL	954.6	100.0

Source: Regional Unit of the Ministry of Economy, based on data provided by ProChile.

Agriculture

Products such as olives, tomatoes, and garlic can be grown well under the arid conditions of the North Zone and, therefore, their exports may be expanded. In Region III, fruits such as grapes and avocados are also promising. The export potential of avocados is higher since it can be harvested one month earlier than in southern regions and neighboring countries due to the region's particular climate conditions. The difference in the crop season can be an important source of competitiveness for export expansion.

Fish and shellfish cultivation

The export potential of cultivated scallops seems to be relatively high in the zone, though it is necessary to find new markets and to reduce production costs. Scallops are currently exported almost exclusively to France, but the price has dropped since

China and Peru started exporting their products.

Sea urchins naturally grow in colonies along the coast. They are already being exported to Japan through some Asian countries. They are traded at a high price in Japan, which implies that the quality of Chilean sea urchins is high enough to be accepted in the market. However, their export to Japan has not been really established. To expand sea urchin exports to Japan, as the first step, Chile should try to export natural sea urchins directly to Japan. For direct export, some devices such as packing in wooden boxes are necessary. As the second step, sea urchins may be cultivated for stable supply in terms of quality and quantity, which is indispensable for Chile to establish its products as "Made in Chile" in international markets.

Eels and abalones are also traded at a good price in Japan. A similar strategy as for sea urchins may be tried for the export expansion of these products. One company in Region III will reportedly start exporting abalones to Japan in the near future. When they succeed, others will follow. An increase in the number of producers/exporters will be one of key factors to market a product "Made in Chile."

Manufacturing

Supporting industries for mining activities have been developed in such areas as metalworking and machinery parts supply. These industries have potential to become exporting industries. In particular, Chile seems to have a chance to export such products to Argentina and Bolivia, where mining is expected to grow but supporting industries are not well developed.

There exist plans of constructing plants that will manufacture mineral-based products such as copper wire in Arica of Region I as well as somewhere in Region II. These plans are motivated by the enactment of the Law of Arica II and the improvement of electricity and water supply in Region II. Once the plants are constructed, mineral resources exploited in neighboring countries such as Argentina and Bolivia may be brought for processing in the zone.

Copper sulfate and copper oxide chloride are produced as byproducts of copper production and used for producing agricultural chemicals. There is a possibility that they are exported to Argentina and Bolivia. Sulfuric acid is another export potential item since it is much consumed for copper refinery. For this reason, it is expected that a production plant of sulfuric acid will be constructed in the zone.

A lithium battery plant using lithium produced in Region II is expected to locate in the region. If the plant construction is materialized, lithium batteries may be exported. At present, lithium is exported without processing.

Automobile exports are expected to increase since an automobile assembler in Arica intends to increase their production for export, taking advantage of the Law of Arica II. The macro-region including the North Zone, the southern part of Peru, the western part of Bolivia, the northwestern part of Argentina, and, possibly, some western parts of Brazil and Paraguay will become a new market for vehicles, particularly pick-up tracks. It may also be possible to manufacture other products for export to the market.

Some agricultural products, e.g., soybean, produced in Argentina, Brazil, and Bolivia could be processed in the zone for export to North America and Asia, as well as for some parts within the macro-region.

Services

Chile has developed technologies and know-how related to mining activities, e.g., chemical analysis of maintaining product quality, analysis for environment protection, and investigation of mineral resources. These services can be exported to Argentina and Bolivia. Some cities like Arica and Iquique can provide various kinds of services, e.g., higher education, medical care, social and cultural activities, and tourism, to people who come from neighboring countries, especially Peru and Bolivia.

4.1.3 Investment: Past Performance and Future Prospects

(1) Past Performance

Sixty-nine percent of the foreign direct investment (DL-600) between 1974 and 1999 in the North Zone went to the mining sector, reflecting the unique industrial structure. Of the US$9,780 million of investment made in the zone's mining sector, Region II gained 55%, while Region I and III gained 30% and 15%, respectively (Table 4.1.8).

Table 4.1.8 Foreign Direct Investment by Sectors in 1974-1999

(US$ millions)

	Region I	Region II	Region III	Total	Share (%)
Agriculture	0.0	0.0	8.2	8.2	0.1
Construction	0.0	1.0	0.0	1.0	0.0
Electricity, Gas and Water	0.9	113.8	0.2	114.9	1.1
Industry	48.0	76.6	16.9	141.5	1.4
Mining	2,942.1	5,422.2	1,416.5	9,780.8	96.3
Fisheries	1.7	2.2	0.0	3.9	0.0
Services	4.6	1.9	0.0	6.5	0.1
Forestry	0.0	0.0	0.0	0.0	0.0
Transport & Communications	0.0	98.2	0.0	98.2	1.0
Total	2,997.3	5,715.9	1,441.8	10,155.0	100.0

Source: Foreign Investment Committee.

(2) Future Prospects

Foreign direct investment will continue to be concentrated in the mining sector for some time in the future. However, the Law of Arica II and regional economic integration may bring about a different picture, that is, a substantial increase in investment in services and manufacturing. Future prospects by sector are as follows.

Services

The regional integration will accelerate investment in service sectors. Such services may include higher education, medical care, social and cultural activities, and tourism in addition to traditional commerce, finance, transportation, and port services.

Manufacturing

It is expected to gain investments in processing mineral resources and foodstuffs from Argentina and Bolivia. With the regional integration, investment in the automobile industry and its supporting industries may increase.

Fisheries

To materialize the cultivation of sea urchins and abalones, its technology and know-how are necessary. Marketing of the products is also important. Some of these conditions will be fulfilled by importers' investments in the industry.

4.1.4 North Zone in an International Perspective

The North Zone has been traditionally and internationally a source of stable supply of mineral resources such as copper, iron ore, gold, and silver. This feature will be maintained in the future. With further regional economic integration among the North Zone and neighboring countries, however, the zone will be colored with another distinct feature, that is, the zone will function as a full-fledged gateway between South America and Asia and the Pacific. Each port of Arica, Iquique, Antofagasta, Mejillones, and Huasco will take a share in fulfilling the gateway functions. The regional integration will have a profound impact on the zonal economy in two aspects. First, it will increase the trade flow between the North Zone and neighboring countries and between South America and Asia. Second, the integration will create a new "macro-regional market," which will induce the development of new types of industries and services.

ZICOSUR (Central Western South America Integration Zone) is a sub-regional economic integration plan formulated in 1995 and being promoted by the government of Region II. While the governments of member regions and provinces of ZICOSUR have signed the plan, any of the central governments of related countries including Chile has not officially recognized it. As regional economic integration is deepening, it will be necessary to formulate strategies to implement the plan as soon as it becomes possible on the Chilean side. The outline of this plan is as follows:

- Purpose: To promote regional economic integration. The North Zone is positioned as a gateway between South America and Asia and the Pacific.
- Areas: Chile (Tarapaca, Antofagasta, and Atacama), Argentina (Salta, Jujui, Catamarca, Tucuman, La Rioja, Santiago del Estero, Formosa, and Chaco), Bolivia (La Paz, Oruno, Cochabamba, Potosi, Tarija, Chuquisaca, and Santa. Cruz), Paraguay, Brazil (Mato Grosso and Mato Grosso do Sul).
- Population: 20.5 millions as of 1992 (Table 4.1.9).
- Activity: Meetings at the governor's level to be held at least once a year in one of cities on the national borders.

Table 4.1.9 Basic Indicators of North Zone's Neighboring Countries in 1992

Country	Region/Province	Area (km2)	Population	GDP (US$ millions)	GDP per capita (US$)
Chile	National Total	756,626	13,348,401	43,684	3,170
	Tarapaca	58,698	339,579	-	-
	Antofagasta	126,444	410,724	-	-
	Atacama	75,573	230,873	-	-
	Regional Total	260,715	981,176	-	-
Argentina	National Total	2,779,221	32,608,687	255,595	7,220
	Salta	155,488	866,771	-	-
	Jujuy	53,219	513,992	-	-
	Catamarca	102,602	265,571	-	-
	Tucuman	22,524	1,142,247	-	-
	La Rioja	89,680	220,910	-	-
	Santiago del Estero	136,351	672,301	-	-
	Formosa	72,066	404,367	-	-
	Chaco	99,633	838,303	-	-
	Regional Total	731,563	4,924,462	-	-
Bolivia	National Total	1,098,581	6,420,792	5,382	760
	La paz	133,985	1,900,786	-	-
	Oruro	53,588	340,114	-	-
	Cochabamba	55,631	1,110,205	-	-
	Potosi	118,218	645,889	-	-
	Tarija	37,623	291,407	-	-
	Chuquisaca	51,524	453,756	-	-
	Santa Cruz	370,621	1,364,389	-	-
	Regional Total	821190	6,106,546	-	-
Paraguay	National Total	406,752	4,643,000	6,825	1,510
Brazil	National Total	8,588,996	146,154,502	444,205	2,930
	Mato Grosso	901,421	2,091,524	-	-
	Mato Grosso do Sul	357,472	1,778,741	-	-
	Regional Total	1,258,893	3,870,265	-	-
Total of Countries		13,630,175	203,175,382	755,691	3,719
Total of Regions		3,171,063	20,525,449	-	-

Source: *ZICOSUR in 1996.*

4.1.5 Keys to Export and Investment Promotion

Taking into consideration the characteristics of the North Zone, competitiveness by sector and industry in the zone, and the emerging new reality of regional integration, the study team proposes the following strategies for export and investment promotion.

(1) Strengthening the gateway functions and developing industries targeting the macro-regional market

- New regional integration has been emerging among the North Zone and neighboring countries, which will bring about trade expansion between Chile and neighboring countries and between South America and Asia and create a "macro-regional market."
- Strengthen the functions of the ports of Arica, Iquique, Antofagasta, Mejillones, and Huasco as an integrated and coordinated gateway between South America and Asia through:
- Development/improvement of infrastructure;
- Acceleration of port sales activity; and
- Development of supporting industries for a full-fledged gateway (including financial and telecommunication services).

- Develop new types of industries and services targeting the macro-regional market (e.g., automobile manufacturing, higher education, medical care, cultural activities, tourism, etc.) by thoroughly analyzing its characteristics and formulating specific product and manufacturing concepts for the market.

(2) Development of manufacturing industries by designing a strategic policy

- Give priority to supporting industries for mining and mineral-based processing industries that already hold international competitiveness.
- Pay special attention to industries that can enhance value added of agricultural products (e.g., soybean).
- Programs/projects to be studied: favorable tax treatment, subsidies for investment, development/improvement of infrastructure such as roads, industrial parks, and public utility.

(3) Pioneering export of agricultural products

- Products to be targeted: olives, tomatoes, garlic, grapes, and avocados.
- A factor of competitive advantage is the region's climatic conditions suitable for these crops.
- To realize export expansion, following issues must be solved:
  - For production, enlarge the scale by developing irrigation facilities and organizing producers associations;
  - For technology, conduct research and development (R&D) with the support of universities and public research institutes (e.g., INIA); and
  - For marketing, obtain information on potential markets from ProChile.
- Set up a production center to establish a brand name "Made in Chile," which will become possible only when various sized farmers, from large to micro, participate in and cooperate for the project.

(4) Capacity expansion for cultivating and processing fishery products

- Products to be targeted: scallops and seaweed.
- Expand production capacity and reduce production costs to be more competitive in international markets.
- Fully utilize universities' R&D capacity for producing scallop seeds.
- Start processing seaweed with CORFO's assistance and by organizing associations.

(5) Launching a "second salmon" plan

- Products to be targeted: sea urchins, abalones, and eels.
- Develop cultivated sea urchins into the "second salmon."
- Establish a brand name "Made in Chile" for export to Japan by cultivation for stable supply not only in quantity but also in quality and setting up a production center with participation of and cooperation among various sized cultivators, from large to micro.
- Develop cultivation technologies and know-how with assistance of the universities in the zone as well as importing countries such as Japan.
- Facilitate small-scale cultivators' participation by CORFO's technical and financial assistance.
- Accelerate export promotion by ProChile's assistance.

(6) Improvement of environment for fostering venture business

- Set up an industrial development center with functions of incubation, technical assistance, and joint R&D.
- Transfer management know-how from CORFO to venture business.
- Expand CORFO's financial assistance (e.g., credit guarantee) and set up an over-the-counter security market like NASDAQ.
- Set up a "most innovative company award" system.

4.2 Central Zone

4.2.1 Geographic and Socio-Economic Characteristics

(1) Geographic Characteristics

The Central Zone consists of two regions, Region IV (Region de Coquimbo) and Region V (Region de Valparaiso), and is located between latitude 29 and 34 degrees south. The regions are located in the geographical center of the country and are important for regional economic integration, acting as a gateway between Asia and the Pacific and South America.

Annual rainfall increases from the northern end of Region IV to the southern part of Region V. These two regions have a rather dry climate and stable temperatures throughout the year. The condition is suitable for agriculture, especially for fruit cultivation. In addition, the unique geographical condition, isolated from neighboring countries by the Andes and the Pacific Ocean, creates relatively insect- and disease-free conditions.

The regions have privileged rich soil and pure water that is streamed down from the mountain ranges. Therefore, even in the dry area of Region IV, it is possible to grow various crops if appropriate irrigation systems exist.

The sea water condition is also pure and suitable for fishery and aquaculture. In addition, because of a warm sea current, there are many well-known beach resorts in these regions including La Serena, Valparaiso and Vina del Mar.

Table 4.2.1 Population, Area, and Rainfall

Regions	Population		Area		Population Density	Annual Rainfall	Temperature
	(Persons, 1992)	Share (%)	(km^2)	Share (%)	(persons/km^2)	(mm)	(℃)
Region IV Coquimbo	504,387	3.8%	40,656	5.4%	12.4	50-200	12-24
Region V Valparaiso	1,384,336	10.5%	16,396	2.2%	84.4	300-400	3-33
Central Zone Total	1,888,723	14.3%	57,052	7.5%	33.1	-	-
National Total	13,234,093	100.0%	756,626	100.0%	17.5	-	-

Source: INE, Panorama Regional: *Estadisticas Regionales de Chile 1990-1998*; and other various resources.

(2) Socio-Economic Characteristics

As of 1992, 1.9 million people resided in the Central Zone, accounting for 14% of total population (Table 4.2.1). Approximately 74% lived in Region V, resulting in a high population density next to the Metropolitan Region.

Total regional GDP of the Central Zone was US$6,877 millions in 1997 accounting for 11% of GDP. Region V contributed to approximately 78% of regional GDP for the zone. In the same year, GDP per capita of Region V was higher, accounting for US$3,859, whereas that of Region IV was US$3,043 (Table 4.2.2 and Figure 4.2.1).

Table 4.2.3 exemplifies the share of regional GDP by sector in 1996. The two regions have different economic structures. Leading industries in Region IV were agriculture

and mining. In Region V, main industries were manufacturing, transport and communication, and "others" includes financial service, personal service and so forth.

The GDP structure can be explained by the difference in distance from the Metropolitan Region. Region V functions as a gateway to the Pacific for the Metropolitan Region and is characterized by sharing a close economic relationship. Region IV, on the other hand, is relatively independent of the Metropolitan Region. La Serena, the capital of Region IV, is located in the northern part of Region IV.

Table 4.2.2 GDP and GDP per Capita in 1997

Regions	GDP			GDP/Capita
	(US$ millions)	Share in the Central (%)	Share in the Nation (%)	(US$)
Region IV Coquimbo	1,535	22.3%	2.5%	3,043
Region V Valparaiso	5,342	77.7%	8.6%	3,859
Central Zone Total	6,877	100.0%	11.0%	3,641
National Total	62,302		100.0%	4,708

Source: For population and area, Population Census 1992; and for GDP, Regional Unit of the Ministry of Economy, 1997

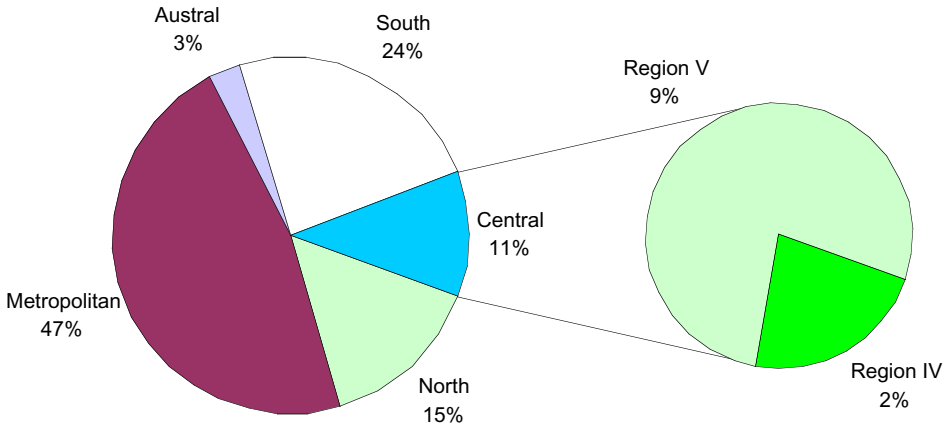


Figure 4.2.1 GDP Share in 1997

Source: Regional Unit of the Ministry of Economy, based on data provided by INE.

Table 4.2.3 Share of Regional GDP by Sector (%), Central Zone in 1996

	Region IV	Region V
Agriculture, Livestock, and Forestry	20.0	9.1
Fisheries	4.5	3.2
Mining	21.8	8.9
Manufacturing	10.4	19.3
Construction	9.0	7.9
Commerce, Restaurants, and Hotels	13.4	13.1
Transport and Communications	6.4	17.3
Others	14.5	21.2
Total	100.0	100.0

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Table 4.2.4 Change in Share of Labor by Sector between 1990-1998

Share of Labor by Sector in 1990										(%)
	Agriculture, Hunting and Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construction	Commerce	Transport and Communications	Financial Services	Social and Communal Services	Total
Region IV	32.9%	7.5%	9.4%	0.5%	5.9%	15.5%	7.3%	2.3%	18.6%	100.0%
Region V	16.0%	1.6%	12.5%	0.5%	5.9%	19.8%	9.4%	4.0%	30.2%	100.0%
Central	20.3%	3.1%	11.7%	0.5%	5.9%	18.7%	8.8%	3.6%	27.2%	100.0%
Nation	19.6%	2.2%	16.1%	0.5%	6.5%	17.5%	7.0%	4.5%	26.1%	100.0%
Share of Labor by Sector in 1998										(%)
	Agriculture, Hunting and Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construction	Commerce	Transport and Communications	Financial Services	Social and Communal Services	Total
Region IV	26.9%	5.8%	11.0%	0.4%	10.4%	14.5%	8.1%	3.5%	19.3%	100.0%
Region V	11.8%	1.2%	9.6%	0.8%	12.0%	19.2%	9.3%	6.6%	29.7%	100.0%
Central	16.0%	2.4%	10.0%	0.7%	11.5%	17.9%	9.0%	5.8%	26.8%	100.0%
Nation	14.4%	1.5%	15.1%	0.7%	8.3%	18.5%	8.0%	7.5%	26.1%	100.0%
Change in Share between 1990-1998										(%)
	Agriculture, Hunting and Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construction	Commerce	Transport and Communications	Financial Services	Social and Communal Services	Total
Region IV	-6.1%	-1.8%	1.6%	-0.1%	4.5%	-0.9%	0.9%	1.2%	0.7%	-
Region V	-4.2%	-0.5%	-2.9%	0.3%	6.0%	-0.7%	0.0%	2.6%	-0.5%	-
Central	-4.3%	-0.7%	-1.7%	0.2%	5.6%	-0.8%	0.2%	2.2%	-0.4%	-
Nation	-5.2%	-0.7%	-1.0%	0.2%	1.8%	1.0%	0.9%	2.9%	0.0%	-

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

The change in the share of labor forces by sector is shown in Table 4.2.4. The transfer of labor from natural-resource-based industries (agriculture, hunting and fisheries, mining and quarrying) to construction is apparent in both regions. The share of labor force working for financial services increased, especially in Region V. This implies urbanization in Region V, which functions as a gateway for the capital of Santiago to Asia and the Pacific.

Agriculture and Forestry

Table 4.2.5 shows the distribution of agricultural land by use in the zone. Region IV has the largest share of grasslands in the country (3,072,000ha). In this zone, crop lands and forests have a smaller percentage compared to that of the south. This situation is due largely to the rather dry climate and partly to the urbanization of Region V.

Table 4.2.5 Central Zone's Share in the Country's Agricultural Area in 1997

Region	Crops	Grasslands	Forest Plantations	Wood and Scrubs	Barren and Arid Fields	Roads, Ditches, etc.	Total
IV	8.3%	23.8%	0.4%	0.9%	10.7%	1.4%	14.6%
V	6.2%	6.1%	3.5%	3.6%	4.6%	4.6%	5.3%
Central Zone Total	14.5%	29.9%	3.9%	4.6%	15.3%	6.0%	19.9%
National Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
(Total Area: 1,000ha)	2,297	12,925	1,097	4,643	5,305	236	26,502

Source: ODEPA, *1999 Panorama de la Agricultura Chilena,* 1999

It is reported that there is great potential for the expansion of agricultural land in Region IV due to the rich soil and favorable climate. According to an experienced Italian wine producer, the region is the most ideal place in the world for growing wine grapes. He is ale to grow high quality wine grapes by using very little fertilizer and pesticides.

The greatest constraint on agriculture in Region IV is the shortage of water. Rainfall in the northern part of the region is 100 mm per annum on average. Even the southern part of the region has only 200 mm per year. However, with irrigation facilities, it is possible to increase agricultural production. In the Limari valley, for example, water security [1] is increased from 45% to 85% by developing irrigation facilities. Farmers could change their products from vegetables to commercial products such as table grapes and avocado for export.

The farmers are divided into two groups; large-scale or corporate farmers (7% of farmers) and small farmers. There is a significant difference in land productivity between two groups. In pisco grape cultivation, for example, the land productivity of the former is 50,000kg/ha/year, whereas the latter produces a low 7,000-8,000kg/ha/year.

Fisheries

As Table 4.2.6 shows, fish catches recorded 1.1 million tons in 1995 and then dramatically decreased to approximately 389,000 tons in 1997. This is due to excessive fishing as well as changes in seawater temperature partially caused by El Nino. The enforcement of the Fish and Marine Law aimed at long-term resource preservation also effected the fishery industry.

Nevertheless, fisheries are still an important industry in the zone. A characteristic of the industry in the Central Zone is high dependence on industrialized fishery production, which accounted for 79.6% of total production in 1997.

In 1997, fish catching was still greater than aquaculture, which accounted for only 1.9% of production. However, there is a tendency of increasing aquaculture. Some prospective export products such as scallops and abalone have been developed. According to the *Instituto de Fomento Pesquero* (IFOP), almost all the coves suitable for aquaculture in the zone have been granted as concessions to large enterprises.

There is a difference in the income level between large-scale fishing companies and self-employed fishermen. For example, workers of fish cultivation are paid 150,000-200,000 pesos/month, while self-employed fishermen earn only 80,000 pesos/month on average. The reason for the difference is that fishermen tend to work seasonally, primarily in summer, when they can sell their products at higher prices to tourists. It is reported that if they worked constantly throughout the year, they could earn greater income than the enterprise workers.

Manufacturing

Manufacturing plays an important role in the exports of the zone. In Region IV, the largest in manufacturing was food, beverages and tobacco, accounting for about 76% of total manufacturing production in 1996 (Figure 4.2.2). Chemical products, represented by Bridgestone-Firestone tires followed the food, beverage and tobacco production. It is the only large non-natural-resource-based manufacturing company in Region IV.

[1] "Water security" is defined as the ratio between requirement and provision of water for agriculture.

Table 4.2.6 Fisheries in Central Zone

Fishery Production in Region IV

	Production Volume (Ton)						Change(%)	Per Total(%)	
	1992	1993	1994	1995	1996	1997	1997/1992	1992	1997
Total Production	91,696	104,365	105,775	172,362	144,140	111,486	121.6%	100.0%	100.0%
Seaweed	5,022	6,605	5,006	33,688	48,893	28,979	577.0%	5.5%	26.0%
Fish	67,425	80,935	82,093	119,156	69,894	53,798	79.8%	73.5%	48.3%
Mollusks	12,399	11,975	10,954	10,953	13,010	16,854	135.9%	13.5%	15.1%
Crustaceans	5,029	3,464	6,924	7,395	10,475	11,334	225.4%	5.5%	10.2%
Other	1,821	1,386	798	1,170	1,868	521	28.6%	2.0%	0.5%
Breakdown by Methods (part)									
Industrial Fisheries	61,030	77,612	80,125	111,266	60,264	45,484	74.5%	66.6%	40.8%
Fish	56,390	74,415	73,361	104,015	50,644	35,226	62.5%	61.5%	31.6%
Mollusks	3						0.0%	0.0%	0.0%
Crustaceans	4,637	3,197	6,764	7,251	9,620	10,258	221.2%	5.1%	9.2%
Other									
Traditional Fisheries	24,639	18,465	15,187	9,169	28,860	28,737	116.6%	26.9%	25.8%
Fish	11,018	6,486	8,713	1,510	19,218	18,531	168.2%	12.0%	16.6%
Mollusks	11,408	10,326	5,516	6,345	6,919	8,609	75.5%	12.4%	7.7%
Crustaceans	392	267	160	144	855	1,076	274.5%	0.4%	1.0%
Other	1,821	1,386	798	1,170	1,868	521	28.6%	2.0%	0.5%
Aquaculture	1,005	1,683	5,457	6,122	6,123	8,286	824.5%	1.1%	7.4%
Fish	17	34	19	31	32	41	241.2%	0.0%	0.0%
Mollusks	988	1,649	5,438	6,091	6,091	8,245	834.5%	1.1%	7.4%

Fishery Production in Region V

	Production Volume (Ton)						Change(%)	Per Total(%)	
	1992	1993	1994	1995	1996	1997	1997/1992	1992	1997
Total Production	298,295	281,967	632,127	992,948	860,145	350,216	117.4%	100.0%	100.0%
Seaweed	119	6	14	2,104	4,251	2,889	2427.7%	0.0%	0.8%
Fish	286,422	274,209	624,872	981,518	848,167	335,277	117.1%	96.0%	95.7%
Mollusks	6,849	3,279	1,877	1,662	1,392	1,043	15.2%	2.3%	0.3%
Crustaceans	4,543	4,191	5,174	7,549	6,157	10,908	240.1%	1.5%	3.1%
Other	362	282	190	115	178	99	27.3%	0.1%	0.0%
Breakdown by Methods (part)									
Industrial Fisheries	259,618	259,151	603,133	954,441	810,890	322,058	124.1%	87.0%	92.0%
Fish	254,360	255,006	598,185	947,248	805,297	312,002	122.7%	85.3%	89.1%
Mollusks	838	98					0.0%	0.3%	0.0%
Crustaceans	4,420	4,047	4,948	7,193	5,593	10,056	227.5%	1.5%	2.9%
Other									
Traditional Fisheries	38,522	22,732	28,861	36,245	44,641	24,821	64.4%	12.9%	7.1%
Fish	32,036	19,167	26,639	34,201	42,670	22,960	71.7%	10.7%	6.6%
Mollusks	6,001	3,139	1,806	1,573	1,229	910	15.2%	2.0%	0.3%
Crustaceans	123	144	226	356	564	852	692.7%	0.0%	0.2%
Other	362	282	190	115	178	99	27.3%	0.1%	0.0%
Aquaculture	36	78	119	158	363	448	1244.4%	0.0%	0.1%
Fish	26	36	48	69	200	315	1211.5%	0.0%	0.1%
Mollusks	10	42	71	89	163	133	1330.0%	0.0%	0.0%

Fishery Production in Central Zone

	Production Volume (Ton)						Change(%)	Per Total(%)	
	1992	1993	1994	1995	1996	1997	1997/1992	1992	1997
Total Production	389,991	386,332	737,902	1,165,310	1,004,285	461,702	118.4%	100.0%	100.0%
Seaweed	5,141	6,611	5,020	35,792	53,144	31,868	619.9%	1.3%	6.9%
Fish	353,847	355,144	706,965	1,100,674	918,061	389,075	110.0%	90.7%	84.3%
Mollusks	19,248	15,254	12,831	12,615	14,402	17,897	93.0%	4.9%	3.9%
Crustaceans	9,572	7,655	12,098	14,944	16,632	22,242	232.4%	2.5%	4.8%
Other	2,183	1,668	988	1,285	2,046	620	28.4%	0.6%	0.1%
Breakdown by Methods (part)									
Industrial Fisheries	320,648	336,763	683,258	1,065,707	871,154	367,542	114.6%	82.2%	79.6%
Fish	310,750	329,421	671,546	1,051,263	855,941	347,228	111.7%	79.7%	75.2%
Mollusks	841	98	0	0	0	0	0.0%	0.2%	0.0%
Crustaceans	9,057	7,244	11,712	14,444	15,213	20,314	224.3%	2.3%	4.4%
Other	0	0	0	0	0	0			
Traditional Fisheries	63,161	41,197	44,048	45,414	73,501	53,558	84.8%	16.2%	11.6%
Fish	43,054	25,653	35,352	35,711	61,888	41,491	96.4%	11.0%	9.0%
Mollusks	17,409	13,465	7,322	7,918	8,148	9,519	54.7%	4.5%	2.1%
Crustaceans	515	411	386	500	1,419	1,928	374.4%	0.1%	0.4%
Other	2,183	1,668	988	1,285	2,046	620	28.4%	0.6%	0.1%
Aquaculture	1,041	1,761	5,576	6,280	6,486	8,734	839.0%	0.3%	1.9%
Fish	43	70	67	100	232	356	827.9%	0.0%	0.1%
Mollusks	998	1,691	5,509	6,180	6,254	8,378	839.5%	0.3%	1.8%

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

In Region V, the manufacturing sector generated greater regional GDP compared to Region IV. The sector has been diversified and includes chemical, metal-related, textile and food industries. According to an interview survey conducted as part of this study, there are some companies that plan to move their factories from the Metropolitan Region into Region V. In Region V, there are large industrial estates such as Quilpue (110 ha), Valparaiso (60 ha), Concon (19.5 ha), Llay-Llay (30 ha), Casablanca (276 ha), and Quillota (142 ha).

It should be noted, however, the majority of industries in the Central Zone rely heavily on natural resources or natural-resource-based products. Although there are some non-natural-resource-based products such as tires in Region IV (Coquimbo) and gearboxes in Region V (Los Andes), they continue to be limited.

A common feature in the manufacturing sector is that each industry consists of a large number of micro and small enterprises (typically in the textile industry) and a small number of large enterprises.

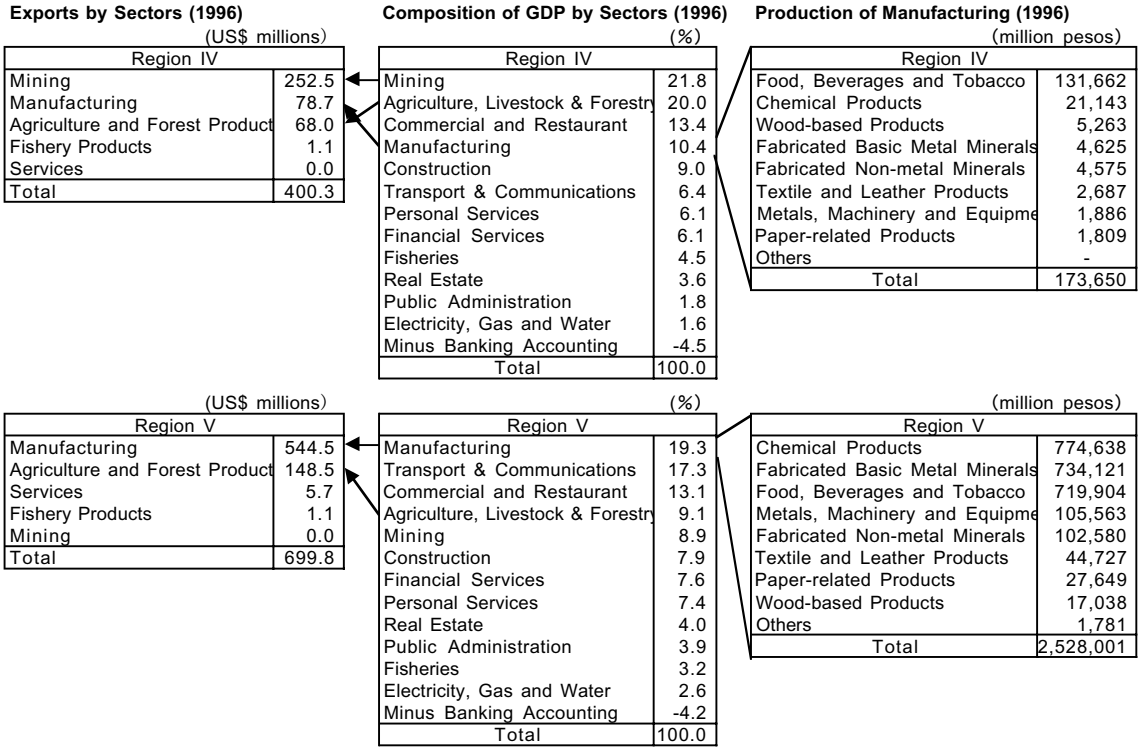


Figure 4.2.2 Industry Structure of the Central Zone in 1996

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Tourism

The Central Zone is privileged by a stable and a relatively warm climate. This provides favorable conditions for tourism especially during the summer.

A problem related to the tourism industry in the Central Zone is the large concentration of tourists in the summer season and in beach resorts. In recent years, approximately

360,000 tourists came to Region IV during the period of the end of December to early February. This figure accounted for over 70% of total tourists during the year. The tourists include Chileans (81%, mainly from Santiago) and foreigners (19% of which, about 90% are from Argentina).[2]

Although there are many scenic spots and historical heritages in the zone, they have not yet been fully developed. In this regard, it is important to increase the number of tourist attractions, as well as extend the tourism season throughout the year. Region IV, for example, tries to develop historical sites such as old churches and observatories to attract tourists. Such efforts are needed to foster a tourism industry that is able to hire more permanent labor instead of temporary labor for the summer season.

Mining

Mining is one of the most important sectors for the Central Zone as it is for the nation. In Region IV, where other industries are in the process of development, mining is the most important industry, contributing to 22% of regional GDP and 63% of exports in 1996 (Figure 4.2.2).

In the zone, major items include copper, iron, gold, silver, molybdenum, and manganese. The increase in production of these items between 1990 and 1997 was moderate (Table 4.2.7). Production of molybdenum and manganese steadily increased though the volume of production is still small compared to other products such as copper and iron.

These mining industries are dominated by large-scale enterprises. In other words, it is almost impossible to compete with small-scale production in this sector.

Table 4.2.7 Mining Production in Central Zone

		1990	1991	1992	1993	1994	1995	1996	1997	per total	1997/1990
Metal	Copper	264,291	270,678	263,640	285,053	292,078	307,809	318,050	315,808	7.4%	119.5%
(ton, fined)	Gold	13	11	12	9	10	14	18	14	0.0%	108.3%
	Silver	122	119	122	124	123	161	161	130	0.0%	106.4%
	Molybdenum	1,292	1,206	1,372	1,681	1,700	1,656	2,002	1,751	0.0%	135.5%
	Iron	2,328,895	2,587,328	2,384,009	3,017,173	2,675,448	2,676,832	2,702,600	2,539,662	59.8%	109.1%
	Manganese	12,450	13,233	14,915	62,989	18,175	20,188	18,277	17,338	0.4%	139.3%
	Others	2,665	1,919	0	0	0	346	649	244	0.0%	9.2%
	Sub-total	2,609,728	2,874,494	2,664,070	3,367,030	2,987,535	3,007,005	3,041,757	2,874,947	67.7%	110.2%
Non-metal	Apatite	6,678	6,734	5,812	3,381	2,186	3,155	3,644	4,353	0.1%	65.2%
(ton)	Diatomita	2,433	4,006	5,740	4,149	604	7,293	3,702	3,808	0.1%	156.5%
	Guano	15,557	6,761	22,945	7,106	3,283	16,451	18,821	10,768	0.3%	69.2%
	Limestone	841,339	946,774	1,056,139	1,311,781	1,674,741	1,367,984	1,374,591	1,290,051	30.4%	153.3%
	Pozzolance	36,686	48,259	64,594	82,756	76,448	14,583	7,158	0	-	-
	Quartz	41,093	40,149	59,652	48,387	43,305	58,881	65,349	57,633	1.4%	140.3%
	Talc	315	548	1,493	2,700	2,569	1,953	2,351	2,283	0.1%	724.8%
	Others	1,453	1,621	871	3,235	3,840	3,199	3,639	2,956	0.1%	203.4%
	Sub-total	945,554	1,054,852	1,217,246	1,463,495	1,806,976	1,473,499	1,479,255	1,371,852	32.3%	145.1%
	Central Zone	3,555,282	3,929,346	3,881,316	4,830,525	4,794,511	4,480,504	4,521,012	4,246,799	100.0%	119.5%

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Trend of regional GDP growth

In both regions, major sectors grew steadily from 1985 to 1996 (Figure 4.2.3). However, the factors influencing rhe growth of regional GDP growth in each region are different.

[2] SERNATUR in Region IV.

In Region IV, the agriculture sector has been expanded due to the development of irrigation facilities, and tourism-related industries such as hotels grew.

In Region V, manufacturing, transportation and communications and commerce grew together with the launch of factories in the region. Judging from the increase in labor (Table 4.2.6), the financial sector also expanded. This implies that Region V has shifted to a more commercial-related region.

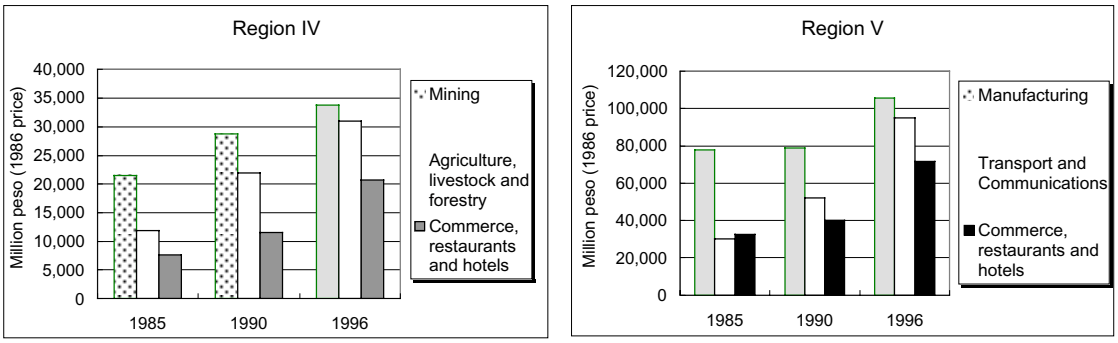


Figure 4.2.3 Trends of GDP Growth of Major Sectors in 1985-1996

Source: Regional Unit of Ministry of Economy, based on data from Cnetral Bank of Chile.

Small and medium-sized enterprises (SMEs)

Table 4.2.8 shows the situation of micro, small and medium-sized enterprises (MISMEs) in the Central Zone. Workers concentrate in micro and small-sized enterprises (75.4%). However, about 90% of exports are generated by large enterprises that employ only 7.7% of workers. Regarding shellfish production, for example, one company in Region IV produces 45% of the region's total and 36% of the national total (around 400 tons/year).

There are some micro and small-sized enterprises, especially among natural-resource-based producers, that have succeeded to export their products. Due to the strong natural conditions for agriculture and fisheries, these small exporters can stay competitive.

In general, main problems are how to find buyers and how to prepare initial capital for investment in commercialization.

Some successful small exporters could find buyers based on personal connections as well as by getting supports from ProChile. However, for the majority of MISMEs, it is difficult to identify their potential buyers/customers in world market due to a lack of information.

At the stage of commercialization, MISMEs tend to face financial problems. There are several financial schemes to support the initial stage of business development, such as the FDI of CORFO, yet few schemes exist to support commercialization. In this stage, MISMEs can only approach commercial banks. However, it is normally difficult to obtain financial support. This is due to a lack of collateral like valuable fixed property.

Presumably there is another important cause, namely a shortage of specialists who stay in the region, are familiar with the situations, and can assess the potential and/or risk of the new businesses.
Successful small enterprises are often managed by professionals who have worked, for example, as lawyers and consultants. They manage the business well based on their experiences and personal connections. They are familiar with what constitutes a business, identify business opportunities and initiate the business with a detailed business plan. Their manner of developing a business will be a model for MISMEs if the government provides adequate support for the capacity building of the managers.

It is important to note that individual export promotion efforts can hardly create the image of distinct products such as "US beef" and "Californian oranges". This is a disadvantage for international competition. Therefore, in addition to encouraging individual efforts to export their products, it is essential to develop industrial clusters, especially in the sector where MISMEs play an important role such as commercial fruits production.

Table 4.2.8 MISMEs' Shares in Enterprises, Workers, and Export

Share in Number of Enterprises (%) in 1997

Region	Micro (%)	SMEs (%)	Large (%)	Total (%)	Total
IV	86.8	12.8	0.3	100.0	20,326
V	83.9	15.7	0.5	100.0	51,909
Metropolitan	75.5	22.7	1.8	100.0	198,699
Information N/A	97.9	2.1	0.0	100.0	14,284
Central Zone	84.7	14.9	0.4	100.0	72,235
Nation	82.1	17.0	0.9	100.0	526,920
National Total	432,431	89,675	4,814	526,920	

Share in Workers in 1997

Region	Micro (1 - 4)	Small (5 - 49)	Medium (50 - 199)	Large (200 -)	Information N/A	Total	Workers (1,000)
IV	41.7	32.5	13.8	6.8	5.2	100.0	191.1
V	38.9	36.9	11.5	8.0	4.6	100.0	526.7
Metropolitan	33.1	34.6	15.4	13.7	3.3	100.0	2,263.3
Central Zone	39.7	35.7	12.1	7.7	4.8	100.0	717.8
Nation	38.9	35.2	12.5	9.7	3.7	100.0	5,210.2
Workers (1,000)	2,024.3	1,833.9	652.8	505.3	193.9	5,210.2	

Share in Exports in 1996

Region	Micro (%)	SMEs (%)	Large (%)	Total (%)	Total (US$1,000)
IV	0.1	8.5	91.4	100.0	368,004
V	0.7	11.2	88.0	100.0	447,478
Metropolitan	0.1	3.9	96.0	100.0	12,836,235
Central Zone	0.5	10.0	89.5	100.0	815,482
Nation	0.1	4.8	95.1	100.0	16,549,325
Total (US$1,000)	23,095	793,407	15,732,824	16,549,325	

Note: Definition of SMEs in terms of annual sales:
"small" = UF2,401-UF25,000 and "medium" = UF25,001-UF100,000 (UF1 is approximately P15,000 as of June 2000.)

Source: CORFO based on information from the Internal Revenue Service and ProChile, and MIDEPLAN, as quoted in CORFO, Basic Statistics of Enterprises in Chile, November 1998.

4.2.2 Export: Past Performance and Future Prospects

(1) Past Performance

The export performance of each region in 1998 is shown in Table 4.2.9. Although exports contributed to approximately 20-25% of regional GDP in both regions, there is a significant difference in the value of exports. Over 75% of the exports from the Central Zone is generated in Region V.

Table 4.2.9 Export Performance of Central Zone in 1998

Region	GDP (US$ millions)	Exports: FOB (US$ millions)	Share in Zonal Exports (%)	Share in National Exports (%)	Share in regional GDP (%)
IV	1,535	375.5	24.9%	2.6%	24.5%
V	5,342	1,134.2	75.1%	7.7%	21.2%
Central Total	6,877	1,509.7	100.0%	10.3%	22.0%
National Total	62,446	14,645.0		100.0%	23.5%

Note: Share of GDP is in 1997, and other figures are in 1998 due to data limitation
Source: Regional Unit of the Ministry of Economy, based on data provided by ProChile and INE.

Table 4.2.10 shows the major export products of the Central Zone in 1998. Major export products are concentrated in two areas: mining (47.8% of zonal exports) and agriculture and related industries (14.1 %). The common features of these export products are natural-resource-based and relatively low value-added. However, this also suggests that natural-resource-based products of the zone are competitive in the international markets.

The tire producer and the gearbox-producer are the representatives of the manufacturing exporters in the zone.

Table 4.2.10 Major Export Products of Central Zone by Region in 1998

Region IV	FOB (US$ millions)	Share (%)	Region V	FOB (US$ millions)	Share (%)
Gold, non-monetary, other than powder	77.3	20.6	Refined copper, cathodes	292.7	25.8
Fresh grapes	70.8	18.9	Unrefined copper, blister	141.8	12.5
Copper ores	44.2	11.8	Gold, non-monetary, other than powder	59.0	5.2
Iron ores	43.8	11.7	Fresh grapes	55.6	4.9
Refined copper, cathodes	33.7	9.0	Gear boxes	46.6	4.1
Other northern scallops	17.2	4.6	Copper ores	29.1	2.6
New rubber tires	11.7	3.1	Raisins	22.8	2.0
Other shrimps, prawns	8.8	2.3	Juice, powder and concentrates	21.8	1.9
Pepper, dry	4.6	1.2	Avocados	19.5	1.7
Other crustaceans, molluscos	4.4	1.2	Other wood in chips	17.8	1.6
Others	58.9	15.7	Others	427.5	37.7
TOTAL	375.5	100.0	TOTAL	1134.2	100.0

Source: Regional Unit of the Ministry of Economy, based on data provided by ProChile.

There are some products that have a low level of exportation, even though they appear to have a high potential for export. The largest pisco producer of the world, Capel, was not so eager to export their products because of their domestic-market-prioritized strategy. There is room to develop domestic-market-oriented products into new export products.

(2) Future Prospects

Regarding the export environment, some difficulties exist. There is stagnation in mineral resource markets, especially of low-value-added products. A Japanese trading company has pointed out that it will become increasingly difficult to export mineral ores.

An increase in labor costs decrees profits of some natural-resource-based products, particularly low-value-added products such as frozen shrimp. Small shellfish production, for example, is already facing strong competition with other countries like Peru. Shellfish production depends largely on manual work for some processes like peeling shells. A similar situation can been seen in canned fish production. Low prices are the most important competitive factor in this market. Thus, it is hard to compete with countries who have low labor costs and low agency cost due to relaxed regulations such as Peru and China.

On the other hand, this zone has some advantages in export promotion. There are well-developed ports such as Valparaiso and San Antonio in Region V and Coquimbo in Region IV. Tourists, especially foreigners, are an important resource for export promotion. The location of the regions close to the Metropolitan Region, especially Region V, is another advantage.

There are some prospective aspects for export promotion. In agriculture, some new export products have been commercialized. Chirimoya is a new fruit that can be sold at a higher consumer price than grapes and apples. Especially "organic" chirimoyas were sold at a price twice as high as normal ones in the USA. Chile has the advantage of a relatively pest-free environment, and the unique geographical characteristics of the country make it easy to control this condition. To take advantage of the natural environment in the zone, there is a possibility of producing high quality natural-resource-based products.

Regarding fisheries, the quality of fish (including those cultivated) due to relatively pure seawater is regarded as the strongest source of competitiveness for the zone. Prawns, caught from the deep sea, are appreciated for their high quality. In addition, according to research conducted by IFOP, there appears to be potential to export deep-sea crabs to Asian countries.

Relatively pure water provides ideal conditions for aquaculture. Due to this advantage, the cultivation of macha, scallops and abalones increased in recent years. These products have potential for future export expansion. However, it should be noted that because large companies hold areas most suitable for aquaculture, export promotion for these products may only benefit them.

In short, there are some unique materials that can be made into prospective export products. They are, however, still natural-resource-based products. The long-term preservation of natural conditions is required for sustaining competitiveness. Also, it will be needed to develop/improve storage and transport technologies for expanding chilled and frozen export products.

To continue exploring the international markets, it is critical to organize those actors that work in the same product area in order to create a strong image of Chilean products.

The protocol to develop new mines on the Chile-Argentina border will be approved. This will create business opportunities for those existing supporting industries for mining that have not been well developed in Argentina in such areas as special mining equipment and training of mine workers. There also is the possibility of applying accumulated technologies to other products. A company in Region IV, specializing in working clothes for miners, started manufacturing other working clothes such as a fireman uniforms. This company started promoting its products in neighboring countries with the support of ProChile.

4.2.3 Investment: Past Performance and Future Prospects

(1) Past Performance

Table 4.2.11 shows the materialized foreign direct investment (FDI) between 1974 and 1999. In Region IV, FDI was concentrated in the mining sector (93.4% of regional FDI), whereas in Region V it was concentrated in electricity gas and water (67.8%).

Table 4.2.11 Foreign Direct Investment in the Central Zone by Sector in 1974-1999

Amount of Investment (US$ millions)

Region	Agri-culuture	Construc-tion	Electricity, gas, water	Industry	Mining	Fisheries	Services	Forestry	Transport & Communi-cations	Total
IV	0	44,263	0	3,332	1,527,543	5,434	41,585	0	2,475	1,635,611
V	9,055	74,577	529,087	86,914	589	853	42,616	0	31,862	780,541
Central Total	9,055	118,840	529,087	90,246	1,528,132	6,287	84,201	0	34,337	2,416,152
National Total	226,196	938,923	6,948,966	5,549,809	14,875,354	172,038	9,756,768	238,109	2,106,559	40,812,722
Share in Nation										(%)
IV	0.0	4.7	0.0	0.1	10.3	3.2	0.4	0.0	0.1	4.0
V	4.0	7.9	7.6	1.6	0.0	0.5	0.4	0.0	1.5	1.9
Central Total	4.0	12.7	7.6	1.6	10.3	3.7	0.9	0.0	1.6	5.9
National Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share in Zone										(%)
IV	0.0	2.7	0.0	0.2	93.4	0.3	2.5	0.0	0.2	100.0
V	1.2	9.6	67.8	11.1	0.1	0.1	5.5	0.0	4.1	100.0
Central Total	0.4	4.9	21.9	3.7	63.2	0.3	3.5	0.0	1.4	100.0
National Total	0.6	2.3	17.0	13.6	36.4	0.4	23.9	0.6	5.2	100.0

Source: Committee of Foreign Investment.

(2) Future Prospects

Priority sectors for domestic and foreign investment promotion under the TodoChile program are shown in Table 4.2.12.

Table 4.2.12 Priority Sectors for TodoChile Promotion by Region as of July 2000

Region	Priority Sectors
IV	Agro-industry, Tourism, Mining, Fisheries (Aquaculture)
V	Agro-industry, Real estate related to tourism industry, Manufacturing (Chemical), Education, Port services

Source: CORFO.

There seems to be room for investment in agro- and fish-based manufacturing. The existing labor-intensive production system is rather for manufacturing low value-added products. However, there is a possibility of manufacturing natural-resource-based

products that can be sold at higher prices by using the labor-intensive system. These products have the potential to attract FDI. Chilled fish, crustaceans and some high-value agricultural products such as wine are likely included in this category.

The mining sector has attracted FDI in Region IV. In this sector, investing in new plant equipment is a key to improve productivity and quality, thus increase competitiveness in the world market. However, it will be difficult to do so for some time in the near future due to lowered profitability caused by stagnation in the mineral markets. Therefore, FDI in the mining sector will possibly increase constantly though not substantially.

Judging from the existence of manufacturing companies in the zone, Bridgestone-Firestone and a parts supplier for Peugeot, it seems to be possible to also attract FDI in the sector, though such a possibility demands further investigation.

It is reported that Bridgestone-Firestone came to Chile because 1) The company wanted a strategic point on the west-coast of South America as a part of the world market coverage strategy; and 2) It purchased the factory established by Firestone. It can utilize the same machines and dies for tires that are extremely expensive. Although the latter sounds like a specific case, the former is a critical point for seeking potential investors under regional economic integration.

Even at present, salaries for university graduates/highly qualified engineers are regarded as considerably high in Chile compared to countries such as Mexico. Thus, it is probable that only those manufacturing companies that produce high value-added products with few university graduates/highly qualified engineers will invest in the zone.

Investment in real estate related to tourism has increased in recent years. Investment in the education sector is expected to increase because there are prestigious higher educational institutions, which have the possibility of also attracting students from other South American countries. Investments in port and maritime services are expected to increase with the advance of regional economic integration.

4.2.4 Central Zone in an International Perspective

One of the important characteristics of the Central Zone is that it has leading international ports, e.g. Valparaiso and San Antonio, which provide maritime transport services not only to domestic enterprises but also to neighboring countries, Argentina in particular. This feature results in its increased importance as a gateway, not only between the Metropolitan Region and Asia and the Pacific but also between the interior areas of South America and those areas.

Table 4.2.13 describes the physical regional integration plans. Having a better linkage between two areas by improving road facilities and borders will contribute to an increase in trade among Asia and the Pacific, Chile and other countries in South America.

At present, one of the reasons why companies in Region IV are using the Valparaiso

port instead of the port of Coquimbo is the regular service of cargo ships. An increase in export/import goods, together with information, will foster the development of port and maritime transport services and will then attract more customers.

Regarding investment in infrastructure development, it has become more necessary to increase coordination between among the regions of Chile as well as between countries. It is important to clarify the main function of each port and cities for such coordination, due especially to the fact that financial and human resources are limited. It is crucial to formulate single solid development strategy by considering long-term, clear role sharing and coordination among ports and cities.

Compared to the North Zone, where fostering industrial cluster is needed, the Central Zone must function in a different way. Its main difference compared to the North Zone is the zone's close location from the Metropolitan Region. The zone, especially Region V, functions as a gateway for the capital, where industries are concentrated and generated approximately a half of GDP.

Soft infrastructure, such as financial and commercial services, is necessary to be improved more to support the gateway functions, together with the development of transport related sectors. Commercial and financial sectors have already started growing in Region V. This aspect gives a different perspective as a gateway in the zone from the North Zone.

It is crucial to develop the zone as a multi-functional gateway, like Singapore in Asia, where various industries are coordinated under one clear strategy, i.e. to become one of the world financial and trade centers.

Table 4.2.13 Protocol for Physical Integration between Chile and Mercosur

Region	Point on border	City in Chile	City in Argentina
II	Jama	Calama	Jujuy
	Sico	San Pedro de Atacama	Salta
III	San Francisco	Copiapo	Digonasta
IV	Agua Negra	La Serena	San Juan
V	Cristo Redentor	Santiago-Los Andes	Mendoza
VII	Pehuenche	Talca	San Rafael
IX	Pino Hachado	Concepcion-Lonquimay	Zapala
X	Cardenal Samore	Osorno	Sn. Carlos de Bariloche
XI	Coyhaique	Coyhaique	Alto Rio Mayo
	Huemules	Coyhaique	Rio Mayo
XII	Integracion Austral	Punta Arenas	Rio Gallegos-Sta. Cruz
	San Sebastian	Porvenir	Rio Grande-Sn Sebastian

Source: *Alejandro Corvalan Quiroz*, *"Una Mirada Regional al Cambio de Decada y Sus Proyecciones al Siglo XXI", Programa de Economia del Trabajo PET-V Region and Foro Nacional de Desarrollo Productivo,* 1999, pp. 47.

4.2.5 Keys to Export and Investment Promotion

The Central Zone's functions as a gateway between Asia and South America is of great importance in promoting export and investment not only for the zone but also for the country as a whole. At the same time, it is crucial to foster a more competitive and

diversified export sector and promote various kinds of foreign direct investment in the zone for more balanced economic development of the country.

Major features of the Central Zone

- High development potential as a gateway between Asia and South America due to its central location in the country which also neighbors the Metropolitan Region, good port facilities and other infrastructure, various services, and well-trained human resources.
- Favorable natural conditions (fertile soil, pure seawater, scenic beaches, and a stable climate) that can be utilized for agriculture, fisheries, and tourism.
- High economic dependence, export in particular, on natural-resource-based production such as mining, agriculture, and fisheries for the economy.
- Existence of internationally competitive manufacturing companies.
- Large differences in productivity, incomes, and exports between large size enterprises and SMEs (including micro enterprises), which account for more than 90% of workers but less than 5% of exports from the zone.
- Small-scale exporters based on personal connections and/or high product quality derived from favorable natural conditions, especially in agro- and fish-based industries.

Based on the above recognition, the study team proposes the following strategies for export and investment promotion of the Central Zone.

(1) Development of an integrated gateway by effective function sharing

- Build consensus among the concerned parties in both the public and private sectors based on the new reality of regional economic integration and a study regarding possible effects of increased integration in the zone.
- Identify functions necessary for the zone to become a multi-functional gateway and prepare a practical implementation plan so as to attract increased foreign direct investment into the zone.
- Prepare port sales plans for Argentina, Asian and Pacific countries.
- Assess the possibility that the ports of the zone, especially Valparaiso and San Antonio, can more effectively share their functions as an integrated gateway.
- Formulate an infrastructure development plan between Argentina and the seafront areas of the zone.
- Make institutional arrangements required for the redevelopment of major cities into gateway cities, particularly Valparaiso and Vina del Mar.
- Design an organizational structure to implement the gateway development plan.

(2) Differentiated marketing of natural-resource-based products

- Analyze competitive factors of those products exportable to high-price and specific markets such as consumers with health concerns.
- Establish strategies to penetrate differentiated markets so as to avoid cost competition in mass-markets.
- Find a way to create natural-and-high-quality images for natural-resource-based products; as such, an image itself can be value added.
- Explore the possibility of and requirements to establish a leading position in

organic product markets, especially of high-income countries.

- Establish an internationally recognized certification system for "organic products".
- Design institutional arrangements necessary to preserve and share natural resources, which is indispensable in order to maintain competitiveness of natural-resource-based products in international markets and for long-term sustainable development.

(3) Fostering industrial clusters through organizing SMEs

- Develop a new associate scheme to organize SMEs as if a single corporation for minimizing total costs of production, marketing, training, machinery, transportation, etc.
- Change from "product-out" strategy to "market-in" strategy.
- Identify the most efficient scale of association for marketing products.
- Establish a model relationship among participants (e.g., the roles of leading companies and suppliers of raw materials).
- Enhance each SME's capacity to penetrate international markets with a clear product image.
- Identify target markets to accelerate the organization/association process.
- Design necessary institutional arrangements to facilitate SMEs' organization (e.g., tax incentives) and to protect participant's rights.

(4) More effective support for SMEs' commercialization

- Develop a financial scheme for commercialization of new products produced by SMEs.
- Increase well-trained specialists who can provide appropriate technical and managerial advice to each SME on financial arrangement, pricing, marketing, customs clearance, patent application, etc.
- Improve the existing support schemes of government agencies so as to simplify application procedures and allocate funds more efficiently.

(5) Year-round tourism promotion

- Formulate a promotion strategy to increase the zone's "fans"; people who will act as potential voluntary promoters of the zone and its products.
- Identify necessary infrastructure (e.g., roads, accommodation facilities, information systems, and a 24-hour tourist support system) and design a plan to develop/improve them.
- Create a distinct single concept for the zone to attract tourists, making the most of resources and existing products such as nature, observatories, beaches, wine and seafood.
- Develop tourist attractions other than beaches, both facilities and activities, to extend the tourism season and create employment in the zone.
- Restructure tourism-related industries by incorporating the idea: "Tourism as an opportunity to promote the zone as producers of exportable products and destinations for foreign investment."

4.3 Metropolitan Zone

4.3.1 Geographic and Socio-Economic Characteristics

(1) Geographic Characteristics

The Metropolitan Zone (Region de Metropolitana de Santiago) is located between latitude 33 and 34 degrees south, and is the only region that does not face the Pacific Ocean. The region, which is located in the geographical center of the country, also functions as its economic center.

Annual rainfall is around 300 mm, while the temperature remains between -2 and 33 centigrade.

Table 4.3.1 Population, Area, and Rainfall

Regions	Population		Area		Population Density	Annual Rainfall	Temperature
	(Persons, 1992)	Share (%)	(km^2)	Share (%)	(persons/km^2)	(mm)	(℃)
Metropolitan Region	5,336,478	40.3%	15,349	2.0%	347.7	300	(-2) - 32
National Total	13,234,093	100.0%	756,626	100.0%	17.5	-	-

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

(2) Socio-Economic Characteristics

As of 1992, 5.3 million people resided in the Metropolitan Region, which accounted for 40% of the country's total population (Table 4.3.1). With the population located in 2.0% of the total national land area, the region has the highest population density in the country (347.7 person/km^2).

The Metropolitan Region generated 47.6% of GDP (US$29,646 million) in 1997. In this same year, GDP per capita of the region was US$5,555, [1] a statistic much greater than the national average (Table 4.3.2). [2]

Table 4.3.2 GDP and GDP per Capita in 1997

Regions	GDP 1997		GDP/Capita
	(US$ millions)	Share in the Country (%)	(US$)
Metropolitan Region	29,646	47.6%	5,555
National Total	62,302	100.0%	4,708

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

Table 4.3.3 shows the share of regional GDP by sector in 1996. Nearly 60% of regional GDP was generated by commerce, restaurants, and hotels and financial services, followed by the manufacturing sector (20.5%). The characteristic of the region was a high concentration of regional GDP in the industry and service, whereas other regions tended to depend on natural-resource-based production.

[1] This figure is calculated by using a 1992 Census for population. Therefore, the figure itself is not exact.
[2] ditto

Table 4.3.3 Share of Regional GDP by Sector in MR in 1996

	(%)
Commerce, Restaurants, and Hotels	29.5
Financial Service	26.8
Manufacturing	20.5
Transport and Communication	10.2
Personal Service	8.7
Construction	5.5
Real Estate	4.4
Agriculture, Livestock, and Forestry	2.6
Public Administration	2.4
Electricity, Gas and Water	1.2
Mining	0.9
Fisheries	0.0
Minus Banking Accounting	-12.7
Total	100.0

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

The Metropolitan Region's GDP grew steadily from 1985 to 1996 (Table 4.3.4 and Figure 4.3.1). The growth of regional GDP of major sectors was much higher than that of GDP. In particular, commerce, restaurants and hotels grew by 283.6% between 1985 and 1996. This was a 1.2 times higher growth rate in comparison with the national total.

Table 4.3.4 Trends of GDP Growth of Major Sectors in MR in 1985-1996

(Million Pesos in 1986 price)

Sector	1985	1990	1996	1996/85	Share in 1996 (%)
Manufacturing	247,094	383,522	588,289	238.1%	20.5%
Financial services	308,333	453,191	766,636	248.6%	26.8%
Commerce, restaurants and hotels	297,814	457,159	844,471	283.6%	29.5%
Total GDP	1,206,464	1,736,608	2,865,621	237.5%	100.0%
National Total	3,238,003	4436042	7265141	224.4%	-

Source: Central Bank of Chile.

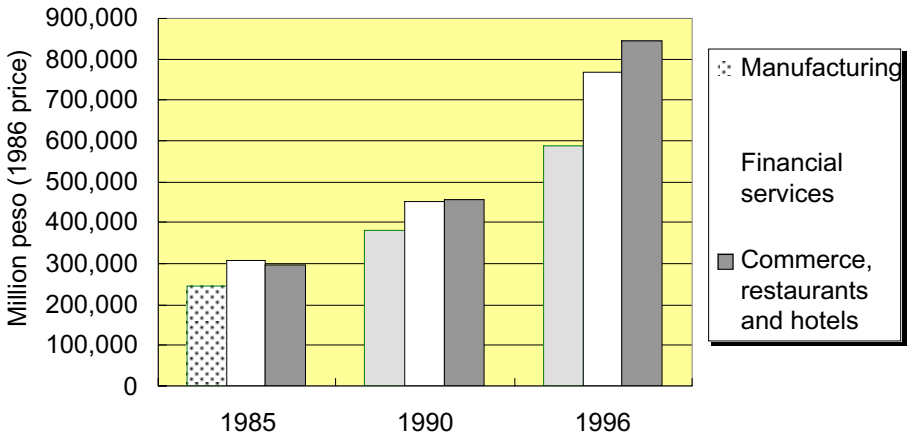


Figure 4.3.1 Trends of GDP Growth of Major Sectors in MR in 1985-1996

Source: Central Bank of Chile.

Table 4.3.5 shows GDP by sector and by zone in 1996. It is clear that there is a high concentration of GDP in the Metropolitan Region, especially in commerce and manufacturing.

Table 4.3.5 GDP Share by Sector and by Zone in 1996

GDP by Sector and by Zone (million pesos in 1986 price)

	North	Central	South	Austral	MR	Total
Agriculture	24,780.1	80,864.6	283,297.5	8,294.4	74,506.1	718,565.7
Fishery	12,734.9	24,507.8	60,295.1	11,769.5	0.0	165,822.9
Mining	399,828.3	82,560.5	76,016.2	27,659.9	25,790.6	930,450.5
Manufacturing	67,272.3	121,850.9	329,728.2	32,989.2	587,452.3	1,741,140.0
Construction	54,867.5	57,232.3	108,936.8	7,495.5	157,609.2	589,592.4
Commerce	103,905.2	92,540.7	179,212.2	20,998.7	845,358.2	1,888,538.1
Others	179,747.7	244,167.1	434,773.0	45,637.9	1,174,904.6	3,178,271.4
	843,136.0	703,723.9	1,472,258.9	154,845.0	2,865,621.0	9,212,381.0

GDP Share by Sector according to Zone (%)

	North	Central	South	Austral	MR	Total
Agriculture	3.4%	11.3%	39.4%	1.2%	10.4%	100.0%
Fishery	7.7%	14.8%	36.4%	7.1%	0.0%	100.0%
Mining	43.0%	8.9%	8.2%	3.0%	2.8%	100.0%
Manufacturing	3.9%	7.0%	18.9%	1.9%	33.7%	100.0%
Construction	9.3%	9.7%	18.5%	1.3%	26.7%	100.0%
Commerce	5.5%	4.9%	9.5%	1.1%	44.8%	100.0%
Others	5.7%	7.7%	13.7%	1.4%	37.0%	100.0%
	9.2%	7.6%	16.0%	1.7%	31.1%	100.0%

GDP Share of Each Sector by Zone (%)

	North	Central	South	Austral	MR	Total
Agriculture	2.9%	11.5%	19.2%	5.4%	2.6%	7.8%
Fishery	1.5%	3.5%	4.1%	7.6%	0.0%	1.8%
Mining	47.4%	11.7%	5.2%	17.9%	0.9%	10.1%
Manufacturing	8.0%	17.3%	22.4%	21.3%	20.5%	18.9%
Construction	6.5%	8.1%	7.4%	4.8%	5.5%	6.4%
Commerce	12.3%	13.2%	12.2%	13.6%	29.5%	20.5%
Others	21.3%	34.7%	29.5%	29.5%	41.0%	34.5%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: "North" consists of Regions I, II and III. "Central" consists of Regions IV and V. "South" consists of Regions VI, VII, VIII, IX and X. "Austral" consists of Regions XI and XII.

Source: Calculated by the study team based on data from *Banco Central.*

The process of concentration can be partially observed from the change in the share of the labor force. The change in labor between 1990 and 1998 indicates a transfer from natural-resource-based production and industry to commerce and finance (Table 4.3.6).

Table 4.3.6 Change in Share of Labor by Sector between 1990-1998

Share of Labor by Sector in 1990 (%)

	Agriculture, Hunting and Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construction	Commerce	Transport and Communications	Financial Services	Social and Communal Services	Total
MR	5.4%	0.5%	22.2%	0.5%	7.3%	19.2%	7.0%	7.3%	30.5%	100.0%
Nation	19.6%	2.2%	16.1%	0.5%	6.5%	17.5%	7.0%	4.5%	26.1%	100.0%

Share of Labor by Sector in 1998 (%)

	Agriculture, Hunting and Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construction	Commerce	Transport and Communications	Financial Services	Social and Communal Services	Total
MR	3.4%	0.5%	20.2%	0.7%	8.3%	20.4%	8.1%	10.3%	27.9%	100.0%
Nation	14.4%	1.5%	15.1%	0.7%	8.3%	18.5%	8.0%	7.5%	26.1%	100.0%

Change in the Share between 1990-1998 (%)

	Agriculture, Hunting and Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construction	Commerce	Transport and Communications	Financial Services	Social and Communal Services	Total
MR	-2.0%	-0.1%	-2.1%	0.1%	1.0%	1.2%	1.1%	3.0%	-2.6%	-
Nation	-5.2%	-0.7%	-1.0%	0.2%	1.8%	1.0%	0.9%	2.9%	0.0%	-

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Manufacturing

The largest manufacturing industry in the Metropolitan Region was food, beverages and tobacco, accounting for approximately 28% of total manufacturing production (Figure 4.3.2). The chemical productions came second, followed by metals, machinery and equipment.

The region does not appear to have a high dependence on any one sector, i.e. various manufacturing industries have developed in the region.

Exports by Sectors (1996)

(US$ millions)

Sector	
Manufacturing	1,928.6
Agriculture & Forest Products	322.9
Mining	315.5
Services	68.3
Fishery Products	2.5
Total	2,637.8

Composition of GDP by Sectors (1996)

(%)

Sector	
Commercial and Restaurant	29.5
Financial Services	26.8
Manufacturing	20.5
Transport & Communications	10.2
Personal Services	8.7
Construction	5.5
Real Estate	4.4
Agriculture, Livestock & Forestry	2.6
Public Administration	2.4
Electricity, Gas and Water	1.2
Mining	0.9
Fisheries	0.0
Minus Banking Accounting	-12.7
Total	100.0

Production of Manufacturing (1996)

(million pesos)

Industry	
Food, Beverages and Tobacco	2,120,726
Chemical Products	1,539,167
Metals, Machinery and Equipment	1,138,548
Textile and Leather Products	979,080
Paper-related Products	773,185
Fabricated Non-metal Minerals	456,869
Fabricated Basic Metal Minerals	368,355
Wood-based Products	189,789
Others	77,755
Total	7,643,474

Figure 4.3.2 Industry Structure of the Central Zone in 1996

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

Small and Medium-Sized Enterprises (SMEs)

Table 4.3.7 shows the situation of micro, small and medium-sized enterprises (MISMEs) in the Metropolitan Region. The concentration of workers in micro and small-sized enterprises is moderate compared to other regions due to the fact that large enterprises hired 13.7% of the workers. However, exports continue to concentrate in large enterprises (96.0% of exports). The concentration of medium and large-sized enterprises in the capital possibly resulted in these figures.

Table 4.3.7 MISMEs' Shares in Enterprises, Workers, and Export

Share of Number of Enterprises (%) in 1997

Region	Micro (%)	SMEs (%)	Large (%)	Total (%)	Total Number
Metropolitan	75.5	22.7	1.8	100.0	198,699
Nation	82.1	17.0	0.9	100.0	526,920
Total Number	432,431	89,675	4,814	526,920	

Share of Workers in 1997

Region	Micro (1 - 4)	Small (5 - 49)	Medium (50 - 199)	Large (200 -)	Information N/A	Total	Workers (1,000)
Metropolitan (%)	33.1	34.6	15.4	13.7	3.3	100.0	2,263.3
Nation (%)	38.9	35.2	12.5	9.7	3.7	100.0	5,210.2
Workers (1,000)	2,024.3	1,833.9	652.8	505.3	193.9	5,210.2	

Share of Exports in 1996

Region	Micro (%)	PYMEs (%)	Large (%)	Total (%)	Total (US$1,000)
Metropolitan	0.1	3.9	96.0	100.0	12,836,235
Nation	0.1	4.8	95.1	100.0	16,549,325
Total (US$1,000)	23,095	793,407	15,732,824	16,549,325	

Note: Definition of SMEs in terms of annual sales:
"small" = UF2,401-UF25,000 and "medium" = UF25,001-UF100,000 (UF1 is approximately P15,000 as of June 2000.)

Source: CORFO based on information from the Internal Revenue Service and ProChile, and MIDEPLAN, as quoted in CORFO, Basic Statistics of Enterprises in Chile, November 1998.

4.3.2 Export: Past Performance and Future Prospects

(1) Past Performance

The Metropolitan Region alone exported 18.7% of the national total in 1998. Table 4.3.8 shows major export products of the region in 1998. The main difference in comparison to other regions is that there does not exist a high dependence on a particular product or group of products.

Table 4.3.8 Major Export Products of the Metropolitan Region in 1998

Sector	FOB (US$ millions)	Share (%)
Wine, denomination of origin	288.0	10.5
Corn seeds	62.6	2.3
Refined copper wire	60.2	2.2
Juice, powder and concentrates	60.0	2.2
Other wine	54.8	2.0
Export related services	52.1	1.9
Fresh grapes	48.5	1.8
Newspapers, magazines	45.1	1.6
Molybdate, concentrates	45.0	1.6
Refined copper, cathodes	40.5	1.5
Others	2024.8	73.9
TOTAL	2741.3	100.0

Source: Regional Unit of the Ministry of Economy, based on data provided by ProChile.

(2) Future Prospects

As the economic center of the country, the Metropolitan Region plays a leading role in Chilean exports. Concentration in the service sector, especially financial services, strongly supported this role.

The issue that one should consider is how the Metropolitan Region can play a leading role in export promotion for other regions while in expanding opportunities for MISMEs.

Creating a strong image of Chilean products is crucial for penetrating international markets for both MISMEs and large enterprises. This requires effective coordination between the actors working in the same product area, as well as reinforcement of the export capability of each actor.

To share an understanding regarding the international market situation and key factors for international competition is one of the best ways to establish coordination. The Metropolitan Region is expected to play an important role due to the high concentration of information in the region.

4.3.3 Investment: Past Performance and Future Prospects

(1) Past Performance

Table 4.3.9 shows the materialized foreign direct investment (FDI) between 1974 and 1999. The Metropolitan Region received 34.2% of total FDI in the country, with special emphasis on the service, industry, and construction sectors.

Table 4.3.9 Foreign Direct Investment in the Central Zone by Sector in 1974-1999

(US$ millions)

Region	Agri-culuture	Construc-tion	Electricity, gas, water	Industry	Mining	Fisheries	Services	Forestry	Transport & Communi-cations	Total
MR	38,352	261,529	1,241,143	2,821,903	2,479,229	175	6,564,241	15,789	322,179	13,968,016
National Total	226,196	938,923	6,948,966	5,549,809	14,875,354	172,038	9,756,768	238,109	2,106,559	40,812,722
Share in Nation										(%)
MR	17.0	27.9	17.9	50.8	16.7	0.1	67.3	6.6	15.3	34.2
National Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Share in Region										(%)
MR	0.3	1.9	8.9	20.2	17.7	0.0	47.0	0.1	2.3	100.0
National Total	0.6	2.3	17.0	13.6	36.4	0.4	23.9	0.6	5.2	100.0

Source: Committee of Investment

(2) Future Prospects

The Metropolitan Region has been highly attractive for foreign investors due to the concentration of economic activities, its well-developed infrastructure, sufficient human resources and so forth.

The problem to be solved is how to play a leading role in investment promotion. Competition among regions to gain increased investments is a strong motivation for the regional governments to improve their investment environment. In each region, however, there is a limitation of resources, including money, information and human resources. It appears necessary to have close coordination between the central and regional governments in formulating and implementing strategies for TodoChile.

Another important factor is how best to accelerate investment of enterprises located in the Metropolitan Region to other regions. Appropriate institutional arrangements such as tax incentives would be required for such a purpose.

4.4 South Zone

4.4.1 Geographic and Socio-Economic Characteristics

(1) Geographic Characteristics

The South Zone consists of five regions: Region VI (Region de O' Higgins), Region VII (Region del Maule), Region VIII (Region del Bio-Bio), Region IX (Region de la Araucania), and Region X (Region de los Lagos). It is located between latitude 34 and 44 degrees south. The climate becomes cooler and more humid from the north (Region VI) to the south (Region X). In particular, the rainfall dramatically increases from Region VI (563mm/year) to Region X (2,500mm/year) as shown in Table 4.4.1. This causes a special kind of richness in the natural resources and variations in the landscape, thus permitting various kinds of economic activities in the zone. The relatively dry climate of Region VI, Region VII, and Region VIII, together with the natural barriers (i.e., Atacama in the north, the Andes in the east, the Pacific in the west, and Patagonia in the south) that protect the country from infectious diseases and pests from other parts of the world, brings about unique phytosanitary conditions which seem to be favorable for organic agriculture in this zone.

Table 4.4.1 Population, Area, and Rainfall

Regions	Population		Area		Population Density	Annual Rainfall
	(Persons, 1992)	Share	(km^2)	Share	(Persons/km^2)	(mm)
Region VI O' Higgins	696,369	5.3%	16,365	2.2%	42.6	563
Region VII Maule	836,141	6.3%	30,302	4.0%	27.6	700
Region VIII Bio-Bio	1,734,305	13.1%	36,923	4.9%	47.0	1,000
Region IX Araucania	781,242	5.9%	31,858	4.2%	24.5	1,250
Region X Los Lagos	948,809	7.2%	66,997	8.9%	14.2	2,500
South Zone Total	4,996,866	37.8%	182,445	24.1%	27.4	
National Total	13,234,093	100.0%	756,626	100.0%	17.5	

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

(2) Socio-economic Characteristics

In 1992, five million people resided in the South Zone, which accounted for 38% of the total population of the country (Table 4.4.1). The population density decreases as one moves from the north to the south with the exception of Region VIII, which is the most densely populated region in this zone and the third most densely populated in the country, following the Metropolitan Region and Region V.

Total regional GDP of the South Zone was US$14,929 million in 1997, representing 24% of GDP. Region VIII has the highest regional GDP, accounting for 36% of zonal GDP and 9% of GDP. While the northern three regions of the South Zone have relatively higher regional GDP per capita, Region IX has the lowest regional GDP per capita (Table 4.4.2 and Figure 4.4.1) among the five regions. This is also one of the lowest among the 13 regions of the country.

The share of regional GDP by sector for each region of the South Zone is shown in Table 4.4.3. Agriculture, forestry, and fisheries are leading sectors in this zone with the exception of Region VIII, where the manufacturing sector has the largest share of regional GDP.

Table 4.4.2 GDP and GDP per Capita in 1997

Region		GDP (US$ millions)	GDP Share in the South	GDP Share in the Nation	GDP/Capita (US$)
VI	O' Higgins	2,807	18.8%	4.5%	4,031
VII	Maule	2,621	17.6%	4.2%	3,135
VIII	Bio-Bio	5,420	36.3%	8.7%	3,125
IX	Araucania	1,500	10.0%	2.4%	1,920
X	Los Lagos	2,581	17.3%	4.1%	2,720
South Zone Total		14,929	100.0%	23.9%	2,988
National Total		62,446		100.0%	4,719

Source: Regional Unit of the Ministry of Economy, based on data provided by INE.

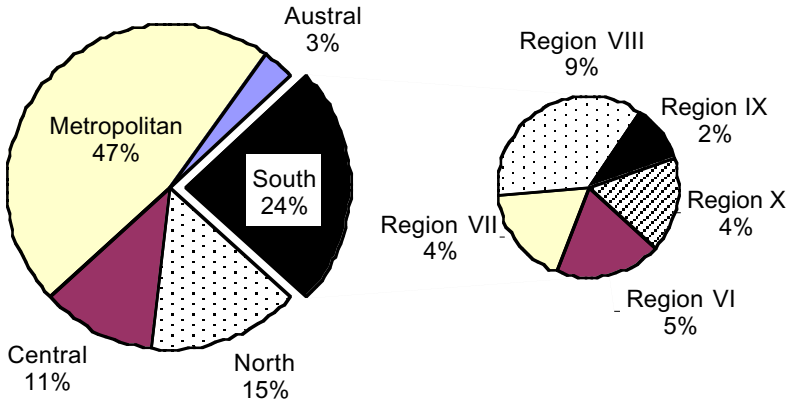


Figure 4.4.1 GDP Share in 1997

Source: Regional Unit of the Ministry of Economy, based on data provided by INE.

Table 4.4.3 Share of Regional GDP by Sector (%), South Zone in 1996

	Region VI	Region VII	Region VIII	Region IX	Region X
Agriculture, Livestock and Forestry	30.1	32.3	8.5	19.1	16.2
Fisheries	0.0	0.2	3.2	0.2	17.4
Mining	25.2	0.4	0.3	0.4	0.4
Manufacturing	9.7	22.3	35.5	14.4	13.3
Construction	6.7	6.3	6.8	11.9	8.0
Commerce, Restaurants and Hotels	11.6	11.0	10.1	19.4	14.3
Transport and Communication	3.7	4.7	11.7	7.4	6.9
Others	13.0	22.9	23.7	27.1	23.5
Total	100.0	100.0	100.0	100.0	100.0

Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

Agriculture and Forestry

While occupying 44% of the total agricultural area of the country, the South Zone has the largest shares of crop land (75%), grassland (34%), forest plantation area (94%), and wood and scrub area (65%) among the five zones (Table 4.4.4). This share of land use indicates that the agriculture and forestry sectors of the South Zone are important not

only for the zone itself but also for the entire country. For example, the zone accounts for 92% and 95% of the country's total planted area for wheat and oats, respectively, in 1996/97.[1]

Table 4.4.4 South Zone's Share of the Country's Agricultural Area in 1997

Region	Crops	Grasslands	Forest Plantations	Wood and Scrubs	Barren and Arid Fields	Roads, Ditches, etc.	Total
VI	11.4	4.1	6.0	6.2	2.2	7.8	4.9
VII	15.5	7.2	9.7	9.6	6.9	11.9	8.4
VIII	18.5	6.1	46.3	12.6	5.3	15.8	9.9
IX	17.8	7.5	25.2	10.9	3.4	12.4	8.9
X	11.7	9.3	6.8	25.3	5.9	14.7	11.6
South Total	75.0	34.1	94.1	64.7	23.8	62.5	43.7
National Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
(1,000ha)	2,297	12,925	1,097	4,643	5,305	236	26,502

ODEPA, *1999 Panorama de la Agricultura Chilena,* 1999.

It should be noted, however, that the zone's agriculture has been in a process of conversion, i.e., shifting away from grain cultivation and dairy farming towards more profitable, export-oriented horticulture (including fruits, vegetables, and flowers), viniculture, and forest plantation in the last decade. Such a tendency is more noticeable in the traditional grain-producing regions ("the burn of the country"), i.e., Region VII, Region VIII, Region IX, and the northern part of Region X. In particular, the area under forestry plantation expanded by 48% for the period of 1987/88-1997/98 (Table 4.4.5), which accelerated by the souring of the world log and lumber prices in the mid-1990s due largely to the increased environmental concerns in North America. Region VIII has the largest plantation area, more than 80% of which is planted with radiata pine, while Region X experienced the most rapid increase in forest plantation among the five regions for the period of 1987/88-1997/98.

Table 4.4.5 Changes in Land Use in South Zone in 1987/88-1997/98

	Crop Lands			Glasslands			Forest Plantations		
Region	1987/88	1997/98	Change (%)	1987/88	1997/98	Change (%)	1987/88	1997/98	Change (%)
VI	257,450	265,588	3.2	442,080	328,038	-25.8	68,860	85,399	24.0
VII	299,660	330,709	10.4	735,730	610,331	-17.0	234,590	359,310	53.2
VIII	396,550	285,309	-28.1	894,890	817,309	-8.7	562,279	739,418	31.5
IX	403,550	369,598	-8.4	781,820	635,139	-18.8	195,505	317,636	62.5
X	229,470	180,932	-21.2	908,550	887,433	-2.3	71,515	169,439	136.9
South Total	1,586,680	1,432,136	-9.7	3,763,070	3,278,250	-12.9	1,132,749	1,671,202	47.5
National Total	1,924,140	1,750,980	-9.0	4,286,390	3,723,782	-13.1	1,182,075	1,737,029	46.9

Note: The national total is for Region III - Region X only.
Source: Regional Unit of the Ministry of Economy, based on data provided by ODEPA.

Fisheries

Fisheries are also an important industry in this zone. Fishing (e.g., mackerels, anchovies, and sardines) in Region VIII and aquaculture (e.g., salmon and shellfish cultivation) in Region X are outstanding in the country (Table 4.4.6). However, the past boom of fishing in Region VIII came to an end with the enforcement of the Fish

[1] Regional Unit of the Ministry of Economy, based on data provided by ODEPA.

and Marine Law in the early 1990s, which regulates fishing activity for the long-term preservation of marine resources. In addition, the fishing boom was also halted due to irregular climatic changes in recent years. In Region X, on the other hand, the salmon farming boom appears to continue, bringing about a further expansion of related industries (e.g., oil and meal processing, engineering services, finance, etc.). However, there is an increasing concern regarding such high dependence on the industry for the region's economy, particularly for exports, as well as regarding its environmental sustainability in the long run.

Table 4.4.6 Fisheries in South Zone

	Catching in 1998 (1,000 tons)							Farming in 1997 (tons)			
Region	Sea weed	Fish	Mollusks	Crusta-ceans	Other	Total		Fish		Mollusks	
VI	2.2	0.4	-	-	0.3	2.6	0%	0	0%	0	0%
VII	0.0	3.9	0.3	-	0.6	4.7	0%	15	0%	0	0%
VIII	**20.0**	**2,501.0**	**9.9**	**11.7**	**0.0**	**2,543.4**	**68%**	559	0%	0	0%
IX	0.0	0.4	0.2	0.0	13.2	0.6	0%	50	0%	262	1%
X	**88.0**	**264.2**	**62.9**	**4.4**	**1.1**	**432.9**	**12%**	**217,130**	**88%**	**12,121**	**50%**
South	110.2	2,769.9	73.3	16.1	15.2	2,984.2	80%	217,754	88%	12,383	51%
Nation	265.3	3,266.8	108.6	38.9	47.0	3,728.7	100%	247,886	100%	24,460	100%

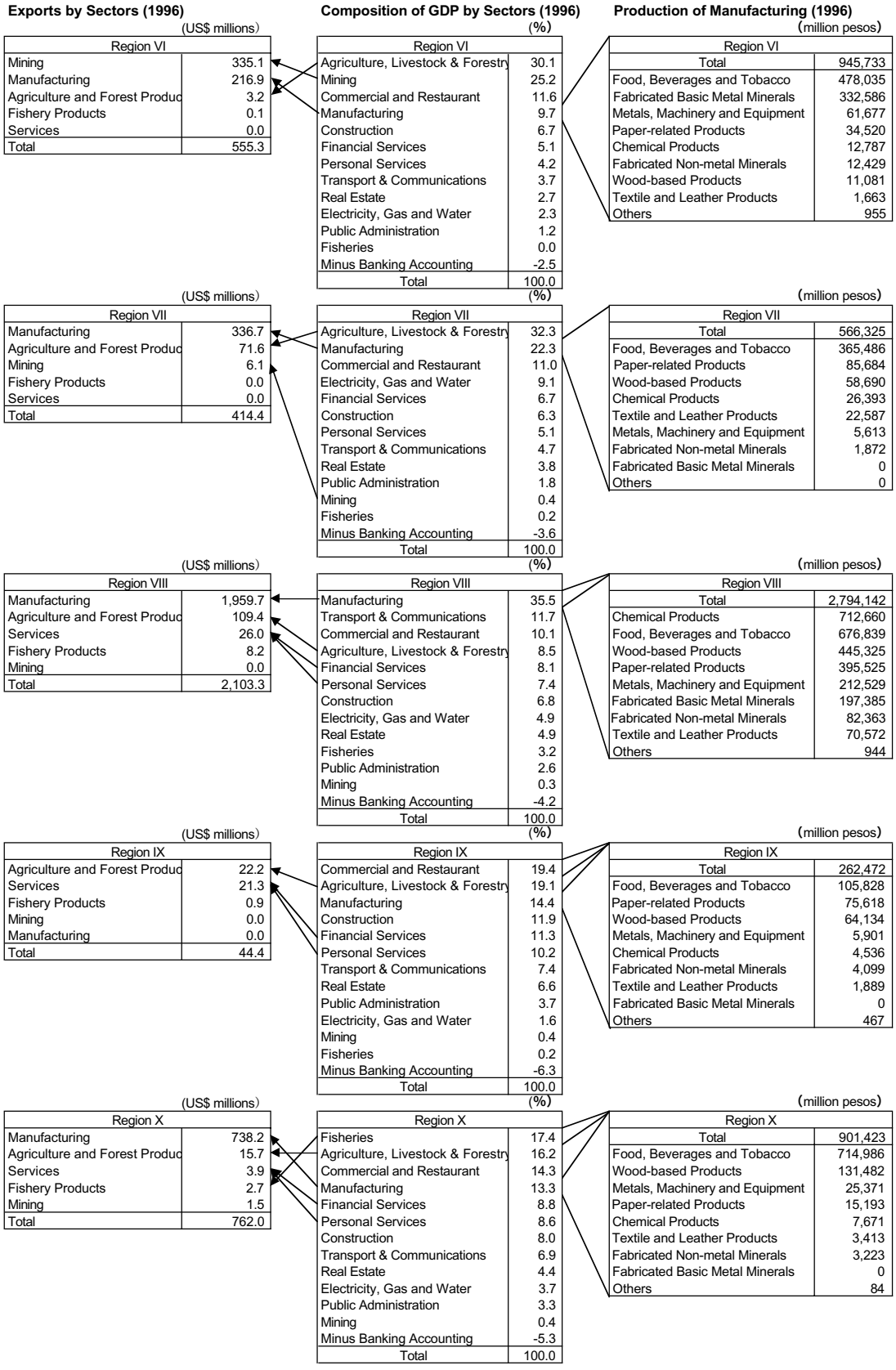
Note: Total includes catching in processing vessels.
Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*; and *Anuario Estadistico de Pesca 1998*.

Manufacturing

Manufacturing is one of the most important sectors for each of the five regions in terms of regional GDP, as well as in terms of exports (Figure 4.4.2). However, the majority of the manufacturing products are based on agriculture, forestry and fisheries, e.g., food and beverages, wood-based products, and paper-related products. They are primarily used for industrial production rather than for final consumption, and have relatively low value added. There is little accumulation of non-natural-resource-based manufacturing industries in the zone. Even in the agro- and wood-processing sectors, there are few supporting manufacturing industries and machinery and equipment are mostly imported from abroad. While there are a few internationally competitive companies in such sectors as metals and machinery, shipbuilding, and textile, particularly in Region VIII, none of them have grown into an export industry. For example, the situation in which only one company is exporting in the textile industry of Region VIII contrasts greatly with the accumulation of numerous companies in the textile and fashion industry in Italy.

Tourism

The economic importance of tourism seems to be increasing for each of the five regions in recent years, though there is very little statistical information on this sector. Although the South Zone has a few traditionally renowned tourist resorts, such as the Pucon-Villarica area of Region IX with volcanoes, lakes, forests, thermal springs, etc., the regional governments are promoting new types of tourism, e.g., agro-tourism, rural tourism, eco-tourism, adventure tourism, and historical tourism. In most cases, tourism promotion takes place with the technical and financial assistance of the CORFO



Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

Figure 4.4.2 Economic Structure of South Zone in 1996

Source: *INE, Panorama Regional: Estadisticas Regionales de Chile 1990-1998.*

regional offices and, to a much lesser extent, of the SERNATUR (National Tourism Service) regional offices. The reasons for such promotion are not only that the sector generates income and employment, but also that tourism activity is related to various kinds of services such as hotels, gastronomy, transport, commerce, and handcraft manufacturing, most of which are provided by micro and small sized enterprises. While tourism in Region VI targets tourists from the Metropolitan Region by taking advantage of its geographic location, major markets for tourism in Region IX and Region X include Argentina, Brazil, the United States, and some European countries, especially Germany, as well as the Metropolitan Region.

While the Pucon-Villarica area has reportedly more than 300,000 tourists during the two months from mid-January to mid-March, it has only about 500 tourists per month during the remainder of the year.[2] Such a large gap in the number of customers and, therefore, in sales between the high season and the off-season is due to the summer vacation traditionally taken by most Chilean people and is characteristic of other tourist resorts in the country as well. However, the situation seems to be more critical for the tourism industry in the South Zone, which has a longer winter than the northern regions.

Services

Service sectors (commerce, restaurants and hotels, and transport and communications) generally have large shares of regional GDP. However, in Region IX, commerce, restaurants, and hotels are even more important than agriculture, livestock, and forestry, likely due to the tourism in the Pucon-Villarica area. In each of the five regions, the most important service centers are their regional capitals, i.e., Rancagua, Talca, Concepcion, Temuco, and Puerto Montt, though some provincial capitals, such as San Fernando of Region VI, Curico of Region VII, Chillan of Region VIII, and Valdivia, the former regional capital, of Region X are equally important to the regional capitals. In these cities, except for Rancagua and San Fernando, there are national and private universities, which are important centers for research and development, as well as for social and cultural activities in the regions.

Trend of regional GDP growth

Figure 4.4.3 indicates the trend of the regional GDP growth of major sectors in each region from 1985 to 1996. The agriculture, livestock, and forestry sectors grew steadily in the South Zone with the exception of Region IX. The smaller agricultural growth of Region IX can be attributed to the stagnation of traditional grain cultivation and dairy farming, as indicated by the decline in land use for these sectors, though probably it was partially compensated for by the expansion of forest plantation during this period. In Region VI and Region VII as well, there is a declining tendency for traditional agriculture. Their steady agricultural growth can be explained by the rapid expansion of horticulture and viniculture for export. The growth of the fishery sector of Region X is remarkable, especially for the period of 1990-1996, due largely to the spread of salmon cultivation for export in the southern part of the region.

[2] According to Camara Turismo de Pucon.

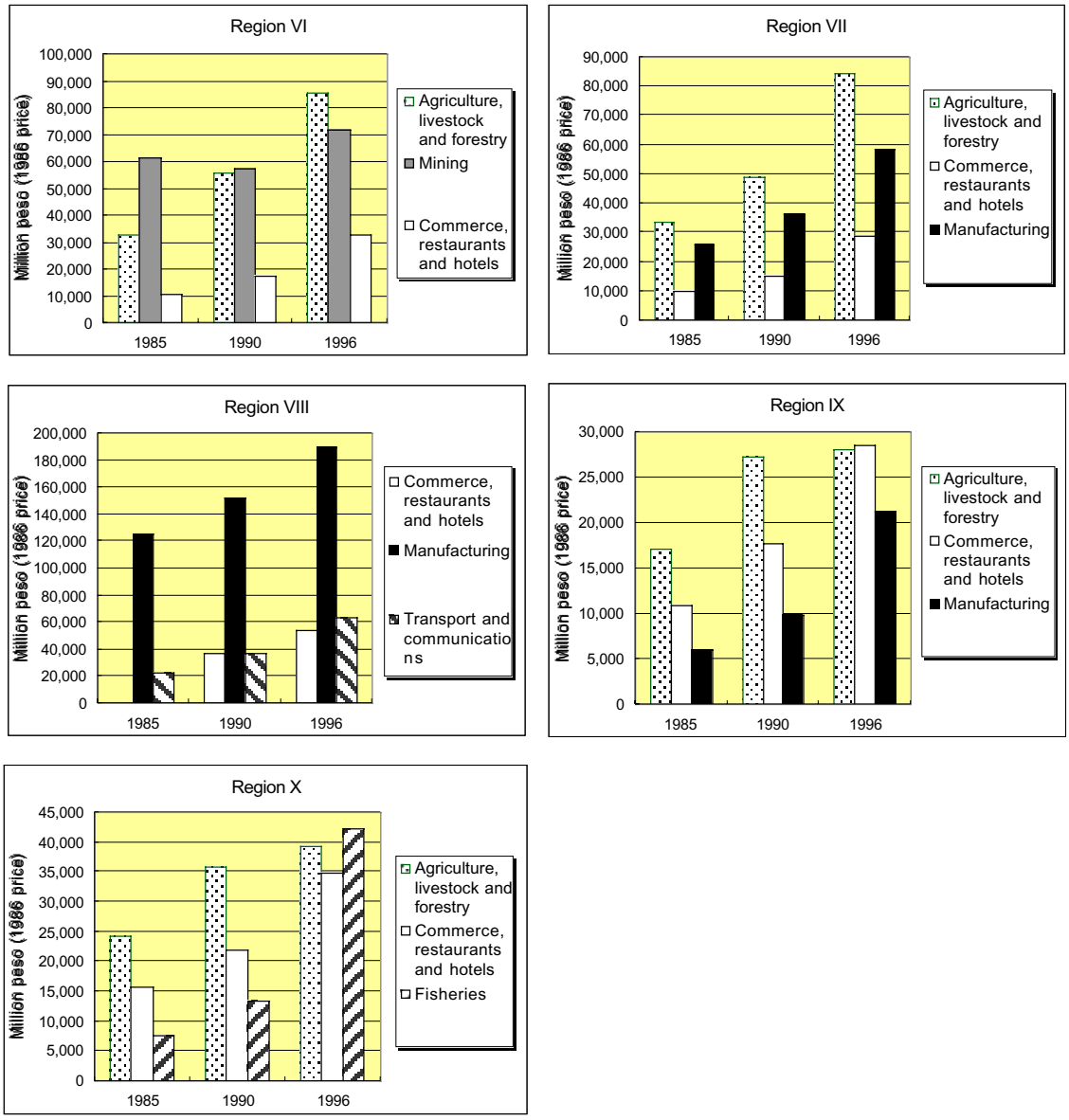


Figure 4.4.3 Trends of GDP Growth of Major Sectors in 1985-1996

Source: Regional Unit of the Ministry of Economy, based on data from the Central Bank.

Small and medium sized enterprises (SMEs)

Another important feature of the economy of the South Zone is the large share of micro, small, and medium sized enterprises (MISMEs) with respect to the number of enterprises and employment (Table 4.4.7). This characteristic is common for each zone, but the importance of MISMEs is more significant in the South Zone, especially when compared with the Metropolitan Region. This is because the economy is more heavily based on agriculture, forestry, and fisheries, which generally consist of a larger number of small-scale producers. MISMEs' share of exports is disproportionately small compared with their shares of the number of enterprises and workers, though many MISMEs are contributing to the activities of large sized exporting enterprises as providers of raw materials, forestry contractors, transporters, and so forth. It is therefore necessary to expand the production/export capacity of MISMEs in the regions

through strengthening financial, managerial, and technical assistance in order to reduce the gap in exports between the southern regions and the Metropolitan Region.

Table 4.4.7 SMEs' Shares in Enterprises, Workers, and Exports

Share of Enterprises (%) in 1997

Region	Micro (%)	SMEs (%)	Large (%)	Total (%)	Total Enterprises
VI	85.6	14.1	0.3	100.0	27,883
VII	88.7	11.0	0.3	100.0	39,738
VIII	85.2	14.4	0.4	100.0	57,131
IX	86.2	13.5	0.3	100.0	28,691
X	84.6	14.9	0.5	100.0	37,189
Metropolitan	75.5	22.7	1.8	100.0	198,699
No information	97.9	2.1	0.0	100.0	14,284
South Zone	86.0	13.6	0.4	100.0	190,632
Nation	82.1	17.0	0.9	100.0	526,920
National Total	432,431	89,675	4,814	526,920	

Share of Workers (%) in 1997

Region	Micro (1 - 4)	Small (5 - 49)	Medium (50 - 199)	Large (200 -)	No Info.	Total	Total Workers
VI	39.8	37.1	12.1	7.7	3.3	100.0	254.7
VII	41.1	41.3	11.0	4.9	1.7	100.0	316.8
VIII	39.5	32.5	12.5	9.9	5.6	100.0	598.0
IX	60.6	28.9	5.5	2.3	2.7	100.0	273.1
X	51.3	39.1	6.4	1.7	1.4	100.0	335.0
Metropolitan	33.1	34.6	15.4	13.7	3.3	100.0	2,263.3
South Zone	45.3	35.4	9.9	6.0	3.4	100.0	1,777.6
Nation	38.9	35.2	12.5	9.7	3.7	100.0	5,210.2
Total Workers	2,024.3	1,833.9	652.8	505.3	193.9	5,210.2	

Share of Exports (%) in 1996

Region	Micro (%)	SMEs (%)	Large (%)	Total (%)	Total (US$1,000)
VI	0.8	30.7	68.6	100.0	136,009
VII	0.3	11.3	88.5	100.0	222,014
VIII	0.1	3.7	96.2	100.0	871,120
IX	1.2	17.7	81.1	100.0	40,719
X	0.1	8.3	91.7	100.0	559,116
Metropolitan	0.1	3.9	96.0	100.0	12,836,235
South Zone	0.2	8.4	91.5	100.0	1,828,978
Nation	0.1	4.8	95.1	100.0	16,549,325
Total (US$1,000)	23,095	793,407	15,732,824	16,549,325	

Note: Definitions of SMEs in terms of annual sales: "Small" = UF2,401-25,000 and "Medium" = UF25,001-100,000. (UF1 is approximately 15,500 pesos as of July 2000.)

Source: CORFO based on information of S.I.I., ProChile, and MIDEPLAN, as quoted in CORFO, *Basic Statistics of Enterprises in Chile*, November 1998.

Social aspects

Although the economic performance of the south regions was impressive in the period of 1990-1996, the social conditions do not seem to have improved to the extent of economic growth, as manifested by the high rates of infant mortality and poverty (Figure 4.4.4). Each of the five regions has poverty rates higher than the national average, which was 21.7% of the total population in 1998. Infant mortality rates are also relatively high. The higher poverty rates of the zone can be partially explained by the larger share of the agriculture, hunting and fishery sector in the total employed labor force (Table 4.4.8), including peasant farmers and farm workers (*campesinos*) and small-scale fishermen (*pescadores artesanales*). The highest poverty rate of Region

IX (34.3%) is also attributable to the second largest *Mapuche* population (143,800 in 1992) in the country, following the Metropolitan Region.[3] The existence of the indigenous people, however, renders an important cultural heritage and identity to the region. Their socio-economic positions must be consolidated within the region, as well as in the country, while preserving such an asset.

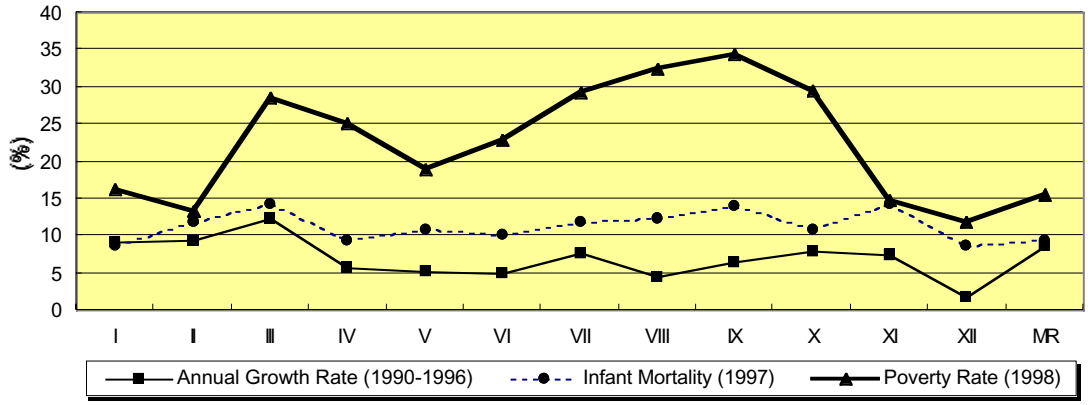


Figure 4.4.4 Annual Growth, Infant Mortality, and Poverty in Chile
Source: INE, *Panorama Regional: Estadisticas Regionales de Chile 1990-1998*.

Table 4.4.8 Employed Labor Force by Sector in 1998

Region	Agriculture, Hunting & Fisheries	Mining and Quarry	Industry	Electricity, Gas and Water	Construc -tion	Com- merce	Transport & Communi- cations	Financial Services	Social and Commun al Services	Total
VI	35.4%	3.2%	11.1%	0.6%	7.2%	15.4%	7.2%	3.5%	17.8%	100%
VII	34.8%	0.4%	11.7%	0.7%	8.5%	15.8%	5.2%	3.8%	20.3%	100%
VIII	17.5%	0.6%	18.8%	0.7%	9.0%	16.9%	7.7%	4.9%	24.7%	100%
IX	33.8%	0.1%	9.7%	0.5%	6.9%	15.4%	5.8%	3.8%	24.3%	100%
X	31.0%	0.3%	13.9%	0.3%	6.4%	14.1%	7.0%	3.6%	23.0%	100%
South Total	28.2%	0.8%	14.1%	0.6%	7.8%	15.7%	6.8%	4.1%	22.6%	100%
National Total	14.4%	1.5%	15.1%	0.7%	8.3%	18.5%	8.0%	7.5%	26.1%	100%

Note: "Employed labor force" includes unpaid family labor.
Source: INE, *Encuesta Nacional de Empleo,* 1998.

4.4.2 Export: Past Performance and Future Prospects

(1) Past Performance

The export performance of each region of the South Zone in 1998 is shown in Table 4.4.9. Region IX had the smallest exports, corresponding to only 0.2% of the country's total exports, while Region VIII had the largest exports in the zone and ranked third in the country, following Region II and the Metropolitan Region. The economies of Region VI, Region VIII, and Region X are more "export-oriented," i.e., having larger shares of the country's total exports compared with their shares of GDP. It is pointed out, however, that the exports of Region VII, as well as those of Region VI, would be significantly larger if their exports through the Metropolitan Region were included as their own exports in the trade statistics. The exports of these regions have been rapidly increasing in the last ten years due mainly to the expansion of horticulture and wine

[3] INE, *Population Census 1992*.

production for export, but many companies exporting products from these regions perform export operations at their headquarters in the Metropolitan Region.

Table 4.4.9 Export Performance of South Zone in 1998

Region	Exports: FOB (US$ millions)	Share of Zonal Exports (%)	Share of National Exports (%)	Share of GDP (%)
VI	1,011.4	23.8	6.9	4.5
VII	383.7	9.0	2.6	4.2
VIII	1,922.4	45.2	13.0	8.7
IX	23.9	0.6	0.2	2.4
X	913.9	21.5	6.2	4.1
South Total	4,255.3	100.0	28.8	23.9
National Total	14,753.9	--	100.0	100.0

Source: Regional Unit of the Ministry of Economy, based on data provided by ProChile and INE.

Although the main export products of the South Zone are manufactured goods (Figure 4.4.2), a closer look at the export items reveals that most of those products are natural-resource-based products (Table 4.4.10). More than 50% of the exports of Region VI are mineral products while other major export items are agricultural products. In Region VII, a quarter of the exports are accounted for by wood-based products, such as cellulose and paper, and the rest basically by agro-based products. In Region VIII, wood-based and fish products occupy over 70% of the total exports, mainly cellulose and fishmeal. In Region IX, 50% of the total exports are wood-based products, but they would account for more than 90% if cellulose produced and exported by Celulosa Pacifico S.A., located in Mininco, were included in the exports of the region, rather than of Region VIII. The export performance of Region X exhibits a concentration of fish (mainly cultivated salmon and trout) and other marine products. In addition, about one half of Region X's exports are destined to Asia, principally to Japan.

(2) Future Prospects

The present major export products of the South Zone, such as cellulose and wood products, fresh fruits and vegetables, and salmon and trout, are expected to remain competitive in the respective international markets for some time in the future. However, Chilean fresh fruits and salmon, for example, are competitive mainly because they can be marketed in the Northern Hemisphere during its off-season, rather than because of their excellence in quality or the distinctness of the products, which is partly due to the weak foundations of agricultural research and development. As economic theory suggests, new producers' entry into those industries will continue, domestically and internationally, until the profit becomes zero. Consequently, the costs of production and product quality for a better market price will become more critical factors for Chilean producers/exporters.

In such fields as processed agricultural products in which Chilean exporters cannot take advantage of the seasonal difference, Chilean producers/exporters are beginning to lose competition with lower cost producers/exporters such as those of China. In the forestry sector as well, the Chilean costs for producing cellulose are relatively higher when compared with those of other producers such as Indonesia and Portugal, or even

the southern part of the United States.[4] The costs will become even higher in the near future, judging from the difficulty in acquiring lands suitable for large-scale forest plantation in Chile, particularly in Regions VIII and IX, for socioeconomic reasons (including the ongoing land dispute between indigenous people and a plantation company) and environmental concerns. Therefore, it is necessary for the South Zone's major export industries to develop products with higher value added and better quality.

Table 4.4.10 Major Export Products of South Zone by Region in 1998

Region VI	FOB (US$ millions)	Share (%)
Other refined copper, unwrought	190.5	18.8
Copper cathodes	140.8	13.9
Molybdenum concentrates	123.9	12.3
Copper ores	73.3	7.2
Fresh apples	68.5	6.8
Unrefined copper, blister	48.7	4.8
Fresh grapes	46.5	4.6
Wine (denomination of origin)	40.2	4.0
Tomato juice and paste	31.0	3.1
Fresh pears	27.7	2.7
Others	220.3	21.8
TOTAL	1,011.4	100.0

Region VII	FOB (US$ millions)	Share (%)
Cellulose from conifers	64.4	16.8
Fresh apples	62.9	16.4
Tomato juice and paste	33.6	8.8
Fermented grape juice	22.7	5.9
Wine (denomination of origin)	16.7	4.4
Raspberries and blackberries	13.9	3.6
Fresh kiwis	12.9	3.4
Tobacco	11.9	3.1
Semi-bleached conifer cellulose	11.6	3.0
Fresh pears	8.4	2.2
Others	124.7	32.5
TOTAL	383.7	100.0

Region VIII	FOB (US$ millions)	Share (%)
Semi-bleached conifer cellulose	451.8	23.5
Fishmeal	260.4	13.5
Other sawn pineboards	213.4	11.1
Semi-bleached cellulose	122.1	6.4
Wood moldings and laths	88.2	4.6
Print paper	66.6	3.5
Other wood in chips or particles	62.6	3.3
Canned jack mackerel	46.0	2.4
Doors and their frames	44.6	2.3
Raw cellulose from conifers	41.9	2.2
Others	524.8	27.3
TOTAL	1,922.4	100.0

Region IX	FOB (US$ millions)	Share (%)
Pine veneer sheets	5.6	23.6
Wooden furniture for bedrooms	2.6	11.0
Clover seeds	1.6	6.8
Wooden furniture, parts & pieces	1.5	6.3
Other veneer sheet	0.9	3.8
Powdered milk	0.9	3.8
Canned sardine	0.9	3.8
Other wooden furniture	0.7	3.0
Raspberries and blackberries	0.6	2.5
Other sawn wood	0.6	2.5
Others	7.8	32.9
TOTAL	23.7	100.0

Note: Cellulose exported (US$150 millions) by Celulosa del Pacifico S.A., located in Mininco, is included in the exports of Region VIII.

Region X	FOB (US$ millions)	Share (%)
Fresh or refrigerated salmon fillets	179.8	19.7
Frozen Pacific salmon	118.3	12.9
Frozen trout	108.8	11.9
Frozen salmon fillets	60.4	6.6
Pacific salmon, Atlantic salmon	56.3	6.2
Other wood in chips or particles	48.8	5.3
Frozen grouper and cod fillets	34.4	3.8
Frozen trout fillets	32.3	3.5
Fishing boats	23.8	2.6
Mucilages and thickeners*	15.4	1.7
Others	235.5	25.8
TOTAL	913.8	100.0

* "Mucilages and thickeners derived from vegetable products," i.e., *carrageninas,* which is *similar to agar-agar.*
Source: Regional Unit of the Ministry of Economy, based on data provided by ProChile.

[4] In 1995, the cost of producing one ton of cellulose was US$285 for Indonesia, US$377 for Portugal, and US$414 for the southern part of the United States as compared with US$417 for Chile. JETRO, *The Present Situation of and Issues for Strengthening Industrial Competitiveness: Chile*, March 1997, p. 88. (In Japanese)

Furthermore, the high degree of dependence on a limited number of natural-resource-based products for their exports implies an urgent need to formulate risk management strategies to avert the negative impact of an external shock, as exemplified by the Asian economic crisis of 1997-1998. Even without considering an external shock, the high concentration of salmon cultivation for certain destinations (i.e., Japan and the United States) in the southern part of Region X inevitably raises concerns over its sustainability in terms of marketing, as well as in terms of environment management, though accurate scientific data have yet to be obtained.

Accordingly for the South Zone, possible strategies to remain a competitive exporter in the world market include the diversification and the value-added enhancement of export products in light of the limitations of natural resource endowment (including lands for agriculture and forest plantation). Some strategies are also needed for effective marketing, e.g., differentiation and segmentation, as discussed in 4.4.4. The production of organic products can be considered as one form of such marketing strategies. These strategies are crucial for the long-term sustainable economic development of the zone, as well as of the country.

4.4.3 Investment: Past Performance and Future Prospects

(1) Past Performance

The South Zone's share of the country's total FDI was only 4% for the period of 1974-1999 (Table 4.4.11). In the sectors of agriculture and forestry, however, the South Zone attracted significant parts of the country's total FDI, i.e., 52% and 59%, respectively. In each of the five regions, the largest percentage of total investment was made in the industry sector, but most of these investments are presumably in agro- and wood-based manufacturing, e.g., cellulose and paper production, fruits and vegetable processing (including frozen and dehydrated products, juice, and paste), fish processing (including refrigerated and frozen fillets), etc.

(2) Future Prospects

Natural-resource-based sectors such as agriculture, forestry, fisheries and, probably infrastructure related to these sectors (e.g., ports and roads) are expected to continue to attract foreign investors in the South Zone. The study team's interviews with some foreign investors alone indicate that Chile, particularly the South Zone, is attractive for foreign investors for the reasons: 1) low level of corruption in the public sector; 2) relatively transparent government policy; 3) minimal state interference; 4) public security; 5) availability of quality managerial and technical manpower at relatively low costs (especially as compared with North America and Europe); 6) availability of lands for agriculture and forestry; 7) a location convenient for business expansion in other Latin American countries, especially Brazil and Argentina; and 8) relatively good living conditions. Although the study team has yet to obtain information in a more systematic manner, new investments are being made in such fields as fruit and vegetable processing, wine production, milk processing, seed production, aquaculture, rural electrification, and tourism, by entrepreneurs primarily from Europe and North America.

Table 4.4.11 Foreign Direct Investment to South Zone by Sector in 1974-1999

(Materialized investment in nominal US$1,000)

Region	Agri-culture	Construc-tion	Electricity, gas, water	Industry	Mining	Fisheries	Forestry	Services	Transport & Communi-cations	Total
VI	19,916	770	3,549	170,660	14,478	0	0	1,234	0	210,607
VII	19,983	108,928	8,339	246,567	194	0	24,889	3,045	0	411,945
VIII	4,497	5,180	80,218	308,906	60	1,168	36,752	9,452	65,753	511,986
IX	9,042	575	0	61,074	1,453	0	8,197	632	0	80,973
X	64,075	27,310	0	151,825	1,975	12,977	69,337	9,770	11,964	349,233
South Total	117,513	142,763	92,106	939,032	18,160	14,145	139,175	24,133	77,717	1,564,744
Nation Total	226,196	938,923	6,948,966	5,549,809	14,875,354	172,038	238,109	9,756,768	2,106,559	40,812,722
										Share (%)
VI	8.8	0.1	0.1	3.1	0.1	0.0	0.0	0.0	0.0	0.5
VII	8.8	11.6	0.1	4.4	0.0	0.0	10.5	0.0	0.0	1.0
VIII	2.0	0.6	1.2	5.6	0.0	0.7	15.4	0.1	3.1	1.3
IX	4.0	0.1	0.0	1.1	0.0	0.0	3.4	0.0	0.0	0.2
X	28.3	2.9	0.0	2.7	0.0	7.5	29.1	0.1	0.6	0.9
South Total	52.0	15.2	1.3	16.9	0.1	8.2	58.5	0.2	3.7	3.8
Nation Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
										Share (%)
VI	9.5	0.4	1.7	81.0	6.9	0.0	0.0	0.6	0.0	100.0
VII	4.9	26.4	2.0	59.9	0.0	0.0	6.0	0.7	0.0	100.0
VIII	0.9	1.0	15.7	60.3	0.0	0.2	7.2	1.8	12.8	100.0
IX	11.2	0.7	0.0	75.4	1.8	0.0	10.1	0.8	0.0	100.0
X	18.3	7.8	0.0	43.5	0.6	3.7	19.9	2.8	3.4	100.0
South Total	7.5	9.1	5.9	60.0	1.2	0.9	8.9	1.5	5.0	100.0
Nation Total	0.6	2.3	17.0	13.6	36.4	0.4	0.6	23.9	5.2	100.0

Source: Foreign Investment Committee.

Priority sectors to be promoted, or proposed for promotion, for domestic and foreign investment under TodoChile for each region are shown in Table 4.4.12.

Table 4.4.12 Priority Sectors for TodoChile Promotion by Region as of July 2000

Region	Status	Priority Sectors
VI	Promoted	Wine, agroindustry, seeds, tourism, and recycling of industrial wastes.
VII	Proposed	Agroindustry, transport infrastructure, tourism, and viniculture.
VIII	Promoted	Agroindustry, biotechnology, metals and machinery, secondary and tertiary wood processing, and tourism.
IX	Promoted	Tourism, flower cultivation, seed production, agroindustry, secondary wood processing, and development of knowledge (education).
X	Promoted	Forestry, agriculture and livestock industry and tourism.

Sources: CORFO regional offices of Region VI -Region X.

4.4.4 South Zone in an International Perspective

The South Zone is in motion under Chile's economic integration with MERCOSUR countries. The regional governments of the zone are active in discussing with the provincial governments of southern Argentina measures to develop more positive economic relationships between the two areas. Some of the measures, such as infrastructure improvement, have been already put into implementation. While the regional integration may further stagnate the zone's traditional agriculture, grain cultivation and dairy farming, it is expected to increase the chance for the zone to export other types of agricultural products, e.g., fruits and vegetables, especially to Argentina and Brazil. It will also help the zone to promote tourism. A greater number of

international tourists will visit the zone's tourist circuits by taking advantage of the regional integration, not only from other parts of the country and the neighboring countries but also from North America, Europe, and even Asia.

The South Zone received 36% of the domestic tourists and 18% of the international tourists who visited Chile in 1999 (Figure 4.4.5). The Metropolitan Region received a far larger number of foreign visitors, but presumably most of them are for business rather than for tourism in the strict sense. A major destination of the tourists in the South Zone is its untouched nature.[5] The zone, Regions IX and X in particular, also attracts domestic and international tourists who visit Patagonia and the Antarctic. The zone's geographic advantage of being a gateway to both Chilean and Argentine Patagonias will be increased by the evolution of the regional integration.

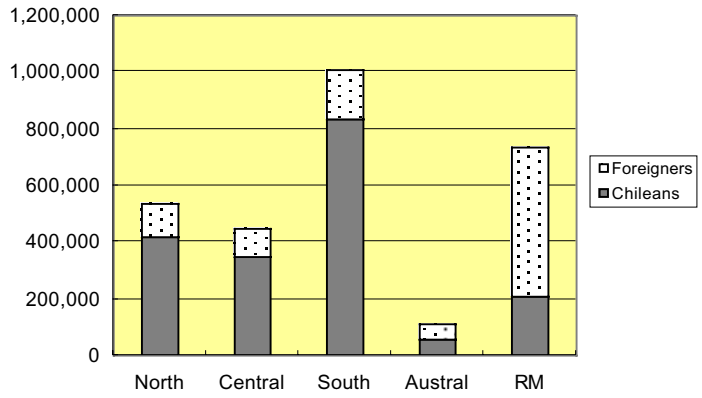


Figure 4.4.5 Number of Tourist Arrivals by Zone in 1999

Source: INE, *Anuario de Turismo 1999*, 2000.

The South Zone has substantially expanded economic relations with North America and America through export and investment in natural-resource-based areas such as fishery and forestry products, fruits and wine, as well as tourism. In 1999, the United States and Japan accounted for 23% and 20% of the zone's total exports, respectively.[6] Some foreign investors are focusing on the zone as a base for their business in MERCOSUR. However, the export and investment expansion, together with the economic integration with MERCOSUR, brings about both benefit and damage to the zone. The excessive and hasty exploitation of its natural resources will shatter the possibility of sustainable development of the zone. The appropriate natural resource management is a key to success in the integrated market.

4.4.5 Keys to Export and Investment Promotion

The South Zone is endowed with an abundance of natural resources, such as fertile lands, mountains, lakes and rivers, forests, mines, and marine resources. They can be utilized for a wide rage of economic activities, e.g., agriculture, forestry, fisheries, mining, and tourism, which not only bring about products for direct export but also provide raw materials to manufacturing industries for export. The availability of such

[5] INE, *Anuario de Turismo 1999*, 2000.

[6] ProChile, *Análisis Regional de las Exportaciones Chilenas 2000*, 2001.

natural resources has also been attracting foreign investments from various parts of the world. Although the zone's international competitiveness will continue to rely on those natural resources, people and industries must better utilize them. This can be done by enhancing their value added and by diversifying products for long-term economic growth and probably for more equitable distribution of the endowments. Thus, diversification and value added enhancement is proposed as a main strategy for export and investment promotion. However, other main strategies, i.e., the "eco-region" concept, tourism promotion, organic production, and development of new fields of export are all based on this perception.

Major features of the South Zone

- High dependence on a few sectors, based entirely on natural resources, such as agriculture, forestry, fisheries, and mining.
- Little accumulation of export companies in sectors other than the few sectors currently exporting (e.g., fresh fruits, wood-based products, and salmon).
- Little accumulation of non-natural-resource-based manufacturing industries, even in the sectors related to food and wood processing.
- Difficulty of MISMES in exporting directly despite their importance in the regional economy, due partly to the lack of effective support available to them.
- High poverty incidence, presumably due to a larger proportion of peasant farmers and farm workers (*campesinos*), small-scale fishermen (*pescadores artesanales*), and indigenous people to the total population of the zone.
- Lack of clear product concepts and marketing strategies for tourism despite abundant resources and possible linkages with other industries.
- Weak foundations of research and development.
- Less developed physical infrastructure (ports, roads, etc.) for export.
- Insufficient export-oriented human resources.

Based on the above recognition, the study team proposes the following strategies for promoting export from and investment to the zone. The numbers in parentheses indicate the regions to which the specified strategy should be applied.

(1) Diversification and value added enhancement of natural-resource-based products with a long-term perspective

The degrees to which this strategy is needed vary by sector and by region as shown in Table 4.4.13, according to their dependence on lower value added products for export.

Table 4.4.13 Need for Diversification and Value Added Enhancement

Region	Agriculture	Forestry	Fisheries	Mining
VI	xxx			xx
VII	xxx	xx		
VIII	x	xxx	xxx	
IX	xx	xx		
X	x	x	xxx	

Notes: 1) xxx = very necessary and urgent; xx = very necessary; and x = necessary.
2) Each sector includes manufacturing industries related to the sector.

- Prepare long-term value added enhancement plans for the agricultural, fishery, and forestry industries with a timetable and concrete measures for export expansion (See the plan framework presented in Chapter 4).
- Start with strengthening/expanding the existing agro- and wood processing industries (specifically the furniture cluster around CENTEC for Region IX).
- Analyze technical problems and cost structure and find solutions for higher efficiency.
- Research the potential of Asian markets and case studies of previous failures.
- Develop concrete product and manufacturing concepts and marketing strategies (e.g., differentiation and segmentation, target markets, etc.).
- Technical and financial assistance for MISMEs, especially purchasing new machinery and equipment.
- Strengthen supporting industries (e.g., engineering services, machinery and packaging material manufacturing, transport, etc.) and industrial linkages.
- Develop new and alternative uses of fishery and forestry products (e.g., salmon oil) and related services (e.g., fishery-related engineering for other industries).
- Incorporate environment management systems into the industrial development.

(2) "Eco-region" concept for attractive products (IX and X)

- Apply the concept to all industries to establish an environmentally friendly region.
- Strengthen linkages between tourism and other industries (e.g., agriculture, forestry, fisheries, food processing, restaurants, handcraft manufacturing, etc.), especially those sectors currently not exporting but producing quality products.
- Develop more "eco-products," e.g., natural beer and cheese, organic fruits, etc.
- Encourage broader participation of the local people, e.g., MISMEs, small-scale farmers and fishermen and indigenous people.
- Promote tourism in more systematic and integrated manners, e.g., eco-tourism, agro-tourism, historical tourism, and adventure tourism.
- Enhance environment awareness through concrete measures (e.g., education).
- Create and diffuse the "eco-image" of the regions.

(3) More systematic and focused tourism promotion (VI, VII, IX, and X)

- Develop distinct "product concepts," e.g., eco-/agro-/rural/historical/adventure tourism, thermal resorts, ski resorts, the gateway to Patagonia, etc.
- Explore the potential of year-round tourism.
- Formulate marketing strategies for target markets (regions, countries, and customers) and products.
- Develop cuisine, souvenirs, and attractions for tourists and promote them as "local" products particular to the regions or the zone.
- Improve promotion channels, especially for international tourists (e.g., ProChile offices).
- Integrate and coordinate among the regions, with Regions XI and XII and Argentine tourist resorts (e.g., Baliloche), and between the private and public sectors (e.g., SERNATUR, CORFO, ProChile, Fundacion Chile, etc.).
- Improve infrastructure (e.g., roads, accommodation facilities, and information systems, especially tourist information centers in plazas and along Route 5).

- Develop human resources (e.g., hotel managers, cooks, waiters/waitresses, English-speaking tour operators and guides, etc.)

(4) Improvement and consolidation of the cultivation and marketing of organic products (VI, VII, and VIII)

- Start with 35 products already certified as "organic" by CCO, PROA, etc.
- Study the situation of other leading organic producing countries (the United States, Germany, the United Kingdom etc.).
- Strengthen research and development for organic products (e.g., INIA, Universidad de Talca, FONTEC for private companies, Fundacion Chile, etc.).
- Establish a research and information center through international cooperation for agro-ecology and organic production (e.g., CGIAR, FAO, JICA, etc.).
- Establish an internationally recognized certification system.
- Research the potential of international markets, especially in Asia, including case studies of previous failures.
- Develop long-term production and marketing strategies (including international publicity of "Chile as a pure land").

(5) Development of new fields of export with a long-term perspective

- Consider the "second-stage" of export promotion, i.e., shifting from natural-resource-based industries to non-natural-resource-based industries.
- Explore the potential of exporting technologies related to natural-resource-based industries, especially forestry and fisheries, to less developed countries (e.g., China, Indonesia, and other Latin American countries).
- Find new potential areas in non-natural-resource-based sectors (e.g., engineering services, rural electrification technologies, computer science, higher education and training, etc.).
- Strengthen research centers at universities.

(6) Support to achieve the above strategies

- Strengthen technical assistance and information services for export-oriented industries and producers, especially in horticulture (including fruits, vegetables, and flowers) and agroindustry.
- Encourage collective processing and marketing/exporting by MISMEs, especially in horticulture.
- Strengthen export-oriented PROFOs and PDPs through improving financial, managerial, and technical assistance, including the assessment and possible improvement of the existing CORFO schemes.
- Improve finance for SMEs (e.g., CORFO, INDAP, private banks, etc.).
- Establish a new investment fund for capital-lacking MISMEs (possibly by the public and private sectors of both Chile and Japan).
- Strengthen research and development (agriculture, viniculture, biotechnology, environment, etc.) currently done by universities and private companies.
- Develop human resources oriented for export, especially at the managerial and technical levels (e.g., special training programs by INACAP).
- Identify and develop necessary infrastructure (e.g., roads).
- Formulate effective and feasible plans of activities for TodoChile's investment

promotion (by CORFO).

- Improve tools (attractive and easy to understand for Asian investors) and channels (e.g., ProChile's overseas offices and JETRO).

(7) Infrastructure development (specific)

- Study the feasibility and competitiveness of the planned port located south of Constitucion versus Valparaiso, San Antonio, and ports in Region VIII (VII).
- Improve the facilities and functions of San Antonio for fresh fruit export (in collaboration with the central and other regional governments) (VI and VII).
- Better utilize port facilities, especially those of Port San Vicente (VIII).
- Develop infrastructure in the Province of Palena (X).

Table 4.4.14 shows possible strategic plans discussed with the respective CORFO regional offices during the field visits of the study team, though some of these plans may be relevant to the regions that are not indicated with a check mark (x).

Table 4.4.14 Possible Strategic Plans for South Zone

Strategic Plan	Region				
	VI	VII	VIII	IX	X
(1) Long-term value added enhancement plan for the forestry industry (or furniture industry "cluster" development plan, specifically)		x	x(*)	x(*)	
(2) Long-term value added enhancement plan for the fishery industry			x		
(3) Agroindustry development plan	x	x		x	
(4) Horticulture development plan				x	
(4') Horticultural development plan for differentiated markets (e.g., niches)	x	x			
(5) Organic product development plan	x(*)	x(*)	(x)		x(*)
(6) “Eco-region” promotion plan				x	
(7) Tourism promotion plan		x		x	
(7') Rural tourism promotion plan	x				
(8) Long-term revitalization plan for manufacturing industries			x		
(9) Environmentally sustainable fish farming plan					x
(10) Environmental friendly supporting industries development.					x
(11) SMEs finance improvement plan		xx		(x)	
(12) "Fresh fruit port" development plan (possibly for Port San Vicente)			x		
(13) Infrastructure for Palena Province					x
(14) Export-oriented human resources development plan	x			x	

Note: x = proposed by the JICA study team; xx = proposed by the CORFO regional office; x(*) = presented as a sample plan with the framework; and (x) = not proposed but discussed.

4.5 Austral Zone

4.5.1 Geographic and Socio-Economic Characteristics

(1) Geographic Characteristics

The Austral Zone consists of Region XI (Aysen del General Carlos Ibáñez del Campo) and Region XII (Magallanes y de la Antártica Chilena). This zone is located between latitude 44 and 56 degrees 30 seconds south, being the southernmost region of Chile. It presents distinct geographical characteristics from the rest of the territory by not possessing a coastal mountain range and lying in the western side of the Andes mountains. The unique geographical positioning provided the diversity in topography. In fact, this zone possesses fjords, channels, islands and glaciers, providing potential touristic resources. However, at the same time, the severe geographical conditions have contributed to the relatively low provision of infrastructure to connect this zone to the rest of the Chilean territory.

The climate in this zone is generally cold with low average temperature due to its high latitudes. However, this zone also registers different types of climates influenced by varying geographical conditions. For instance, this region's famous strong westerly winds and storms drop enormous amounts of snow and rain on the seaward slopes of the Andes while the area around Chile Chico (Lago Carrera) has a balmy microclimate like that of the Central zone of Chile.

(2) Socio-Economic Characteristics

Due to the harsh geographical and climatic condition, this zone is scarcely populated. The total population of this zone is 228, 458 habitants and accounts only for 1.7% of the country's total population. However, in terms of land area, this zone possesses 12% of the country's land with a total area of 241,058km^2 (Table 4.5.1). Naturally, the population density is low with 0.9 person per km^2 compared to the national average of 6.6 person per km^2.

Table 4.5.1 Basic Socio-Economic Data

Indicators	Population		Area		Population Density	GDP		GDP growth rate	% of unemploy ment	% of poverty	Average income
Region	1992	share (%)	Km^2	share (%)	Population /Km^2	1997 millions US$	share (%)	1990-1997 (%)	2000* (%)	1998	1997 Pesos
Region XI	82,384	0.6	109,025	5.4	0.8	314	0.5	7.6	3.6	14.8	258,189
Region XII	146,074	1.1	132,034	6.6	1.1	1,293	2.1	1.9	4.8	11.8	297,457
Zone	228,458	1.7	241,058	12.0	0.9	1,607	2.6	-	-	-	-
Nation	13,234,093	100	2,004,046	100.0	6.6	62,800	100.0	7.6	8.5	21.7	258,009

Source: Ministeria de Economia, 2000.
Note: Trimester February-April.

This zone has the low contribution to the national economy by accounting for only 2.6% of GDP. The contribution is made mainly by Region XII with 2.1% while Region XI contributes only 0.5% of GDP (Table 4.5.1). Although Region XII has the larger participation in zonal GDP, it has suffered from a decline in its economic position especially during the 1990s. The annual growth rates for the period 1990-97 show a low annual growth rate of 1.9% compared to the national average of 7.6%.

Despite the fact that economic factors were not favorable during the period, this zone has achieved several improvements in social indicators. For instance, the percentages of population under poverty for Regions XI and XII are low with 14.8% and 11.8%, respectively, compared to the national average of 21.7% in 1998. As for the unemployment rate, both regions had lower figures than the national average of 8.5% with 3.6% and 4.8% for Regions XI and XII, respectively. The average income of this zone is also higher than the national average of 258,009 pesos by having 258,189 pesos for Region XI and 297,457 pesos for Region XII (Table 4.5.1).

(3) Structure of Austral Zone Economy

There are no common characteristics as a zone in terms of the composition of zonal GDP (Figure 4.5.1). Region XI has a concentration of its regional GDP in the agricultural sector by having 24.6% in total (agriculture-forestry 11.3%, and fisheries 13.3%), while Region XII has a concentration in the manufacturing sector (25.3%) and the mining sector (20.0%). Because these differences in their economic structures, each region is discussed separately in this section.

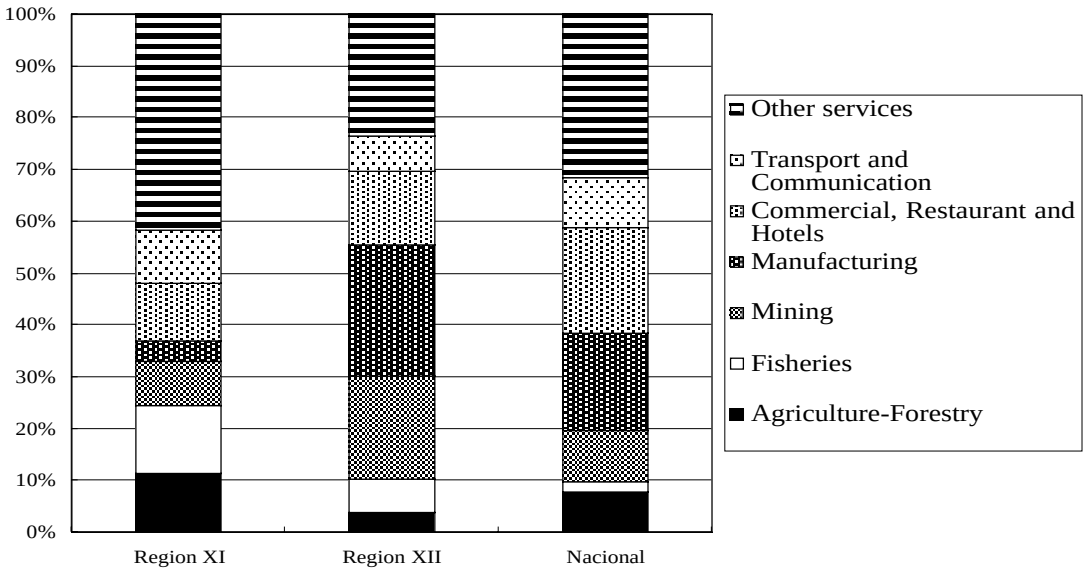


Figure 4.5.1 Composition of GDP for Austral Zone in 1996

Source: Banco Central de Chile, *Anuario de Cuentas Nacionales,* quoted in INE *Panorama Regional 1990-98,* 1999.

<u>Principal sectors of Region XI</u>

The major productive sectors of Region XI are fisheries (13.3%) and agriculture-forestry (11.3%). The contribution of the fishery sector is dominated by production of cultivated fish, which consists more than half of total amount of fish landed in this region (Table 4.5.2). Salmon and trout are the major fish products cultivated and they are expected to expand rapidly when stagnated process of concession requested for cultivation areas materializes by the government authority.

The agriculture-forestry sector is undergoing new changes in this region. The forestry sector, which has been producing wood products mainly from native forests, has started

plantation since the 1980s. Recent figures for 1997 published by INFOR indicate that the total area of plantation increased from 400 ha in 1991 to 30,814 ha in 1997, which consisted 1.4% of the total forest area planted in Chile.

Table 4.5.2 Landing of Fish in Region XI in 1998

(tons)

	Artisan	Industrial	Cultivation	Total
Seaweed	931			931
Fishes	2,272	14,302	28,713	45,287
Mollusks	516			516
Crustaceans	661	1		662
0thers (Sea Urchin)	1,136			1,136
Total	5,516	14,303	28,713	48,532

Source: Regional Unit of MINECON based on data from SERNAPESCA, 2000.

Few developments have been made in the agriculture sector in this zone due to limited access to the market and adverse climatic conditions. However, new agricultural products such as flower-bulbs, apples and cherries are recently cultivated in the area near Chile Chico. Moreover, by exploiting the land that is free of diseases and pests, organic production is being implemented.

Finally, this region, with its unique geographical composition of fjords, glaciers, rivers and mountains, has potentials of developing tourism in the future.

Principal sectors of Region XII

The major productive sectors of Region XII are manufacturing (25.3%) and mining (20.0%). The manufacturing sector consists mainly of the production of natural resource-based products such as methanol, with share of 46.5%, followed by canning, preserving and processing of fish and crustaceans with a share of 36.2% (Table 4.5.3). The mining sector has been strong in this region with reserves of various non-metallic resources such as calcium carbonate, natural gas, oil and carbon. Nevertheless, recent figures show a decline in the amount of production for these resources except calcium carbonate.

Table 4.5.3 Major Manufacturing Industries of Region XII in 1996

Types of activities	Number of companies	Value added ($000)	share (%)
3. Manufacturing industries	52	81,575	100.0
3111 Slaughtering, preparing and preserving meat	3	1,771	2.2
3114 Canning, preserving and processing of fish, crustacean and similar food	19	29,550	36.2
3133 Malt liquors and malt	1	842	1.0
3134 Soft drinks and carbonated waters industries	1	2,978	3.7
3311 Sawmills, planing and other wood mills	7	2,636	3.2
3420 Printing, publishing and allied industries	2	1,248	1.5
3511Manufacture of chemical and of chemical petroleum, coal, rubber and plastic substances	1	37,942	46.5
3841 Ship building and repairing	2	1,980	2.4

Source: Regional Unit of MINECON based on data provided by the ENIA, 1996.

Although its share of regional GDP is low, the livestock sector has been relatively important in this region; holding 76% of the total number of sheep in Chile. The fishery sector also has a low contribution to the regional GDP; however, this sector observed a high growth rate of 8.7% in 1998. Furthermore, endowed with unique natural environment, this region has a tourism sector, which can become potentially important. In fact, the number of visitors to the National Park of Torres de Paine in the period 1990-98 increased by 3 times from 19,983 to 59,964 while the number of international and domestic visitors to the Region XII increased 1.6 times from 167,641 to 281,895 (SERNATUR, 1999).

(4) Structure of Austral Zone Enterprises

The zone has a total of 9,961 enterprises (3,757 in Region XI and 6,202 in Region XII), accounting for 1.9% of the total number of enterprises in Chile. The composition by size of enterprise is similar to that of the national level: micro enterprises 83%, small and medium enterprises (SMEs) 16.5%, and large enterprises 0.4%(Table 4.5.4).

Table 4.5.4 Composition of Enterprises by Size in 1997

Region	Micro		SME		Large		Total	
	No.	%	No.	%	No.	%	No.	%
XI	3,256	86.7	486	12.9	15	0.4	3,757	100
XII	5,014	80.8	1,162	18.7	28	0.5	6,202	100
Austral Zone	8,270	83.0	1,648	16.5	43	0.4	9,961	100
National	432,431	82.1	89,675	17.0	4,814	0.9	526,920	100

Source: Based on information from S.I.I quoted in CORFO, *Estadisticas Basicas de las Empresas en Chile*, 1998.
Note: Size of industries are determined by the amount of annual sales;
Micro=0-2,400UF, SME= 2401-50,000UF, Large= more than 50,000UF.

The number of enterprises by sector is presented in Table 4.5.5. It shows a relatively high concentration of micro and small and medium enterprises in the agricultural sector while a high concentration of large enterprises is observed in the manufacturing sector.

Table 4.5.5 Composition of Enterprises by Sector in 1997 (%)

	Micro			SME			Large			Total		
Region/Sectors	XI	XII	Nation	XI	XII	Nation	XI	XII	Nation	XI	XII	Nation
Agro-fishery production	19.2	8.1	12.9	14.0	12.8	10.2	0.0	0.0	2.9	18.5	9.0	12.3
Foresty	0.7	0.2	0.6	1.0	0.8	1.1	0.0	0.0	0.9	0.7	0.3	0.6
Fisheries	1.3	2.9	0.3	2.3	3.1	0.5	6.7	10.7	1.5	1.5	2.9	0.3
Mining, oil and quarry	0.0	0.0	0.2	0.0	0.2	0.5	6.7	3.6	2.0	0.1	0.1	0.3
Manufacturing	3.3	4.8	6.2	6.0	6.1	12.9	20.0	17.9	25.2	3.7	5.1	7.5
Restrants and similar services	8.5	8.3	5.2	10.1	4.9	3.9	6.7	0.0	1.3	8.7	7.6	4.9
Transports	0.8	11.0	7.8	1.0	10.9	8.9	0.0	10.7	4.9	0.9	11.0	8.0
Other services	66.1	64.7	67.0	65.6	61.2	62.0	60.0	57.1	61.4	66.0	64.0	66.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Based on information from S.I.I. quoted in CORFO, *Estadisticas Basicas de las Empresas en Chile*, 1998.

Although the enterprises generally share similar problems in promoting export and investment irrespective of their sizes, the degree of complexity differs according to the size of enterprises. For instance, higher development potentials can be observed in large

and medium industries, which have enough capital to invest in new technologies to enhance the quality and quantity of products. By contrast, micro and small-scale enterprises have serious difficulties since their capital is usually small, their access to advanced and new technologies is limited, and so is their access to credit. These limitations are due to their small size and to lack of association and cooperative mechanism among themselves.

Micro enterprises' importance in the regional economy and employment is substantial with 83 % share in number. Although some micro and small enterprises are acting as providers to larger enterprises, little cooperation in improving the quality of products is made. Such division and difference between the micro and small enterprises, on the one hand, and medium and large enterprises, on the other, must be reduced to achieve a sustainable development in the future.

(5) Constraints for further development in the Austral Zone

The principal constraint for further development in the Austral Zone is under-provision of infrastructure that secures the flow of goods and services to and from the rest of Chile. Since the regional market is not big enough, economic activities must depend on the market outside the zone. For this reason, transport bottlenecks become a fundamental restraint to develop sectors such as agriculture, industry and tourism utilizing the resources available in the zone. Another important issue to this zone is the lack of diversification of economic activities. The zone's economy is dependent on a few products and a few markets. Furthermore, the low level of value added in the zone's production is also an important issue to be considered. Finally, given the large number of micro enterprises, a mechanism to facilitate their access to market, credit, and technology through cooperating amongst micro and small enterprises and with larger enterprises is important in achieving sustainable development of the zone.

4.5.2 Export: Past Performance and Future Prospects

(1) Past Performance

The contribution of the Austral Zone to the national total of exports has been low, accounting only for 2.5%. The zone's largest exporting sector is manufacturing sector, with a share of 88.8% in 1996. However, the products of this sector are mostly based on natural resources with low value added.

The data on major export products demonstrate how this zone is highly dependent on a few such products. For instance, 61% of Region XI's exports are fish-related products. In case of Region XII, methanol accounts for 45.3% of the total exports of the region, followed by marine products with a share of 28.5% (Table 4.5.6).

The destinations of main products are also very limited. The largest share, 38.7% of the exports, go to Japan followed by the United States (16.4%) and Spain (11.3%) in 1999. The dependence on a few markets is more striking in Region XI, where as high as 65.6% of regional exports are destined only to Japan. Such high dependency on a few products and markets makes this zone vulnerable to external shocks as observed in the period of Asian financial crisis.

Table 4.5.6 Major Export Products in 1999

Region XI	US$ millions fob	share(%)
Pacific salmon (frozen)	48.1	29.5
Trout (frozen)	20.2	12.4
Gold	15.4	9.5
Merluza (fresh and refregreted)	11.4	7.0
Merluza (frozen)	10.6	6.5
Zinc	9.3	5.7
Other sawn wood	8.4	5.2
Other fish fillets	3.6	2.2
Trout fillets (frozen)	3.5	2.1
Fillets and other salmon meat	3.4	2.1
Others	29.0	17.8
Total	162.9	100.0

Region XII	US$ millions fob	share(%)
Methanol	142.0	45.3
Sea urchin (frozen)	22.4	7.1
Mero (frozen)	16.7	5.3
Other canned fish	16.0	5.1
Merluza (frozen)	13.0	4.1
Mero or bacalao fillets (frozen)	11.1	3.5
Export services	10.2	3.3
Other wool tops	6.6	2.1
Pacific salmon (frozen)	6.3	2.0
Canned crab	4.5	1.4
Others	64.8	20.7
Total	313.6	100.0

Source: Regional Unit, MINECON based on data provided by ProChile, 2000.

(2) Future Prospects

Although the zone has strong export products, its future prospects of continuous growth of export in this zone would be bleak without a new strategy to diversify the products and the market. The constraints of this zone in respect to the promotion of exports are: higher cost of transport caused by under-provision of the transport system, small production capacity, low value added, low quality products and lack of diversity in export products and market. Therefore, this zone's future export strategy must contain schemes, which can overcome these constraints.

The strategy for this zone to promote future export is basically twofold. One is strengthening the traditional sector and the other is diversification through encouraging the emerging export sector. The strengthening of the traditional sector of the economy in this zone is important when sustainability is concerned. Measures such as enhancement of value added for export products as well as diversification can be applied to the livestock, forestry and fisheries sectors. Furthermore, supporting emerging economic activities such as agriculture and tourism can strengthen diversification.

The zone, from the global point of view, has a strategic competitiveness in its unique touristic resources represented by the presence of National Park of Torres de Paine and Antarctica. Therefore, the zone could promote their new export products to tourists through the promotion of tourism until these products gain competitiveness in the international market.

Following are some possible ideas in realizing export strategies for each sector of economy:

a. Strengthening the traditional sectors

Livestock

- Organic meat and wool

Due to the geographical and climatic factors, the number of sheep that can be sustained in the field is limited in this zone. At the same time, the zone's fields are free of

pesticides and chemical fertilizers, which provides a sufficient condition to produce "organic" products. The production of "organic" food is significant in adding extra value to "conventional" products. The difference in price between "organic" and "conventional" is estimated to be around 30%. [1] Moreover, organic products are more preferred by consumers in markets of developed countries and thereby may have better access to new markets than "conventional" products.

Forestry

- Furniture pieces or furniture

The zone is unique in that it can obtain woods from both native forests (*lenga* and *coigue*) and plantations (more so in Region XI). The extracted forestry resources are currently exported without much processing. The higher value is expected from processing the wood into furniture pieces or furniture.

- Trading CO_2 Emission Right

Although the negotiation on trading mechanism for CO_2 is not definite at the international level, it is quite certain that the forestry resources are considered as one of the important sources for offsetting CO_2 emission. Hence, the plantation or management of native forests as well as wood product production can be considered as a measure to offsetting the emission of CO_2, which developed countries may need to purchase in future to meet their reduction targets set by the Kyoto Protocol. However, the definite and clear rules must be investigated further.

Fisheries

- *Puye* (White bate)

Puye is a local fish similar to baby eel. This fish has been exported to Spain for relatively high prices. Although there is no cultivation of *puye*, SERCOTEC, with technical assistance from Germany, is currently investigating the possibility. IFOP is also considering investigating the cultivation method. *Puye* has a taste similar to Japanese *shirasu*, a fish product from baby anchovies and baby eel .

- Mollusks

Red tide occurs in Region XI and less frequently in Region XII. This inhibits the extraction of mollusks that are abundantly available in this zone. IFOP is currently investigating the methods to de-toxicate mollusks. Parallel to that, Region XII is investigating the possibility of new products such as *huepo* and octopus.

b. Supporting emerging sectors

Agriculture

- Organic fruits

There already are attempts to produce organic apples and cherries in the area near Chile Chico in Region XI as this region has favorable conditions, being free from diseases and pests, for organic food productions. The organic food production is present in other regions, too; however, production in this zone does not compete with them because of the difference in harvesting season. Again, higher prices in and better access to developed markets can be obtained through organic certification.

[1] Rodriguez, exposition at Fedefruta, May 10, 2000.

- Flower bulbs

The production of flower bulbs (*calla zantedesonia* and *sandeersonia*) and garlic is in the experimental stage in Region XI with CORFO's assistance through PROFO and FONTEC. The region's climate and soils are considered suitable for growing bulbs to supply flower-producing and exporting companies in Regions V and X as well as companies of developed countries in the Southern Hemisphere.

- Local plants

This zone has several local wild plants, which can be developed into new products. For instance, there may be a possibility of local plants such as rosehips, red currents and *calafates* for pharmaceutical, cosmetic and other uses.

Energy

- Renewable energy (Emission Right of CO_2)

Given the climate and geographical conditions, the generation of electricity with the use of renewable resources such as wind and water would become feasible in this zone. The development of clean energy could contribute to offsetting mechanism of CO_2 emission and could become an exportable product in future.

Tourism

- "Patagonia" as a product

The region is endowed with abundant natural resources and geographical conditions unique in the world. Its geographical characteristics with glaciers and fjords and the diversity of animal and plant species are excellent tourism resources. Furthermore, this zone's proximity to Antarctica and the popularity of the name, "Patagonia," have a strategic strength in selling this zone as a touristic area at the global level. The special-needs tourism, such as fry fishing, eco-tourism and cultural tourism, is also possible products to be created and sold.

4.5.3 Investment: Past Performance and Future Prospects

(1) Past Performance

During the period of 1990-99, US$867 million of investment materialized (DL 600) in this zone, representing 3.4% of the country's total foreign investment in the same period. The zone's share in the country's total foreign investments declined in past three years from 4.9% in 1997 to 2.6% in 1999 (Table 4.5.7).

Region XII received most of the investments in this zone with zonal share of 82.7%. The major sectors of investment are different in the two regions. Region XI receives a huge portion of private investments (US$1012 million) in the energy sector while Region XII receives investment in sectors such as forestry (US$4 million), industry (US$56 million) and public works (US$9million) for the period of 1999-2003 (Regional Unit of MINECON, 2000).

Table 4.5.7 Foreign Investment in Regions XI and XII

(in Million of US $)

	Region XI		Region XII		Zone	
		% share of nation		% share of nation		National
1997	21.0	0.6	146.0	4.3	167.0	3416.0
1998	23.0	0.5	155.0	3.1	178.0	4931.0
1999	0.9	0.0	103.0	2.6	103.9	3998.0
1990-1999	150.0	0.6	717.0	2.8	867.0	25315.0
% share in zone	17.3		82.7		100.0	

Source: Regional Unit of MINECON based on data from Foreign Investment Committee, 2000.

(2) Future Prospects

This zone has a special development plan called the Strategic Plan for Development for Austral Zone (*Plan Estratégia para el Desarrollo de la Zona Austral: Plan Austral*), which has been implemented since 1995. This plan has several legal provisions to encourage investment. In April 1999, as a part of this, a law (Ley Austral or Ley 19606) is published to give incentives for the private sector to invest in this zone and the Province of Palena in Region X. This law encourages the private sector to invest in traditional sectors such as livestock, fisheries, energy, and forestry as well as emerging sectors such as aquaculture, tourism and port services. The benefits provided by the law include tax claim, tax benefit and simplification of investment procedures for foreign investors. Another legal provision more specific to Region XII is Ley Navarino (Ley 18392), which gives tax preferences to those who invest in industry, mining, the exploitation of marine resources, transport, and tourism in the Provinces of Primavera and Porvenir until 2035. Also, there is a subsidy for employing workers (Bonificacion para la mano de obras) from the zone.

In addition to that, CORFO, with concerted efforts from other public and private institutions, supports the promotion of investments in the regions through Program of Promotion and Attraction of Investment to Region (*Programa de Promoción y Atracción de Inversiones a Regiones*: TODO CHILE). This program started in 1998 and assists regions to overcome obstacles to attracting investments by enhancing the regional strength and potentiality through utilizing CORFO's instruments (such as PROFO, FONTEC, FDI, and FAT) in improving investment climate in the regions. The priority sectors identified by TodoChile for promotion of investment in Regions XI and XII are shown below (Table 4.5.8).

Table 4.5.8 Priority Sectors for Investment Identified by TodoChile

Region XI	**Region XII**
Fishery-Aquaculture	Livestock
Foresty-Agriculture-Livestock	Secondary wood processing
Tourism	Tourism

Source: TodoChile, CORFO as of July 2000.

Given the legal provisions and support from the Program of TodoChile by CORFO, the attractiveness of investment is strengthened in the zone. The potential sectors for the future investment in this zone are tourism, energy, agriculture, livestock, fisheries and forestry and some ideas are presented below.

Tourism
Installing regular transportation services to connect existing touristic sites
Establishing training courses for tourism to train necessary human resources
Forestry
Installing a plant or factory to produce furniture pieces or furniture to enhance value added
Livestock
Installing a plant for meat processing (Region XI) and for other related meat and wool products to add higher values
Energy
Locating an investigation and experiment center for the renewable energy research

4.5.4 Austral Zone in an International Perspective

The relationship with Argentina has significant importance in the development of this zone due to its geographical features. For this zone, agreement that grants free passing of each other's territory is crucial given the fact that both countries must pass the other's territory to transport goods from the central parts of the respective countries. This situation is emphasized within the framework of the Plan Austral to increase the economic and physical connection with Argentina.

The Plan also intends to strengthen the economic integration of the zone and Province of Palena (Region X) with the Provinces of Chubut, Santa Cruz and Tierra del Fuego, Argentina, by utilizing the benefits derived from the complementality of the two economies. The plan contemplates the possibility of granting the liberty of investment to Argentine capital (investment of foreign companies in the border zone is prohibited by law), joint promotion of new businesses and investigation on the effect of free transit of commodities and passengers by air, marine and land transport between the two countries.

This arrangement with Argentina would support the future development of economic activities, especially tourism, since as much as 43.8% of tourists received in Region XII are of Argentine origin in 1997 (SERNATUR, 1999). Moreover, Chile could benefit from the image of "Patagonia Argentina," which is more popular amongst tourists from Europe and North America, through developing a circuit of tour joining Argentine and Chilean Patagonia in future.

4.5.5 Keys to Export and Investment Promotion

Despite the fact that this zone has strong export products and legal provisions to attract investments, it also has a number of constraints, namely, high cost of transportation, low value added of export products, high dependence on a few products, particularly natural resource based products with a danger of overexploitation, and yet-to-be-diversified market (Table 4.5.9). Hence, there is a need for a clear development strategy in this

zone to overcome the weakness presented.

Table 4.5.9 Strength and Weakness of the Austral Zone

Areas	Strength	Weakness	Possible solution
General	-Geographical diversity offers touristic attractiveness	- Geographic condition causes high cost in transportation	-Investment in transportation system
	-Legal provisions to promote investment	-Lack of information to investors	-Diffusion of information
	-Strong natural resource-based export products	-Danger of overexploitation	-Regulation and monitoring of environment
Traditional			
Livestock	-Large number of livestock	-Lacks innovations and value added	-Enhancing value added
	-Long tradition of sheep raising	-Lacking diversity of products	-Diversification of products
	-Existence of association	-Small production capacity and limited link between large&medium and small&micro	-Supporting the association for improving quality and quantity of products
Mining	-Rich in metallic and non metallic resources	-Low value added of products from mining sector	-Enhancing value added
		-Conflict with the image of 'clean and ecological' tourism	-Need for prioritization by zone's strategic plan
Forestry	-Presence of native forest	- Resources are not managed nor utilised well	-Formation of association is considered among small owners of native forest
	-Presence of high quality woods (lenga)	-Lenga is exported without much processing	- Regulation and monitoring of environment -Enhancing value added
Fisheries	-Rich in fishery resources	-Existence of red tide	-Monitoring and investigation
		-Decrease in catch is observed for some species	-Control in amount of capture through association
	-A few but strong export products	-Lack variety in products and markets	-Diversification of product and market
Emerging			
Tourism	-Touristic attractions are present	-Lack of "Patagonian" image	-Develop strategy to promote "Patagonia Chile"
	-Potential for developing special tourism	-Seasonal fluctuation of demand in tourism	-Linking tourism sector with other economic activities to enlarge the economic base
Agriculture	-Having clean soil free from chemicals, dieases and pests	-Limited areas are fit for agriculture	-Enhancing value added and differenciation of products
	-Different harvesting seasons	-High transport cost and small market in the zone	
Energy	-Developing renewable energy	-Development is costly and requires more investigation	-Application of legal provisions

Source: Elaborated by the JICA Study Team.

Possible solutions to overcome this zone's weakness are different for each economic sector, however, these can be categorized into four strategies. These are: (1) diversification and enhancement of value added, (2) support to micro and small enterprises in forming association to improve their productivity, (3) promotion of tourism as the "pulling sector" for the zone's development and (4) establishing the infrastructure for promotion of export, investment and sustainable zonal development. The possible action plans and more specific tasks for each sector in each strategy are listed below.

(1) Diversification and enhancement of value added

Many products from this zone are natural resource-based and low value added. The diversification and enhancement of value added is important because the products must overcome high transportation cost. Following are the outline of action plans to diversify and enhance value added.

Production of organic products

The zone has advantage of being "free from pests and diseases." This favors the production of organic products in both agriculture and livestock.

- Obtain certifications and standards at the international level.

Strengthening existing industries to increase processing stage

- Wood processing plant to produce more high valued products.
- Process meat and create more elaborate products. Such as fresh cut and packed meat for Chilean supermarkets.
- Improve quality of wool products.

Diversify the fishery products by finding and creating new products

- Investigation for cultivation of other fishery products such as *puye.*
- Investigation for de-toxication of mollusks affected by red-tide.
- Investigation for new possible marine products such as octopus and *huepe.*

(2) Micro and small enterprise promotion through building associations

Majority of enterprises in this zone belong to the micro category and most of them are faced with problems of low productivity. The major problems are difficulty to gain access to market and to credits due to their small size. Hence, one effective way to enhance productivity of this zone is to support these micro and small enterprises in improving their productivity through forming associations. The use of high information technology could be utilized in this process.

Development of associations or groups among micro enterprises enables them to solve problems in following ways:

- Technological innovation for high value added products.
- More access to finance.
- Commercialization.
- Certification for organic products (livestock, forestry, agriculture).
- Quality and quantity control of products.
- Management of natural resources (fisheries, forestry, livestock).
- More bargaining power vis-a-vis clients/buyers.
- Less administrative cost.
- Better utilization of infrastructure and utilization of solid waste (for uses such as fertilizer, dog food, wood carving).
- Ease to contact by buyers, especially those from abroad.

(3) Promotion of tourism as a "pulling sector" for zone's development

The tourism sector, with its competitive edge at the global level, is considered as a possible "pulling sector" for the development in this zone through involving other

economic activities.

Promotion of Tourism

- Create the image of "Patagonia Chile" and promote it strategically.
- Alliance between Austral zone (Magallanes and Aysen) with Argentina.
- Meet the needs of special tours such as eco-tourism, fly-fishing, observation of marine mammals.

Establishing links between tourism and other economic activities

- Create new links with existent economic activities to tourism: organic farm visits (agriculture), tourism to sheep ranch (*estancia*) (livestock), observation of marine mammals, fly-fishing (fisheries) and visit to the native forest (forestry).
- Create and promote the "Patagonian Products"
- Promote the sale of locally produced products to tourists through developing "regional products" such as regional cuisine, food and craft (sheep organic meet, organic wool, leather, meat products, milk products, wood carving, fish products, etc.) Also, products related to touristic activities such as thermal clothes with Patagonian marks.

(4) Infrastructure for promotion of investment, export and sustainable development

Finally, the provision of physical, social and economic infrastructure that supports good investment environment and export promotion is essential to achieve sustainable development in this zone.

Creating clear development strategy for this zone and prioritize economic activities accordingly

- Create a land-use plan for each economic sector to avoid future conflicts.
- Diffuse zone's strengths and priority to the public, namely, local public officials, private sectors and community to create zone's "identity".

Strengthening credit schemes in the zone

- Make special schemes for micro and small enterprises.
- Adjust existent credit schemes to local realities and to priorities set in the strategy.

Diffusion of investment incentives

- Legal benefits for investments are not well known to investors. Information about incentives must be diffused in the order of the zone, Santiago and foreign countries.
- Provide some leeway to make necessary adjustments to regional realities, which are different from Santiago's.

Development of physical infrastructure

- New method of concession for the tourism sector: a land concession with exclusive right to use all resources in exchange of installing physical infrastructure.

- Establishment of information network that provides market information to producers.

Development of human resources

- Training courses for human resources necessary in the tourism sector.
- Training courses for non-traditional types of agriculture.
- Training courses for entrepreneurs in micro and small enterprises.

Environmental consideration

This zone is highly dependent on natural resources (forest, fish, soil), which needs to be managed according to the national regulations with some adjustment to regional conditions. In addition to that, keeping this zone "clean" and "environmentally sustainable" is crucial for promotion of tourism.

- Implement environmental regulations.
- Establish a monitoring system.
- Consider the possibility of adjusting national standards to local reality.
- Create environmental consciousness among the public through education.