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OECD Review of Agricultural Policies: Chile

Chapter 1

The Policy Context

1.1. Introduction

Chile was a pioneer of liberalising reforms. The reforms introduced by the military government were swift and dramatic, and broke down rigidities associated with decades of import substitution policies. Resources shifted into more competitive sectors, and, with time, consistently stronger growth rates were achieved. However, the implementation of reforms was uneven, the process of adjustment was far from smooth and there were concerns about the social costs of liberalisation. Since the restoration of democracy in 1990, successive governments have adhered to orthodox macroeconomic policies, but attempted to balance this with a more pro-active social agenda. Over the last 20 years, Chile has recorded impressive income growth and the incidence of poverty has fallen dramatically. However, low incomes remain a concern, and – despite some recent improvement – the country's distribution of income remains among the most unequal in Latin America and indeed the world. Agriculture as a whole has clearly benefited from improved macroeconomic stability and from the liberalised policy environment, but remains vulnerable to outside shocks, especially exchange rate fluctuations. The sector also remains a significant locus of poverty and underdevelopment.

As Chile looks to the future, major questions hang over the sector's strategic role in raising incomes to the levels enjoyed in high income OECD countries, and the role of agricultural policies in stimulating underdeveloped parts of the economy. This chapter considers agriculture's strategic role in promoting growth and in tackling underdevelopment, poverty and inequality. It also provides the context for an assessment of how well current agricultural policies are performing and a consideration of ways in which they might be reconfigured (Chapter 2), and a specific consideration of the mix of agricultural and non-agricultural policies that can best address the problem of underdevelopment in agricultural communities and rural areas (Chapter 3).

The structure of the chapter is as follows: Section 1.2 provides core information on agriculture's strategic role in the Chilean economy. Section 1.3 describes the broad sweep of Chile's experience with liberal policies, focusing on the ways in which policies have evolved since the initial reforms following the military coup in 1973. Section 1.4 focuses more specifically on how agriculture was affected by these reforms and the structural changes they induced. Section 1.5 sets out the main policy challenges. These include the continued need to diversify the country's export base, and to tailor specific development policies to the needs of underdeveloped farm and rural households.

1.2. Agriculture's role in the Chilean economy

Agriculture's strategic importance to the Chilean economy is shaped by a combination of factors, including the overall level of economic development, and basic structural conditions such as climate and topography, and the suitability of the land for agricultural production. These factors determine the broad parameters within which agricultural policy is made.

General characteristics of the Chilean economy

Chile is an upper middle income country. Its per capita GDP, which averaged USD 11 493 in PPP terms in 2003-06, exceeds those of all Latin American countries except

Table 1.1. **Income and population: comparative indicators, 2003-06 average**

	GDP, PPP (current USD)	GDP (current USD)	Population, total	GDP per capita, PPP
	USD billion	USD billion	Million	Current USD
Luxembourg	29	35	0.5	62 579
United States	12 054	12 054	295.0	40 840
Norway	187	271	4.6	40 491
Ireland	156	191	4.1	38 035
Iceland	10	14	0.3	35 534
Switzerland	262	357	7.4	35 326
Netherlands	551	607	16.3	33 814
Denmark	181	248	5.4	33 533
Australia	673	675	20.2	33 307
Austria	271	295	8.2	33 039
Canada	1 049	1 049	32.1	32 654
United Kingdom	1 952	2 121	60.0	32 521
Belgium	337	358	10.4	32 254
Sweden	289	349	9.0	32 104
Finland	167	188	5.2	31 963
France	1 905	2 054	60.6	31 401
Japan	3 828	4 423	127.7	29 979
Germany	2 436	2 724	82.5	29 536
Italy	1 693	1 710	58.2	29 065
OECD average	**1 114**	**1 121**	**1 162.7**	**29 010**
Spain	1 132	1 067	42.9	26 366
New Zealand	103	98	4.1	25 171
Greece	252	214	11.1	22 739
Korea	1 034	742	48.2	21 464
Portugal	220	177	10.5	20 867
Czech Republic	206	116	10.2	20 163
Hungary	178	102	10.1	17 633
Slovak Republic	83	44	5.4	15 505
Poland	526	278	38.2	13 791
Argentina	526	170	38.6	13 620
Chile	**186**	**109**	**16.2**	**11 493**
South Africa	506	220	46.6	10 852
Mexico	1 088	732	102.6	10 600
Russian Federation	1 490	694	143.5	10 392
Uruguay	33	15	3.3	9 912
Brazil	1 552	792	185.1	8 379
Turkey	576	327	71.7	8 028
Colombia	321	109	44.6	7 183
Ukraine	312	77	47.2	6 620
China	8 377	2 121	1 300.2	6 437
Venezuela	167	131	26.3	6 318
Peru	163	76	27.8	5 878
Paraguay	28	7	5.8	4 730
Ecuador	55	35	13.1	4 193
India	3 601	752	1 087.1	3 307
Bolivia	25	9	9.1	2 761

Source: World Bank, World Development Indicators, 2007.

Argentina, is similar to the levels in Russia and South Africa, but lower than in all OECD countries except Mexico and Turkey. Notwithstanding two decades of rapid growth, per capita incomes are still less than half the OECD average (Table 1.1).

The economy is similar in size to several smaller OECD countries, including the Czech Republic, Norway and Portugal. As per capita incomes catch up to developed OECD country levels, while the population grows at a modest rate of just under 1% per year, the size of the economy is likely to converge towards those of countries with similar population levels, such as the Netherlands.

The country's economic growth since the restoration of democracy in 1990 has been the fastest in the region, although it has not been as prodigious as the rates recorded in East Asia (Table 1.2). Rapid growth has enabled per capita incomes to double over the last 15 years. On current trends, incomes in Chile will match the current OECD average in 15 years.

Table 1.2. **Relative economic growth (average % change in real GDP per year)**

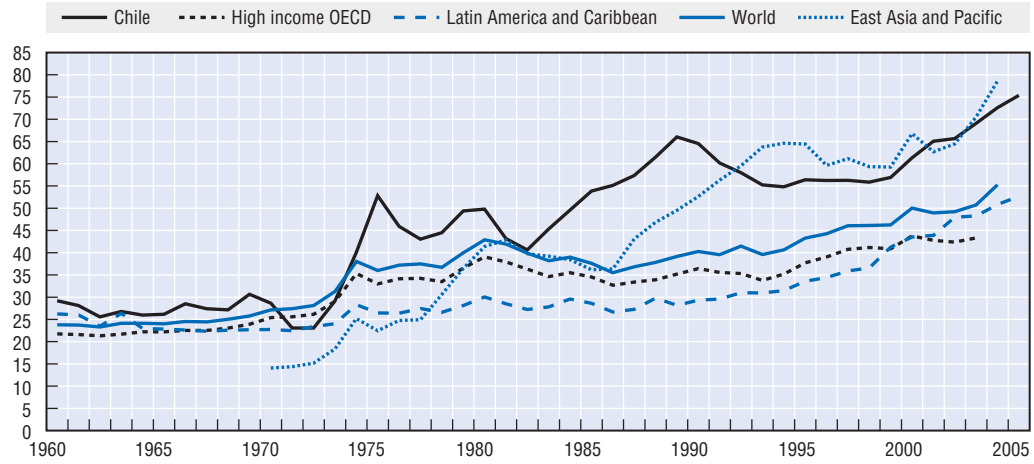
	1961-69	1970-73	1974-82	1983-90	1991-94	1995-98	1999-2002	2003-06
Argentina	4.11	3.29	1.07	–0.40	9.09	3.66	–4.87	8.88
Bolivia	3.20	4.57	1.89	0.66	3.96	4.76	1.78	3.89
Brazil	5.90	11.52	4.88	2.53	2.76	2.49	2.13	3.38
Chile	**4.37**	**1.35**	**2.44**	**5.63**	**8.24**	**6.97**	**2.32**	**4.90**
Colombia	5.08	6.83	4.23	4.09	3.88	2.81	0.53	5.06
Ecuador	3.96	8.71	5.10	2.27	2.93	2.58	1.52	5.19
Guyana	3.66	1.32	0.16	–2.64	7.64	4.35	1.22	1.21
Mexico	6.78	6.59	6.15	1.33	3.56	2.65	2.79	3.28
Paraguay	4.27	5.99	8.32	2.95	3.38	2.36	–0.70	3.71
Peru	5.25	4.57	3.42	–1.42	4.83	4.33	2.31	5.90
Uruguay	1.30	0.26	2.62	1.22	5.35	3.43	–4.68	6.90
Venezuela	4.81	4.40	1.69	1.46	3.43	2.60	–1.94	7.80
Sub-Saharan Africa	4.63	5.24	2.95	2.02	0.48	3.69	3.29	5.23
Middle East and North Africa	..	6.34	4.58	2.77	3.55	4.52	3.56	4.50
Latin America and Caribbean	**5.27**	**6.70**	**3.97**	**1.60**	**4.23**	**3.00**	**0.97**	**4.60**
East Asia and Pacific	3.77	8.43	6.39	7.96	10.47	7.13	7.11	9.06
South Asia	4.22	2.06	4.25	5.75	4.61	5.81	4.76	8.19
Europe and Central Asia	..	..	..	..	–6.19	1.85	3.87	6.55
OECD 25[1]	8.20	9.89	10.36	6.96	4.46	4.68	4.56	5.31

1. All OECD countries except Czech Republic, Hungary, Korea, Poland and Slovak Republic.
Source: World Bank, World Development Indicators, 2007; OECD, Quarterly National Accounts database, 2007.

Underpinning Chile's strong economic performance has been a record of sound macroeconomic management and institutional and structural reforms that have led to the emergence of a market-oriented economy. Since the abandonment of import substitution policies following the military coup in 1973, the economy has, notwithstanding some policy reversals in the 1980s, become progressively more open, with a ratio of exports plus imports to GDP of about 75% that is higher than anywhere outside East Asia (Figure 1.1). For the past ten years, the ratio of FDI to GDP has averaged 6-8%, which is also higher than the OECD average and any Latin American country. In 2005, the stock of FDI reached 65% of GDP, while the OECD average was 27%.

Years of strong growth have led to a dramatic reduction in the incidence of poverty. Using a poverty line that corresponds to twice the cost of a basic food basket, the incidence

Figure 1.1. **Trade openness (% GDP, 1960-2005)**



Note: For each country, openness is measured as the sum of exports and imports as a ratio of GDP. The country group measures are the simple average of all countries in that group.

Source: World Bank, World Development Indicators, 2007.

of recorded poverty fell by nearly two-thirds, from 38.6% in 1990 to 13.7% in 2006. Over the same period the proportion of the population in extreme poverty, *i.e.* with incomes lower than the cost of one basic food basket, fell from 12.5% to 3.2%. In 2003, poverty was slightly higher in rural areas (20.0%), while the incidence of extreme poverty was also more pronounced (6.2%).[1] On the other hand, Chile does not have significant dollar-a-day poverty (as recorded by the World Bank), whereas such absolute poverty is still a significant problem in many Latin American countries (Table 1.3). These advances have been matched by improvements in social indicators, including enrolment in primary education, youth literacy, infant mortality and life expectancy, with these indicators reaching levels close to those recorded in advanced economies. Infant mortality, which stood at 78 children per 1 000 live births in 1970, had fallen to 17 children by 1990 and 7.6 by 2004. Life expectancy at birth has similarly climbed steadily and in 2004 stood at 78 years. Despite these successes, Chile's income distribution remains about as unequal as anywhere in Latin America or indeed the world, although there was some improvement between 2003 and 2006, with the Gini coefficient falling from 0.58 to 0.54.

The agricultural sector has played a key role in Chile's economic success. For much of the past 20 years, agricultural growth has matched growth in the rest of the economy, enabling the sector's share of national income to remain roughly constant and defying the general experience that agriculture's importance to the economy declines with economic development. Since the mid-1990s, agriculture's share of GDP has slipped back to just under 4%, a ratio that is lower than the average in countries with similar per capita incomes, but understates the sector's relative importance once the relatively high degree of value added is factored in.[2]

Chile's agricultural and agro-industrial sector has been extremely successful in adding value to the production of primary commodities, thus leveraging the benefits of favourable climatic conditions (*e.g.* for high value crops). Indeed processed food products have become the most important sub-sector within the manufacturing sector (ahead of chemicals and non-ferrous metals), accounting for 30% of manufacturing GDP and a similar share of total GDP to agriculture itself (Figure 1.2). Much of the increase in value added has been in

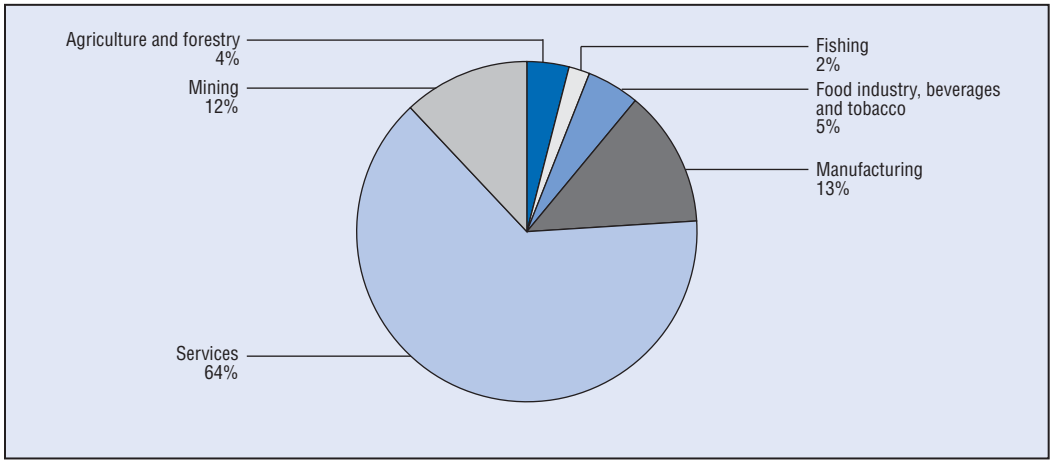
Table 1.3. **Poverty and income inequality: comparative measures**

	Percentage of population living below USD 1 a day in 2001	Percentage of population living below USD 2 a day in 2001	Income share held by highest 20%	Income share held by lowest 20%	Gini Coefficient[2]
	1993 PPP	1993 PPP	Latest year[1]	Latest year[1]	2001
Argentina			55.4	*3.1*	
Urban	3.3	14.3			0.52
Bolivia	14.5	34.6	63.0	1.5	0.45
Brazil	8.2	22.4	61.1	2.8	0.59
Chile	**0.9**	**9.2**	**60.0**	**3.8**	**0.58**
Colombia	8.1	22.3	62.7	2.5	0.58
Ecuador	18.0	41.0	58.0	3.3	0.54
Mexico	9.9	26.3	55.1	4.3	0.55
Paraguay	13.9	28.8	61.9	2.4	0.57
Peru	18.1	37.8	56.7	3.7	0.50
Uruguay			50.5	5.0	
Urban	0.2	4.3			0.45
Venezuela	15.4	32.7	52.1	3.3	0.50
China			51.9	4.3	
Rural	26.5	71.0			0.36
Urban	0.3	6.5			0.33
India			45.3	8.1	
Rural	41.8	88.4			0.28
Urban	19.3	60.5			0.35
South Africa	10.7	34.1	62.2	3.5	0.58
Turkey	1.2	12.8	49.7	6.0	0.40

1. 2004 data for Argentina, Brazil, Mexico, China and India; 2003 data for Chile, Colombia, Paraguay, Peru, Uruguay, Venezuela and Turkey; 2002 data for Bolivia; 2000 data for South Africa; 1998 data for Ecuador.
2. Gini Index is a measure of inequality between 0 (everyone has the same income) and 1 (richest person has all the income). According to the 2006 CASEN, Chile's Gini coefficient was 0.54 in 2006.

Source: World Bank, POVCAL, World Development Indicators, 2007.

Figure 1.2. **Shares of GDP by sector, 2002-05**



Source: Central Bank of Chile, 2007.

exportable commodities, with the consequence that agriculture and related products accounted for 29% of merchandise exports in 2002 and 2003, although this share has slipped back in recent years as a result of the copper boom. Since the initiation of reforms,

there has been a huge increase in the sector's export orientation. The share of agricultural trade (*i.e.* exports plus imports) in agricultural GDP averaged just 10% between 1960 and 1970. This share rose to more than 30% during the period of military government, reached 60% between 1990 and 1998, and has averaged more than 80% since 1999 (Valdés and Jara, 2007).[3]

In recent years, pork, poultry and dairy products have provided further sources of rapid export growth. In the longer term, however, while the agricultural sector may continue to grow it is not likely to be a permanent exception to the general axiom that agriculture's economic importance diminishes as the economy advances.

So far, agriculture growth has been generated within a subset of the agricultural economy, and has eluded many poorer farmers, notably subsistence farmers and those producing import competing products such as wheat, sugar, meat and dairy products. While agriculture is unlikely to grow as strongly in the next 15 years as it has done in the last 15, that is not to say that there are not important new opportunities, or that the best prospects for all so far unsuccessful farmers lie outside the sector. The options for fostering more inclusive agricultural development are considered in Chapter 3. In part these depend on the structural characteristics that shape Chile's development prospects.

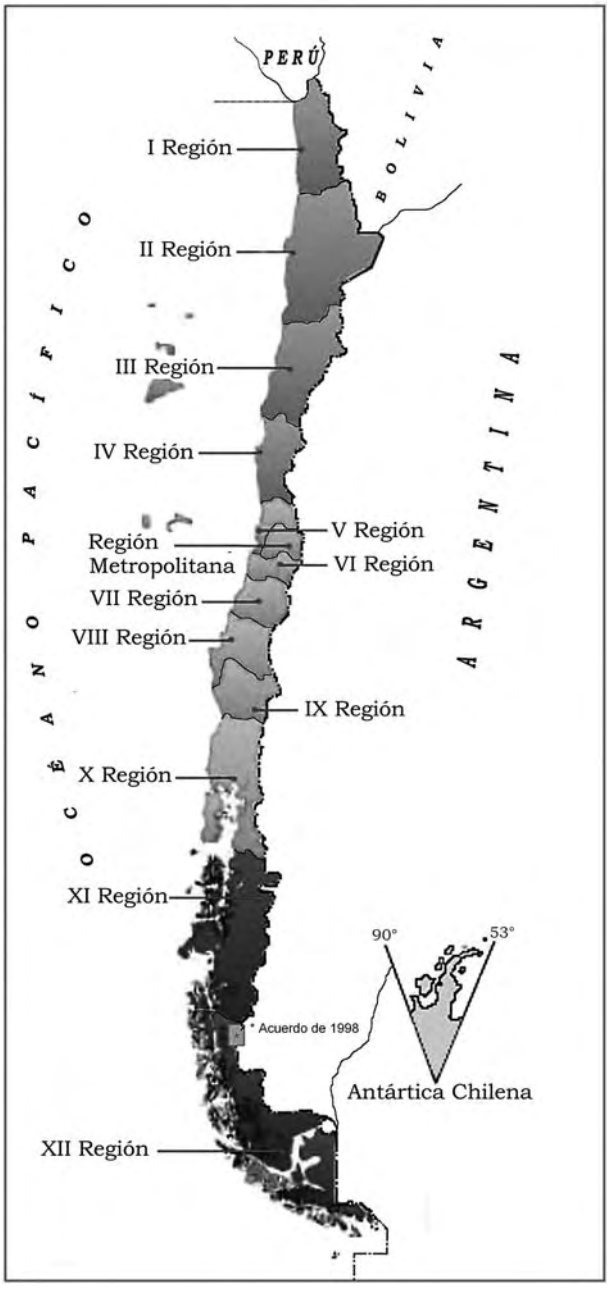
Structural characteristics

Chile's unique geography has had important implications for the evolution of economic activity. The country stretches over 4 630 km from north to south along the south-west coast of South America, yet its width never exceeds 430 km (Map 1). To the east, the high Andean peaks reach up to 6 800 m above sea level, forming a natural border with Bolivia and Argentina (Map 2).

Chile's remarkable stretch of latitude, and equally remarkable range of altitudes, is associated with a diversity of climates. From the standpoint of agriculture, only a limited part of the country is suitable for farming. By far the most productive area is in the Central Valley, from south of the Atacama desert at latitudes from around 33°S to 37°S, and across the intermediate depression between the coastal mountain range and the Andes. This area has a Mediterranean climate of wet winters and warm dry summers, and is in effect a southern hemisphere mirror of northern California. To the north, the Atacama desert contains the country's copper reserves. The climate here is extremely dry, supporting only prairie scrub further north and on the Andes, some of which is suitable for sheep raising. To the south, the climate is wetter, and similar to parts of New Zealand, being suitable for forestry, livestock and dairy production, as well as some annual crops. In the extreme south is Patagonia, which is sub-arctic and rainy, with mountain and tundra vegetation, and supports sheep and wool production. West of the Central Valley, a large number of artificial forests have been planted, some annual crops are cultivated and there is some sheep-raising.

Natural resources, first nitrates and then copper, have dominated Chilean exports and had an important impact on the economy's development. The sheer importance of these endowments (nitrates accounted for about a quarter of GDP from the 1890s until into the 1920s) has contributed to financial instability and hindered the development of a diversified economy. In recent decades there has been greater success in developing non-mineral exports. In 1975 non-mineral exports made up just 30% of total exports; a share that rose to over 60% before the recent copper boom. But even here, the most important non-mineral exports still derive from natural resources, notably forestry and wood

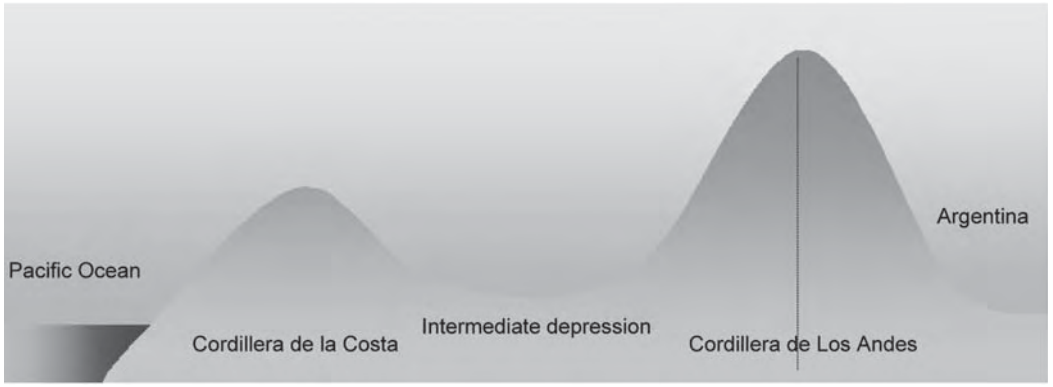
Map 1. **Chile**



products, fresh and processed fruits, fish culture (especially salmon) and fishmeal, seafood, and wine. The recent boom in the copper market has meant that copper accounted for more than 30% of exports in 2004-05 and more than 50% of exports in 2006. The importance of natural resources to the overall economy has also contributed to the country's fractious political history, as these resources have generated concentrated revenue streams and are partly responsible for the high degree of income inequality.

Chile faces significant natural obstacles to the development of both foreign and domestic markets. In the first place, the size of the domestic market is limited by the country's relatively small population. For some manufactures the minimum efficient scale of production may

Map 2. **Chile**



exceed the size of the domestic market and many capital goods need to be imported. A second problem is that transport costs tend to be high, both for domestic shipments and for international trade. Overland logistics are difficult, with roads over the Andes often closed in winter. Chile's main markets are also far away, with shipping times of 19 days to New York, 20 days to Los Angeles and 31 days to Rotterdam (Larrain, Sachs and Warner, 2000).

Agricultural conditions

Of Chile's 76 million ha, just 15 million ha are devoted to agriculture – a similar figure to New Zealand, which has just one-third of Chile's total area (Table 1.4). As with New

Table 1.4. **Land use patterns, 2003 (million ha)**

	Total area	Agricultural area	Permanent pasture	Arable and permanent crops	Arable land	Permanent crops[1]	Agriculture, value added (% of GDP)[2]	Employment in agriculture (% of total employment)[3]
							2005 or latest year available	2005 or latest year available
Argentina	278.0	128.7	99.8	28.9	27.9	1.0	10.4	1.3
Bolivia	109.9	37.1	33.8	3.3	3.1	0.2	15.7	4.9
Brazil	851.5	263.6	197.0	66.6	59.0	7.6	9.8	19.8
Chile	**75.7**	**15.2**	**12.9**	**2.3**	**2.0**	**0.3**	**4.1**	**12.5**
Colombia	113.9	45.9	42.1	3.9	2.3	1.6	12.5	21.6
Ecuador	28.4	8.1	5.1	3.0	1.6	1.4	6.3	9.1
Paraguay	40.7	24.8	21.7	3.1	3.0	0.1	26.8	31.5
Peru	128.5	21.2	16.9	4.3	3.7	0.6	9.4	0.7
Uruguay	17.6	15.0	13.5	1.4	1.4	0.0	11.4	4.5
Venezuela	91.2	21.6	18.2	3.4	2.6	0.8	4.5	10.7
China	959.8	554.9	400.0	154.9	142.6	12.2	13.1	44.1
India	328.7	180.8	11.1	169.7	160.5	9.2	18.6	66.7
South Africa	121.9	99.6	83.9	15.7	14.8	1.0	3.1	10.3
Australia	774.1	439.5	391.6	47.9	47.6	0.3	3.4	4.0
New Zealand	27.1	17.2	13.9	3.4	1.5	1.9	5.0	8.2
United States of America	962.9	409.3	233.8	175.5	173.5	2.1	1.2	2.5

1. New Zealand: the "Permanent crops" category includes planted production forests on farms.
2. Chilean data includes forestry. 2004 data for Argentina, Bolivia, China, Uruguay; 2003 data for Australia, USA, Venezuela; National sources for New Zealand.
3. 2006 data for Chile. 2003 data for Argentina, Australia, Colombia, Ecuador, New Zealand, Paraguay, Peru, South Africa, Uruguay, Venezuela; 2002 data for Brazil, China, USA; 2000 data for Bolivia.

Source: FAO, FAOSTAT database, 2007; World Bank, World Development Indicators, 2007.

Zealand, most of this land is allocated to pasture, with just 2.3 million ha devoted to crops. For those areas where agricultural production is feasible, however, the climate is ideal, and especially suitable for wine growing and temperate horticulture (OECD, 2004).

The vast majority of area planted to crop is in four regions (VI to IX) (Table 1.5). In the 1990s, planted area declined in three of these four regions, Araucanía (IX) being the exception. Between 2000/01 and 2005/06, the only region to see an increase in planted area was O'Higgins (VI), where maize area expanded by 50% in response to higher demand from the livestock sector. Across the country as a whole, the area planted to crops is 23% lower than at the start of the 1990s.[4]

Table 1.5. **Regional land allocation**

Region	Annual crops				Accumulated changes			
	Planted area, ha				Between 1990/91 and 2000/01		Between 2000/01 and 2005/06	
	1990/91	2000/01	2005/06	2005/06 share %	Ha	%	Ha	%
IV Coquimbo	12 506	10 930	9 430	1	–1 576	–12.6	–1 500	–13.7
V Valparaíso	23 665	12 890	10 920	1	–10 775	–45.5	–1 970	–15.3
VI O'Higgins	141 403	95 040	104 750	14	–46 363	–32.8	9 710	10.2
VII Maule	192 384	141 480	125 240	17	–50 904	–26.5	–16 240	–11.5
VIII Bío Bío	221 520	184 010	166 160	22	–37 510	–16.9	–17 850	–9.7
IX Araucanía	253 256	283 000	240 570	32	29 744	11.7	–42 430	–15.0
X Los Lagos	66 712	68 520	67 780	9	1 808	2.7	–740	–1.1
XIII Metropolitana	56 809	23 570	24 910	3	–33 239	–58.5	1 340	5.7
TOTAL	968 255	819 440	749 760		–148 815	–15.4	–69 680	–8.5

Source: ODEPA, 2007.

Despite this trend, the output of most crops has increased over the same interval, as a result of structural change and significant improvements in yields (discussed later). Indeed, strong growth in the agricultural sector and related industries has been an important feature of the country's economic development since the mid-1980s. The following section describes the main economy-wide and sectoral reforms that have shaped the agricultural sector's development and considers their impacts on the agricultural sector.

1.3. The impacts of economic reforms

Chile's economic policies have varied between phases of free market mercantilism on the one hand, and decades of strongly interventionist measures on the other. A major achievement of the past 20 years has been that, following a turbulent economic history, a coherent set of economic policies has emerged. The ideological schisms that previously dominated policy discourse have been quietened by economic growth and the generation of sufficient funds for the country to tackle social issues. Chile now has an essentially open market economy, complemented by public initiatives to enfranchise those who have previously been excluded from the benefits of economic growth. The remainder of this section chronicles how Chile's economy has evolved to where it is now.

Pre-reform policies

From independence in 1818 until the Second World War, successive governments followed mercantilist and free market policies. In the middle of the 19th century, Chile

became one of the world's leading producers of copper. Following the War of the Pacific (1879-83), nitrates (from mines in acquired areas) emerged as the country's dominant source of export revenues. The nitrate boom enabled Chile to become one of the most prosperous countries in Latin America, but at the same time the vagaries of the export market contributed to financial instability.

Chile was faced with a crisis when the demand for nitrates collapsed during the First World War, following the invention of a synthetic substitute by German scientists. Gradually, copper replaced nitrates as Chile's main export commodity. However, the economy was weakened further by the 1930s depression, and then by a breakdown of markets during the Second World War. The combination of vulnerable export markets, financial instability and concentrated income streams led to a prolonged period of experimentation with import substitution industrialisation (ISI) policies.

As elsewhere in Latin America, ISI policies met with some initial success. But they did not produce a sustainable expansion of the manufacturing sector, failing under the weight of restrictions and controls. ISI policies were particularly difficult to make work in Chile, as the small size of the domestic market could not support a large degree of internal specialisation. Nor did ISI policies succeed in insulating the economy from external shocks. Acute overvaluation of the domestic currency, while keeping input costs down, precluded the development of a successful non-traditional (that is, non-copper) export sector. Between 1964 and 1970, the government of Eduardo Frei Montalva attempted to redress some of the underlying problems, for example by adopting a crawling peg exchange rate in order to boost non-copper exports. Yet from 1950 to 1970, Chile's economic performance was the poorest among Latin America's large and medium-size countries.

In September 1970, Salvador Allende, heading a coalition dominated by the socialist and communist parties, was elected president of Chile on a populist platform. The government's response to weak growth and high inflation was a radical experiment that involved the nationalisation of key industries, including the copper mines, and the control of prices and public sector wages.

Despite the weak state of the economy, Chile had run current account surpluses through most of the 1960s, and accumulated substantial foreign exchange reserves (approximately USD 400 million). This meant that it was possible for the government to achieve brief success with populist policies. Real incomes jumped and inequality declined sharply. However, these policies were based on the flawed premise that inflationary pressures could be contained by reducing structural bottlenecks and eliminating monopoly pricing, and that macroeconomic fundamentals such as the money supply and the fiscal deficit could be ignored.

From 1971 onward, the economy deteriorated rapidly. By 1973, inflation was running at more than 500% per annum, price controls had led to the emergence of a large black market economy, and industrial output declined. The country's budget deficit exceeded 20% of GDP and foreign exchange reserves were almost exhausted. This led to a politically tense period, and prompted the military coup led by General Augusto Pinochet in September 1973.

The military government's free-market reforms

After the military took over the government, a series of dramatic economic reforms were initiated, with the aim of transforming Chile into an open market-oriented economy.

From an economic point of view, the Pinochet era can be divided into two periods. The first, from 1973 to 1982, corresponds to the period when most of the reforms were implemented, but macroeconomic stability was not consolidated. This period ended with the international debt crisis and the collapse of the Chilean economy. From then on the emphasis was on sound macroeconomic management as a precursor to export expansion and economic growth, while structural reforms took a backseat.

Chile's reforms included privatisation, trade liberalisation, financial deregulation and labour market reforms (OECD, 2007b). Starting in 1974, Chile adopted unilaterally an open trade regime characterised by low and uniform import tariffs with few exchange or trade controls. The uniform tariff was set at 90% in 1975, falling to 20% by 1977 and to 10% in 1979. There was some policy reversal, with the tariff raised to 35% following the debt crisis, but the uniform rate declined again to 15% by the end of military rule in 1989.

Following redenomination of the currency in 1975, the exchange rate was used as an anti-inflationary tool.[5] Under a crawling peg system, the peso was devalued more slowly than Chile's relative rate of inflation, with the consequence that the real exchange rate rose. The adoption of a fixed exchange rate in 1979 accentuated the overvaluation of the peso and, in conjunction with the loss of control of the financial sector, contributed to the financial crisis of 1982-83. In 1984 the government returned to a crawling band system, and let the exchange rate depreciate to a competitive level.

The government instituted reforms to the banking and financial sector with mixed success. The liberalisation process began with the sale of banks back to the private sector, the freeing of interest rates, the relaxation of some restrictions on the banking sector (*e.g.* reduced reserve requirements and freer entry into the sector), and the creation of new financial institutions. In June 1979, the government decided to begin liberalising the capital account by lifting restrictions on medium- and long-term capital movements. This led to a massive inflow of foreign capital. With real interest rates reaching over 60%, low domestic savings and a lack of supervision of the banking system, an unprecedented volume of bad loans accumulated. A number of banks went bankrupt, were placed temporarily under government control, and were then re-privatised. By 1992, after monetary authorities had learned the hard way the importance of bank supervision, Chile's financial sector had become stable and dynamic.

The government also instituted changes to labour practices that were strongly opposed by opponents of the military regime. The government curtailed the power of unions in several ways: a number of unions were disbanded and the government abolished the "closed shop" system, whereby once the majority of workers had chosen to join a union all workers were obliged to join. In addition, wage negotiations were decentralised to the enterprise level. However, a system of wage indexation was introduced in the first year of the regime and retained until 1982, which meant that the gains in flexibility were less than might otherwise have been the case.

The military government also kept a tight rein on budgetary expenditures. Through a radical cut in expenditures, the fiscal deficit was slashed from 24.6% of GDP in 1973 to 2.6% of GDP in 1975. The budget was kept under control for the next ten years and, from 1986 onwards, the government maintained a fiscal surplus, despite the costs of resolving the banking crisis. The fiscal burden was considerably alleviated by the creation of a private pensions system in the early 1980s, although there were significant transition costs. The combination of stronger growth rates and fiscal surpluses reduced the public debt

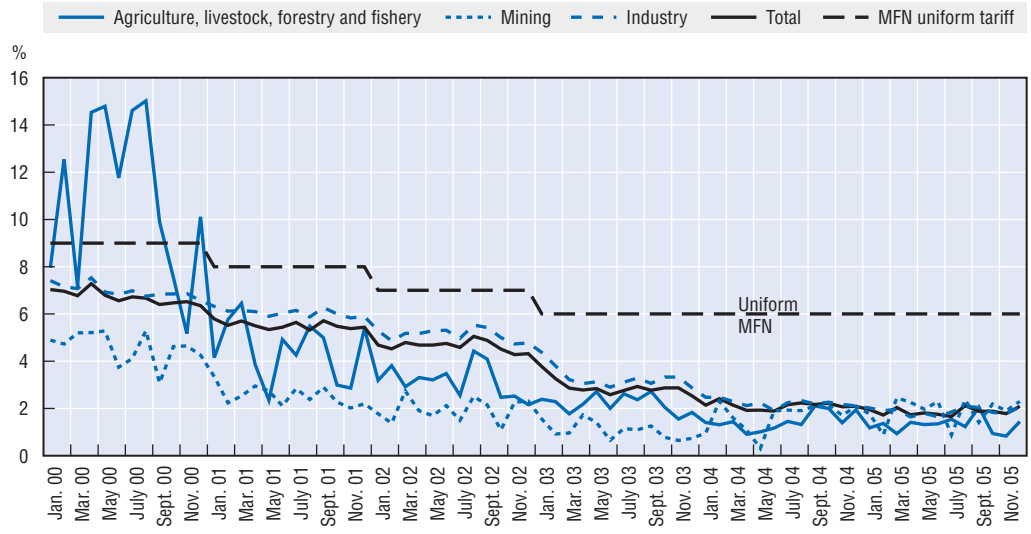
throughout the remainder of the decade, and helped bring down the country's external debt from a peak of over 120% of GDP in 1985 to 60% by 1990.

Policy changes since the return to democracy

The main tenets of prudent macroeconomic management and a commitment to open markets were retained by the Aylwin government following the restoration of democracy in 1990. Structural reforms, including labour-market flexibility, had ceased to be associated with the authoritarian government and had become more generally accepted by the population. The new emphasis was on upscaling social programmes, and broadening the basis of the country's growth, but without endangering hard-earned macroeconomic stability.

The government has continued to open the country's markets, first by unilaterally lowering tariffs and then by concluding a series of free trade agreements. The uniform tariff system was maintained and currently stands at 6%. Figure 1.3 shows the evolution of Chile's MFN tariff since 2000. This is well within the country's WTO ceiling binding commitment of 25% (31.5% for some agricultural goods).

Figure 1.3. **Applied tariffs, adjusted for trade preferences, 2000-05**



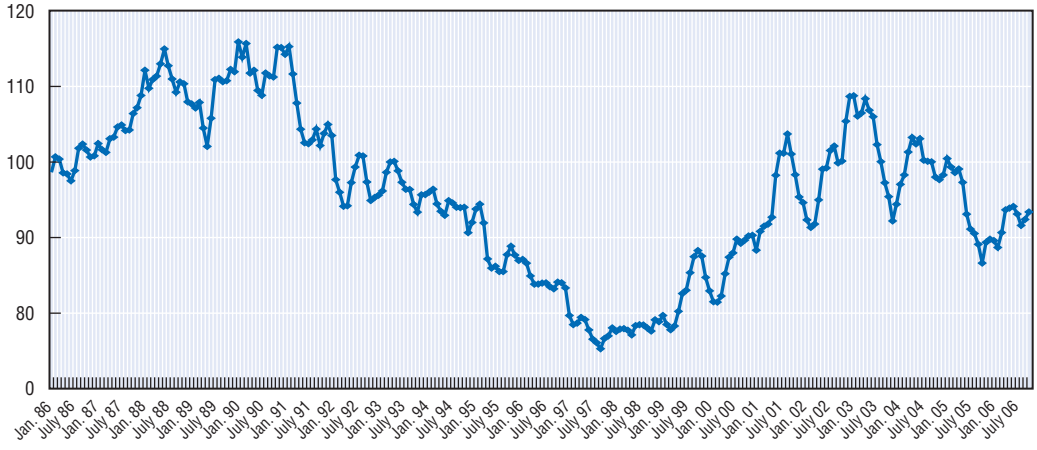
Note: Calculations account for both *ad valorem* and specific duties.
Source: Becerra, 2006.

Since 1990, an active policy of negotiating Free Trade Agreements (FTAs) and Economic Cooperation Agreements (ECAs) has been pursued as a complement to unilateral liberalisation.[6] This has lowered the average tariff levied by Chile still further, to just 2%, and means that applied tariffs taking account of preferences are typically much lower than the MFN average (Figure 1.3). A small side effect of these agreements (given such low tariffs) is that they have compromised somewhat the neutrality of the country's tariff system. In addition to furthering tariff reductions, Chile's trade agreements have also locked in reforms in other areas, notably with respect to regulatory policies.

The government continued with the crawling band exchange rate system through the 1990s, which resulted in a rising real exchange rate for much of the decade. The peso

was fully floated in September 1999, and fell considerably following the Asian crisis. The exchange rate has climbed again since 2003, as the economy has recovered and copper revenues have strengthened (Figure 1.4). In general, the diversification of the country's export base (notwithstanding the recent surge in copper exports), the wider range of trading partners and, most recently, reform of the Copper Stabilisation Fund, so that funds can be invested in foreign securities, have made the economy more resilient to exchange rate shocks (OECD, 2005a).

Figure 1.4. **Real exchange rate, average 1986 = 100**



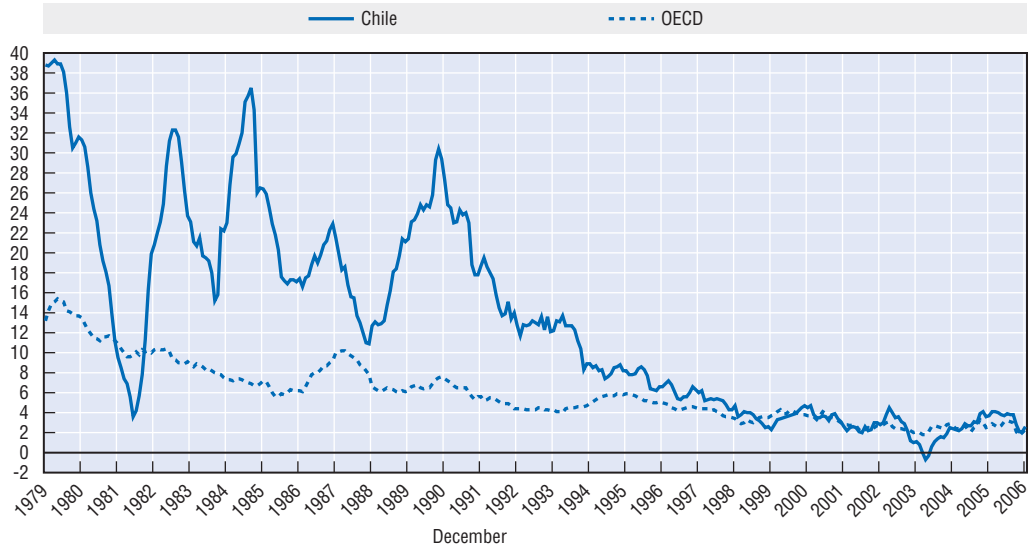
Note: An *increase* in the index represents a *depreciation* of the real exchange rate.
Source: Central Bank of Chile, 2007.

The government has also conducted a credible fiscal policy, maintaining budgetary surpluses until the sharp cyclical downturn in the late 1990s. Since 2000, the government has allowed fiscal policy to be more counter-cyclical by targeting a structural (as opposed to an actual) surplus of 1% of GDP.[7] This informal rule has locked in the benefits of credibility built up in the late 1980s and 1990s, and allowed the government to smooth public spending in the face of output cycles and copper price shocks. Although the government ran an actual deficit from 1999 to 2003, the structural balance met the required target from 2001. Moreover, these deficits have been more than offset by healthy surpluses in 2004 and 2005 (4.7% of GDP) following the cyclical upturn in the economy and the sharp rise in the copper price.

Structural reforms initiated by the military regime have been modified but not repudiated. For example, some changes to labour laws were introduced in 1991. These changes restricted the causes for firing employees, increased the compensation that firms had to pay to lay off employees, and restricted employers' recourse to lockouts. These changes marked a break with the authoritarian regime but without undermining the improved flexibility.

The government has also succeeded in maintaining monetary credibility since the adoption of a floating exchange rate. Inflation has converged on the OECD average and has been stable over the last few years, even in the face of global and regional volatility, and large swings in the copper price and real exchange rate (Figure 1.5) although it is poised to exceed the target ceiling of 4% in 2007, mainly as a result of higher food prices.

Figure 1.5. **Consumer price inflation, 1979-2006**

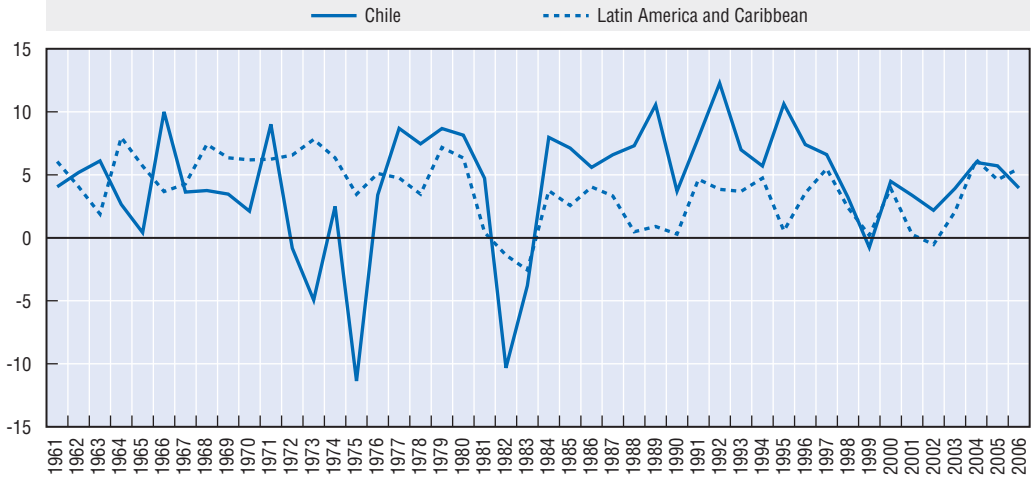


Source: Central Bank of Chile, 2007; OECD, MEI database, 2007.

In the last two years the economy has recovered quickly, aided by buoyant commodity prices, notably for copper. The ratio of private investment to GDP rose to 25% in 2004, well above the average during Chile's "golden age" of rapid GDP growth. Note that the performance of GDP has been strong and relatively stable since the debt crisis, both by historical standards and in comparison with other Latin American countries (Figure 1.6). Unemployment, which rose to 10% following the Asian crisis, has also come down to less than 8%, although increased labour force participation, especially by women, has until recently outpaced job creation.

In the longer term, however, the economy is still handicapped by structural weaknesses that slow the reduction of the income gap with OECD countries. Most importantly, there is a need to accumulate human capital by broadening the level and quality of education. Labour productivity, outside successful sectors such as mining and

Figure 1.6. **Real GDP growth, 1961-2006**



Source: Central Bank of Chile, 2007; World Bank, World Development Indicators, 2007.

some agribusiness activities, is an area where Chile lags the most. Educational attainment has improved dramatically, with, for example, enrolment in secondary education doubling between 1990 and 2002 to 28%; but remains low in comparison with OECD countries. A second priority is to boost innovation. R&D intensity is comparatively low, at 0.7% of GDP, and is financed primarily by the government. This is about one-third of the average R&D intensity in OECD countries, where most of the funding comes from the private sector. Moreover, the innovation mix favours R&D over knowledge diffusion and technology-based entrepreneurial skills. The latter may be more important in agriculture, where adapting existing technologies and providing extension may offer higher returns than R&D. Further needs are to strengthen pro-competition regulation, and to ensure greater flexibility in the labour market, in order to reduce labour informality and raise labour force participation (OECD, 2005a; OECD, 2007b).[8]

Agricultural policy developments[9]

Between the late 1950s and the mid-1960s, agriculture was subservient to the needs of macroeconomic policy (control of inflation, the reduction of the budget deficit, and the improvement of net foreign exchange earnings). Industrialisation was seen as the key to prosperity.

The government fixed the prices of basic products (wheat, bread, rice, sugar, oilseeds, beef and milk) and suppressed marketing margins in order to curb inflation. Except for a brief period of trade liberalisation in 1961, when the government tried to attract foreign investors, it also maintained a protective system of tariffs, quotas and import licences. The attempt to control the supply chain led to contradictory policies. For livestock producers there were incentives such as credit for milk producers and state aid for the construction of slaughterhouses; at the same time there were constraints such as rationing ("meatless days"). There were efforts to promote the export of fruits, while rail transportation was subsidised for wheat, cattle and feed shipments. In 1960, a marketing board for purchases and sales was established, beginning with wheat and by-products, with its authority later extended to all products. The board was also conferred with a monopoly on imports.

From 1965 until the military coup in 1973, the same basic instruments were used to administer a more explicit agricultural policy focused on self-sufficiency. To encourage production, the government allowed the prices of farm products to rise more quickly than those of non-agricultural goods; while to reduce marketing margins it intervened in marketing channels, increasing storage and processing facilities, improving transport systems, holding food security stocks of staples, and operating marketing boards to control prices. During this period there was an attempt to foster fruit and wine production in the Central Valley, and to transfer livestock and milk production to the southern regions. To facilitate these developments, the Economic Development Agency (CORFO), in conjunction with the Ministry of Agriculture, provided long-term credit and invested in fruit storage facilities, slaughterhouses and dairy plants. This enabled sectoral growth to reach 5% per year – more than double the average over the ISI period.

When the military took power in 1973, economy-wide reforms took priority over sectoral policy changes. As part of the early introduction of a radical trade liberalisation programme, almost all non-tariff barriers were eliminated and tariffs on most imports were reduced rapidly. Except for wheat, milk and oilseeds, most of the previous price controls were lifted, and marketing board and price control agencies were closed. Legal ceilings on interest rates were raised and then removed, and preferential rates for

agriculture were abolished. Government expenditures on agriculture also fell dramatically. During the period 1980-83, the government spent one-third of the amount it spent on the sector in real terms during the period 1965-74 (Hurtado, Muchnik and Valdés, 1990). There were several delays in the implementation of reforms, which impeded adjustment in the agricultural sector. There was a slow elimination of price controls for some products, and reform of land and water rights took longer than expected.

A second phase of reforms began in 1984, following a deep recession. A price stabilisation mechanism was established for wheat, sugar and oilseeds, based on a variable levy, commonly referred to as price bands [referred to as the Price Band System (PBS)]. A scheme of minimum customs valuations for milk and derivatives was introduced. This was seen as a way of offsetting the impacts of increases in the exchange rate.

The main tenets of agricultural policy remained in place following the return to democracy. Price band systems remain in place for wheat, wheat flour and sugar, although these are due to be phased out by 2014 under a modification of the PBS Law enacted in 2003. The wheat and wheat flour price band system are to be reformed further in order to comply with a May 2007 WTO Dispute Settlement Body finding.[10] Occasionally, safeguards have been applied on a few products, most recently milk and wheat flour. More generally, FTAs have reduced the mean agricultural tariff to less than 2%, which is about the same as the average in other sectors, and just one-third the MFN rate of 6%.

From the standpoint of import-competing producers, Mercosur is the most important trade agreement. Chilean producers of wheat, maize, oilseeds and beef face competitive pressures from farmers elsewhere in South America. The majority of the country's wheat, milk, and maize comes from Argentina, while meat and oilseed products are supplied by Argentina, Brazil and, to a lesser extent, Paraguay and Uruguay. Other trade agreements, notably with the European Union (2003) and the United States (2004) have been more important for exports. With an agreement with China recently concluded (2006), Chile has almost exhausted the potential for concluding significant new FTAs. However, these agreements will have considerable implications for agricultural policy due to their extensive implementation and monitoring procedures. These extend to the regulatory framework of sanitary and phyto-sanitary questions, environmental impacts, technology generation, and the special case of small farmers (credit extension and productivity enhancement).

Land reform

Land reform began in the early 1960s, under the Alessandri administration (1958-64). The initial reforms were limited, based on voluntary sales at market prices, and oriented towards the promotion of small-scale farms. Reforms gathered pace under the government of Eduardo Frei Montalva (1964-70), when Chile's overall agricultural policy was centred around modification of the country's land tenancy system (Díaz, 2007). Not only was land redistributed, but other policies and institutions were introduced to fit the new vision for Chile's agricultural economy.

To support the process of land reform, a specialised agency, the Agricultural Reform Corporation (CORA – Corporación de la Reforma Agraria) was created and, in an effort to establish the new farms as viable units, the agricultural research institute INIA was set up. INDAP, which was established in 1962, was charged with supporting the smallholder sector

through literacy schemes, the promotion of farmer co-operatives and unions, and through technological transfers and loans.

The nature of the land reform process changed in 1967, when a more ambitious programme was introduced, based on expropriations, with partial compensation provided by the state, and oriented towards the establishment of large, co-operative farms. A private producer with greater than 80 hectares of irrigated land (or its equivalent) was subject to land expropriation. Under Salvador Allende (1970-73), the expropriation-based land reform programme was expanded to the south of the Central Valley and to mountainous areas, with a view to the creation of semi-collectivised, large operations.[11]

Between 1964 and 1973, CORA expropriated and subsequently redistributed 5 809 estates of almost 10 million ha, corresponding to 59% of Chile's agricultural farmland (Bellisario, 2007). Of these estates, 24% were expropriated by the Frei government, with the remaining 76% expropriated by the Allende administration. In terms of area, 36% of the area was expropriated under Frei and 64% under Allende, the more even proportions indicating that not only did expropriations gather pace, but also that they were extended to smaller properties.

Starting in 1974, the military government began wrap up agrarian reform by distributing land to establish family farms with individual ownership. In a period of three years, 109 000 farmers and 67 000 descendants of the Mapuche (Chilie's main indigenous community) were assigned property rights to small farms. Although 33% of properties (corresponding to 30% of expropriated area) were returned to their former owners, 41% was assigned to peasant households. The remainder was either auctioned (16%) or transferred to public institutions (10%). CORA was abolished at the end of 1978 and by the end of military rule virtually all land had been assigned. Reforms to the legislation that regulated land rentals and land subdivisions in 1980 added flexibility to the rural land markets, as did the separation of water rights from the land itself, and the legal possibility of transferring water titles independently of land transactions.

Since the return to civilian rule in 1990, the fundamentals of the country's land tenure system have not been revisited. There have been no land appropriations and land policy is limited to incentives to enable indigenous farmers to purchase land (see Chapter 2).

The emergence of a successful but relatively concentrated agro-food sector, the associated decline in the number of small farm households, and the relative increase in seasonal wage earning employment within agriculture and agribusiness have been linked to a reversion to pre-reform economic structures (Bellisario, 2007). However, the general development whereby labour is released from farming corresponds to a pattern of development that most developed OECD countries have themselves experienced. The implications of these structural changes, and possible policy responses, are considered in Chapter 3.

Box 1.1. **Chile's forestry sector**

Analysis of the forestry sector falls outside the general remit of the OECD's agricultural policy analysis. In Chile, however, the forestry sector falls within the Ministry of Agriculture's mandate, and there are several policy issues that are of joint concern, notably those related to land use, the environment, and the prospects of smallholders. Accordingly, some general features of the sector and government policies are presented here.

Box 1.1. **Chile's forestry sector** *(cont.)*

Chile's forestry sector is of considerable economic importance. It is the country's second largest export sector after copper mining, with an export share of 13% in 2005. It exports to a wide range of markets, with the most important being the United States, Japan, Mexico and China. Nearly half the sector's exports are in the form of pulp and paper. Forestry is a major employer, providing jobs for an estimated 133 000 people in 1995, of which 45 000 jobs were in forestry directly, 34 000 were in primary industries such as pulp and paper, 38 000 were in secondary activities such as furniture, and 17 000 were in services (INFOR).

Forested area has grown rapidly in recent years, from 300 000 ha in 1970 to 2.07 million ha in 2005. The majority of plantation forests are Radiata Pine (1.5 million ha) and Eucalyptus (380 000 ha). The sector has benefited from easy access to its main markets, as a result of its numerous FTAs, and from government support. Under a 1974 law, the state covers 75% of the net planting costs of any new plantation, while CORFO provides incentives to foreign and domestic investors in the forestry sector.

There have been some concerns about the extent to which this growth is inherently reconcilable with other objectives, including protection of the country's eco-system and biodiversity; the sustainable use of native forest; the resolution of land tenure conflicts; and the provision of viable development opportunities for smallholders.

On the question of natural resource management, a recent OECD review of Chile's environmental policies concluded that the country's forestry activities – including those undertaken by large scale plantations – were mostly undertaken in a sustainable manner. The review noted that generalised mismanagement of the sector in the past (prior to 1960) had degraded native forests, but that in general plantations are beneficial for the environment as they sequester carbon, improve water retention, reduce erosion, and increase the amenity value of degraded hills and plains. Moreover they are being developed on previously eroded land as opposed to native forests, and are reducing the demand for firewood from native forests (OECD, 2005b).

To reduce land tenure conflicts, the government has instituted a policy of returning land to the Mapuche people. This policy has been expensive, as the price paid to forestry companies covers the commercial value of their operations and has resulted in a high price per hectare (Moreno, 2002).

The sector has had some difficulties in providing growth opportunities for small and medium-sized enterprises, which struggle with access to finance and in negotiating with monopsonistic buyers. However, SMEs account for about 80% of employment in the sector. According to the 2003 CASEN survey (which contains somewhat different totals from those estimated by INFOR), 72 801 people made their living directly from forestry, of which 1 444 (2%) were employers, 9 193 (13%) were self-employed, and 61 164 (85%) were salaried workers. In general, employers and self employed earned somewhat less than their counterparts in the agriculture and fisheries sector; but salaried workers in the forestry sector reported higher mean and median incomes than workers in agriculture and fisheries. This suggests that smaller forestry operations face significant obstacles to their economic viability, but that employment on large forestry operations may be an attractive opportunity for poorer rural households. The issue of development opportunities for smallholders is explored in Chapter 3.

1.4. Structural changes in the agricultural sector

Production, factor use and productivity

The agricultural sector responded swiftly to economic reforms, growing more quickly than the overall economy between 1984 and 1990. That trend was reversed as the gains from shifting resources into sectors in which Chile has a comparative advantage were realised, and income growth led to a natural reduction in the share of income that households spend on food, although agriculture's share of national income has now stabilised. Through the 1990s, there was a continued shift of resources away from products in which Chile is not competitive (*e.g.* wheat, beef and milk) in favour of competitive exportables (especially pigmeat and poultry, temperate fruits and vegetables, and, more recently, high quality meat and dairy products).

Since 1990, livestock output has grown more quickly than crop production (Figure 1.7). The doubling in livestock output over this 15 year period exceeds that of even the most dynamic crops (fruits and more recently maize). Most notably, the output of pigmeat and poultry has more than trebled. These products are mainly destined for the domestic market,

Figure 1.7. **Output indices for crop and livestock products, 1990 = 100**

Source: ODEPA, 2007; FAO, FAOSTAT database, 2007.

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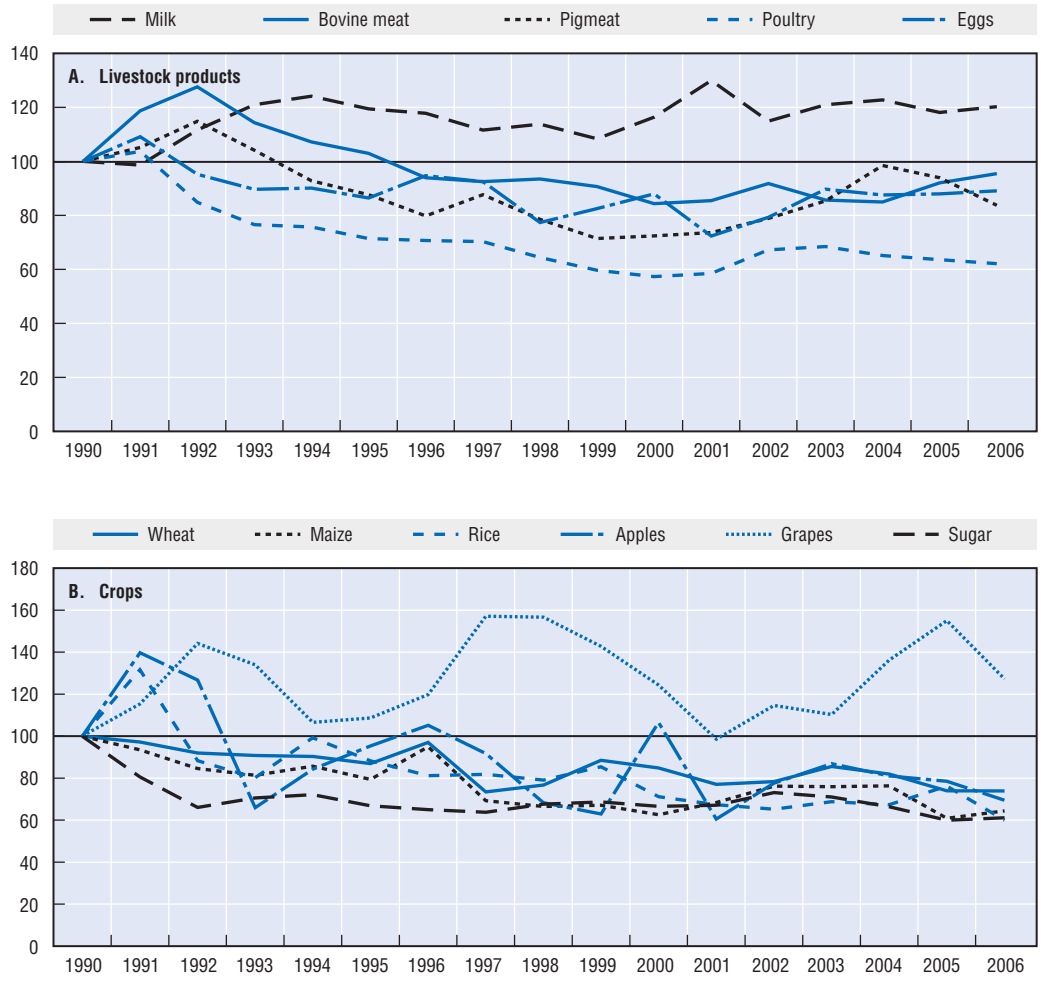
which has expanded rapidly, although there has been a growing exportable surplus in each case. Milk production has increased more slowly, rising by 70% between 1990 and 2005, despite being the only livestock product to show rising real prices, while the production of cattle meat has actually declined as a result of particularly sharp falls in real prices.

Among crops, the production of exportable higher value products has increased most. Output of apples and grapes nearly doubled between 1990 and 2005. On the importable side, the output of wheat declined in the 1990s but has since recovered to pre-1990 levels. Maize production was weak through the 1990s, but almost doubled between 2001 and 2005, as yields improved and the growth in livestock production boosted the demand for feed. Wine production continues to increase, while the expansion of fruits has slowed, due primarily to a decrease in world prices for the bulk of the fruit exports (Valdés and Jara, 2006).

The relative strength of livestock production reflects comparatively high domestic prices compared with crops, where real prices have declined significantly for all crops except grapes (Figure 1.8). Most of the gain has come from increases in animal numbers

Figure 1.8. **Real wholesale price indexes for main agricultural commodities, 1990 = 100**

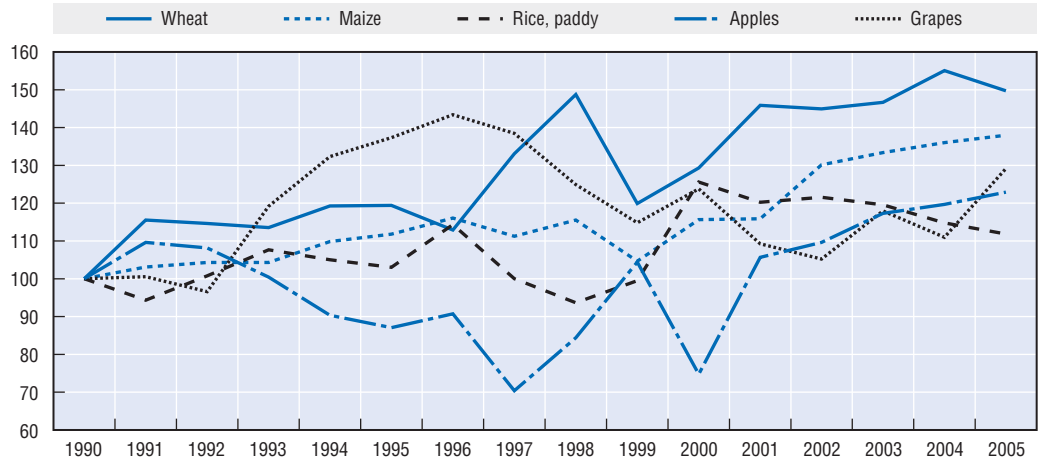


Source: ODEPA, 2007; FAO, FAOSTAT database, 2007.

rather than improved productivity. This contrasts with the majority of crops, where improved yields rather than increased acreage have been the dominant factor.

The overall area planted to crops declined by 23% between 1990/01 and 2005/06 (Table 1.5). This has been more than offset by improvements in yields. Reflecting competitive pressures, yields for import-competing crops such as wheat and maize have increased sharply, and more rapidly than yields for exported commodities such as fresh fruits, which were already competitive anyway (Figure 1.9).

Figure 1.9. **Yields for selected crops, 1990-2005 (1990 = 100)**



Source: ODEPA, 2007; FAO, FAOSTAT database, 2007.

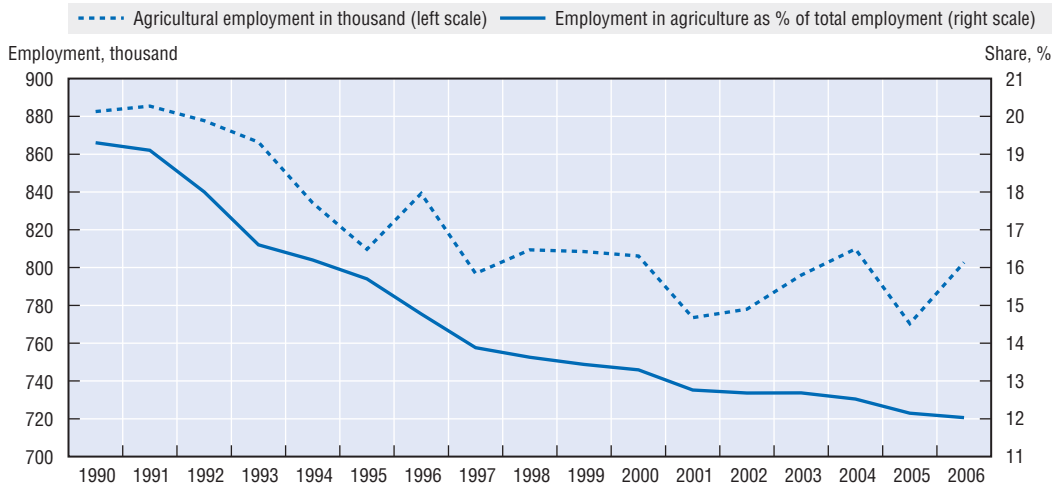
These improvements in yields are largely a consequence of more inputs being applied. The use of fertiliser, which grew rapidly during the second phase of military rule, continued to increase following the return to democracy, with the result that fertiliser use in Chile is now higher than in any other South American country. Virtually all Chile's crop area is fertilised, with rates of nitrogen, phosphate and potash (NPK) use of approximately 330 kg/ha for maize, 200 kg/ha for wheat and 540 kg/ha for sugar beets. In Argentina, by contrast about 70% of the wheat area and 40% of the maize area is fertilised, with about 75 kg/ha applied in each case (IFA, 2002). Other factors contributing to improved yields have been an increased use of machinery, an expansion in irrigated area, and the introduction of new varieties of crops.

At the same time, the number of people working in agriculture has declined in absolute terms and as proportion of overall employment, with the fraction of the working population employed in agricultural activities declining from 19% to 12% between 1990 and 2006 (Figure 1.10). This substitution of capital for labour may be partly attributable to changing relative prices: for example, whereas the price of fertiliser increased by 130% between 1990 and 2006, wages increased by 300% over the same interval.

Changes in factor proportions in turn partly explain the dramatic increase in labour productivity, as measured by value added per employee (Figure 1.11). Over the last 20 years, labour productivity in agriculture (and also in mining) has grown twice as fast as labour productivity in manufactures or services.

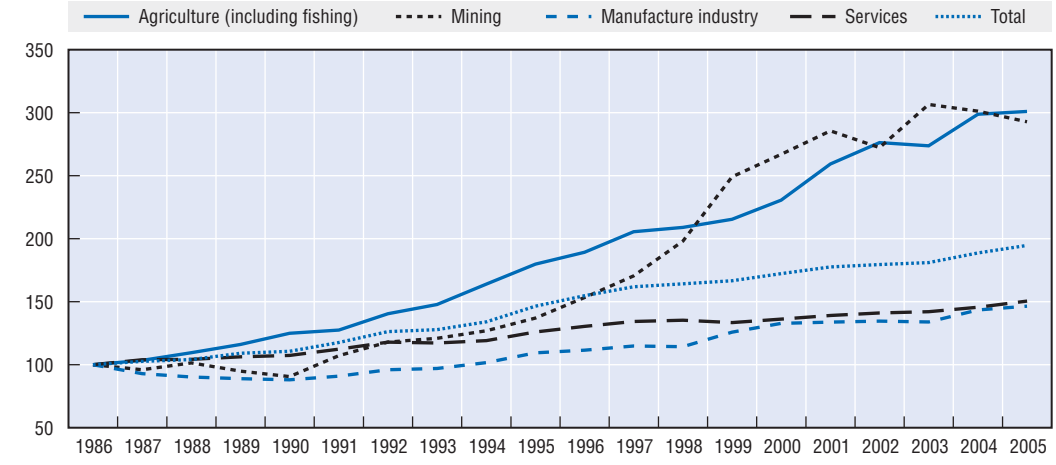
Improved yields and labour productivity appear to be largely the result of capital deepening. Overall gains in productivity, *i.e.* that part of output growth not accounted for by

Figure 1.10. **Evolution of employment in Chilean agriculture, 1990-2006**



Source: ODEPA, 2007; World Bank, World Development Indicators, 2007.

Figure 1.11. **Labour productivity by sector (value added per employee, 1986 = 100)**



Source: Central Bank of Chile, 2007.

the growth in inputs, are captured by Total Factor Productivity (TFP) estimates. TFP estimates are sensitive to the methodology used, and need to be interpreted cautiously. Using an accounting relationship (that applies Brazilian cost shares for all Latin American countries), Evenson (2003) estimates that agricultural TFP in Chile grew by an average of 1.6% per year between 1982 and 2001, with growth rates of 2.2% for crops and 1.0% for livestock. The overall average is considerably lower than that for the Southern Cone countries (3.1%) or Latin America and the Caribbean as a whole (2.25). Using a different methodology (based on Data Envelope Analysis), Coeli and Rao (2003) provide productivity indices for 93 countries including Chile. They estimate that, between 1980 and 2000, TFP increased at a below average rate of 1.1% per year, with all the gains attributable to technical change, as opposed to improved efficiency in the use of inputs. Focusing on Chile alone, however, Vergara and Rivero (2006) find more positive results. Decomposing growth at the sectoral level for a more recent period, 1996-2001, they find that agricultural TFP growth averaged 5.9% per year, exceeding the gains in all other sectors except mining.

Trade

Agriculture makes an important contribution to Chile's overall trade balance, with agro-food exports accounting for about a quarter of all exports (Table 1.6). This share is considerably higher than the cumulative share of agriculture and the food industry in GDP – which has averaged 9% over the past ten years, or 11% if fisheries are included.

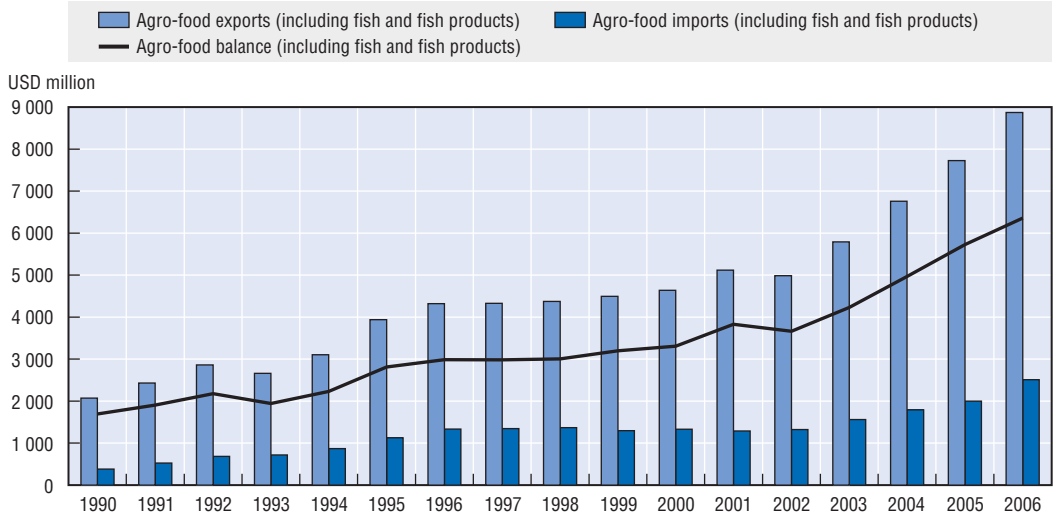
Table 1.6. **Chile's agro-food trade and total trade, 1990-2006 (USD million)**

	1990-94	1995-99	2000-04	2003	2004	2005	2006
Agro-food exports (including fish and fish products)	2 626	4 291	5 459	5 793	6 758	7 727	8 870
Agro-food imports (including fish and fish products)	636	1 294	1 459	1 562	1 790	1 999	2 511
Agro-food trade balance	1 990	2 997	4 000	4 230	4 968	5 728	6 359
Total exports	9 614	15 689	21 071	20 077	30 895	38 596	55 881
Total imports	9 124	16 160	17 583	17 376	22 401	29 857	34 726
Share of agro-food exports in total exports, %	27	27	26	29	22	20	16
Share of agro-food imports in total imports, %	7	8	8	9	8	7	7

Source: UN, UN Comtrade database, 2007.

Agro-food exports have grown much more rapidly than agro-food imports in recent years, with the net surplus exceeding USD 6 billion (Figure 1.12). This growth has come from developing new markets abroad and successfully expanding sales of high value items such as fresh fruits, wine and fish and fish products. The most recent sources of growth have been pigmeat and poultry, and speciality fruits (dates, figs, and avocados) (Figure 1.13).

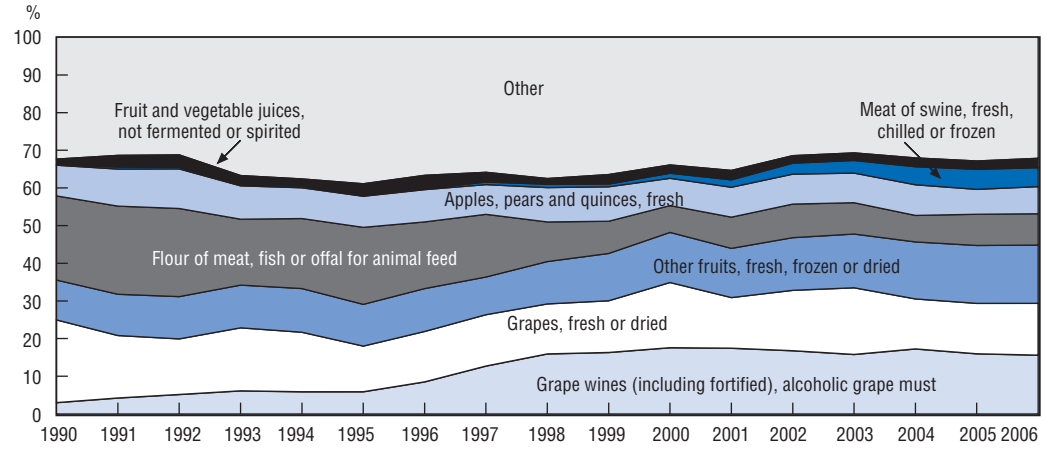
Figure 1.12. **Evolution of Chile's agro-food trade, 1990-2006**



Source: UN, UN Comtrade database, 2007.

Chile has succeeded in diversifying the destinations of its exports. In the four years to 2006, 29% of agro-food exports went to the United States and Canada, 26% to Europe and 26% to Asian countries (Figure 1.14). Latin American markets are relatively less important, with a combined share of 18%. The main reason for this low share is that Chile's exports are mostly high value products such as fruits, or products with considerable value added,

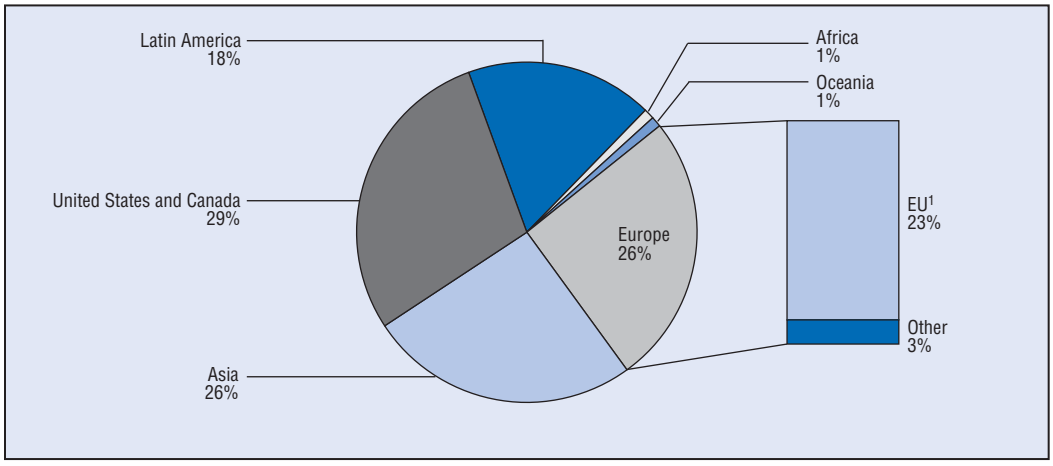
Figure 1.13. **Commodity shares in Chile's agro-food exports, 1990-2006**



Note: Fish and seafood products excluded.

Source: UN, UN Comtrade database, 2007.

Figure 1.14. **Chile's agro-food exports by region of destination, 2003-06 average**



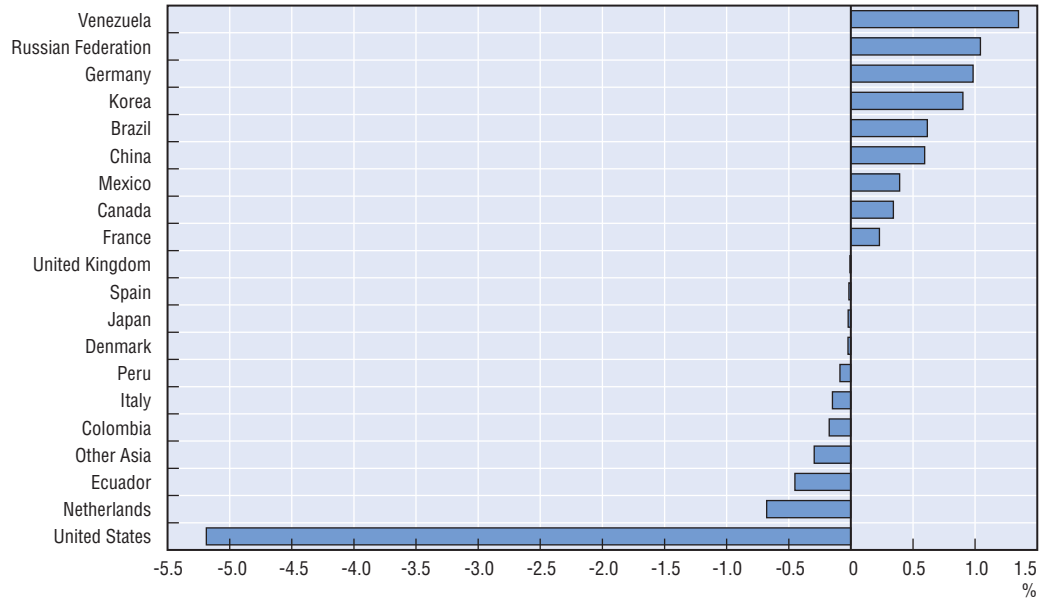
1. EU15.

Source: UN, UN Comtrade database, 2007.

notably wine, for which the demand is stronger in high income countries. In recent years there have been some new growth markets, such as Korea and Russia, while the United States market has become less important (but has nonetheless increased in absolute terms) (Figure 1.15). There has been only a small increase in the share of exports going to the world's biggest growth market, China, although that may change following the recent conclusion of a free trade agreement. One constraint on this market is China's own comparative advantage in labour intensive products such as fruits and vegetables, although this factor is mitigated by the fact that Chile's products arrive in China's off-season.

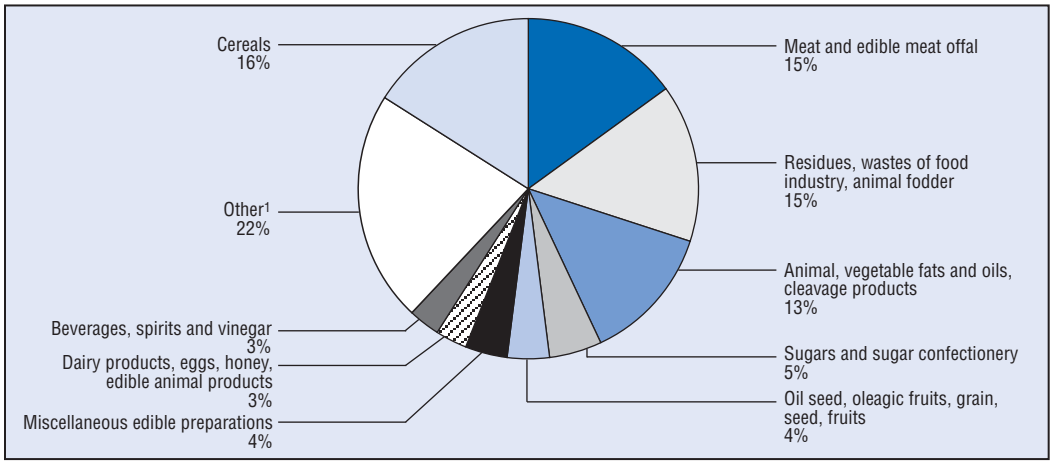
The growth in agro-food imports has been less dynamic. Chile imports a large share of its domestic consumption of cereals (principally wheat), oilseed products (both oil and meal), beef and sugar (Figure 1.16). More than three-quarters of these supplies come from other Latin American countries, with Argentina and Brazil collectively accounting for well

Figure 1.15. **Changes in export shares of agro-food products to Chile's major export destinations between 2003 and 2006**



Source: UN, UN Comtrade database, 2007.

Figure 1.16. **Chile's agro-food imports by product, 2003-06 average**



1. Commodities with a share below 3% each of the total.

Source: UN, UN Comtrade database, 2007.

over half (Figure 1.17). Argentina is the main supplier of wheat and beef, while Brazil supplies sugar and oilseed products.

Changes in the structure of agriculture

Farm structures

Changes in the production mix have had important implications for the structure and location of farm operations. The most recent Agricultural Census available was conducted in 1997, although results of the 2007 Census were becoming available as this study was being finalised. Some summary information is provided in Box 1.2.

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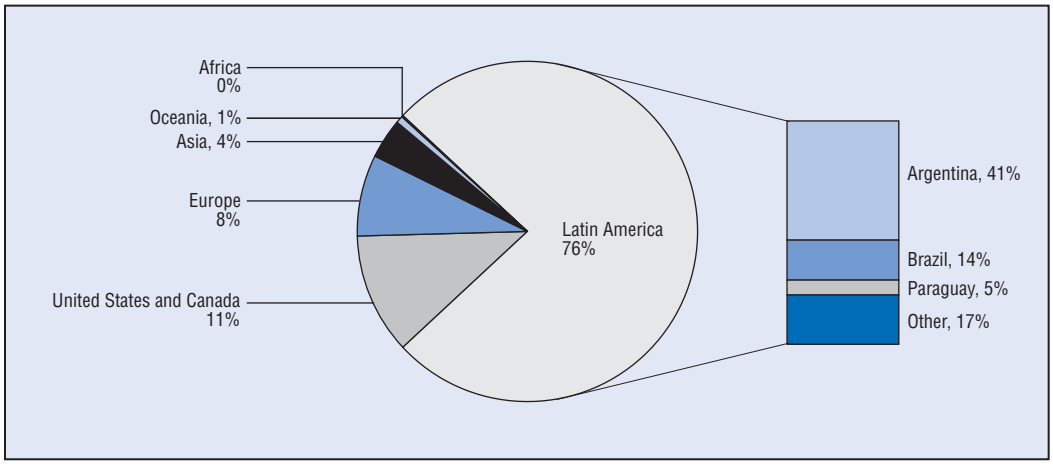
Figure 1.17. **Chile's agro-food imports by region of origin, 2003-06 average**



Source: UN, UN Comtrade database, 2007.

Box 1.2. **Preliminary results from the 2007 Agricultural Census**

In overall terms, Chile's agricultural area (including planted forests) increased by 1.3% between 1997 and 2007, to 37.1 million ha. With limited additional land available, Chile's total area appears to be close to its peak, and has been relatively constant at 36-37 million ha for the past 30 years. Farm numbers decreased by 11% between 1997 and 2007, with the implied average size of operation increasing from 84 ha to 109 ha. (Table 1.7).

Table 1.7. **Number and area of agricultural and forestry operations by type, 1997 and 2007**

	Number of farms			Area (ha)			Average size (ha)		
	1997	2007	% change	1997	2007	% change	1997	2007	% change
Individual producers	282 204	242 211	–14.2	13 020 124	11 095 218	–14.8	46	46	–0.7
Associated producers[1]	25 802	26 743	3.6	3 520 965	1 903 980	–45.9	136	71	–47.8
Corporate farms[2]	7 523	10 604	41.0	6 282 145	9 117 808	45.1	835	860	3.0
Publicly owned farms	717	379	–47.1	1 904 041	6 248 179	228.2	2 656	16 486	520.8
Indigenous and historical communities	276	439	59.1	1 775 089	2 110 172	18.9	6 431	4 807	–25.3
Total	316 522	280 376	–11.4	26 502 364	30 475 357	15.0	84	109	29.8

1. Associated producers are farm associations without legal contracts, and communal producers.
2. Corporate farms are limited companies and other societies with legal contracts.

Source: Elaborated by ODEPA and OECD using preliminary results from the 2007 Agricultural Census and the 1997 Census results.

Over the past ten years, there has been an important shift in the structure of farm ownership, with a decline in the number farms operated by individuals (–14%) and a similar fall in the area accounted for by these farms (–15%). This implies little change in average size of individual farms (46 ha). At the same time, there has been a 41% increase in the number of corporate farms, and a similar rise in area (45%); with the average size of these operations increasing slightly to 856 ha. The main cause of increasing farm sizes has therefore been the rise of corporate farming rather than changes in the scale of either individual or corporate farms. Indeed, whereas corporate farms occupied less than half the area taken by individual farms in 1997, by 2007 the ratio was up to 82%.

Box 1.2. **Preliminary results from the 2007 Agricultural Census** *(cont.)*

It is important to bear in mind that these figures include forestry plantations, which tend to be larger than crop and livestock farms. Forestry plantations accounted for 18% of total agricultural and forestry area in 2007 and the average size of these operations was 321 ha. The implied average size of non-forestry operations was 91 ha (compared with 109 ha for all operations). Another factor influencing these results has been the increase in the area operated by publicly owned farms. Total agricultural and forestry area declined in regions V to IX, but increased in regions to the north and south. Excluding forestry plantations, the number of operations declined in all regions except Region VIII, which now contains more farms than any other region.

Only a minority of Chile's agricultural land (2.1 million ha) is cultivated, with this area falling by 7.6% between 1997 and 2007 (Table 1.8). However, this decline masks important regional differences: cultivated area increased by 60% in region IV and by 18% in region V, but fell to varying degrees in regions VI to X. The area allocated to vineyards increased by 58% to 129 000 ha, and area covered by fruits by 38% to 129 000 ha. All other crops except seeds and flowers showed declines in cultivated area, with cereals area falling by 26%. There was a slight decline in area under pasture; yet while cattle numbers decreased by 9.2%, there was a 5.2% increase in sheep numbers and a 71.6% increase in the number of pigs. In a separate study, Anriquez (2003) reports that the number of dairy producers is declining by about 3% per year, as the average size of operations increases. According to ODEPA, 2 500 milk producers (18% of the total) account for 86% of milk received by processing plants; while 800 producers (6%) account for 60% of processed milk (Oficina de Estudios y Políticas Agrarias, ODEPA, 2003).

Table 1.8. **Agricultural and forestry land use in Chile, by activity, 2007 (ha)**

		1997	2007	Difference	Change (%)
Cultivated soils	**Total**	**2 303 262**	**2 129 363**	**–173 898**	**–7.6**
	Annual and permanent crops[1]	1 403 782	1 307 369	–96 413	–6.9
	Permanent and rotation forages	454 173	402 010	–52 163	–11.5
	Fallow	445 307	419 984	–25 323	–5.7
Other soils	**Total**	**34 335 096**	**34 983 087**	**647 991**	**1.9**
	Improved pasture	1 018 446	1 052 567	34 121	3.4
	Natural pasture	12 083 350	11 162 179	–921 171	–7.6
	Forestry plantations[2]	2 226 014	2 655 317	429 303	19.3
	Native forest and thicket[3]	12 524 103	11 728 076	–796 027	–6.4
	Infrastructure[4]	347 664	239 843	–107 821	–31.0
	Sterile and other unusable soils	6 135 519	8 145 105	2 009 586	32.8

1. Includes annual forages.
2. Include forest and ornamental plant nurseries.
3. Include natural and native forests and thicket.
4. Does not include greenhouses.

Source: Elaborated by ODEPA using preliminary results from the 2007 Agricultural Census and the 1997 Census results.

Changes in the type of farm operation, location of production and the product mix have been associated with changes in technology. A 17.8% decline in the use of gravitational irrigation (a reduction of 171 000 ha) was more than offset by the rapid emergence of micro irrigation, which increased by nearly 300% from 62 000 to 247 000 ha. The use of mechanical irrigation also increased from 31 000 to 57 000 ha.

Supply chains

One important determinant of structural change at the farm level has been increased concentration on the buyer side, and greater vertical co-ordination through contracts and integration in agro-processing. The structural implications at the farm level are difficult to

discern directly, pending more complete results from the 2007 Agricultural Census. Nevertheless there is evidence to suggest that smaller farmers are finding themselves under increased competitive pressure.

In the first place, a larger proportion of food sales are accounted for by supermarkets, with which smaller farmers find it difficult to engage. This is because they have greater difficulty in matching the requirements of supermarkets, either because they cannot produce on the required scale, or because they cannot meet specific standards set by retailers with respect to farming practices (*e.g.* standardisation) or post-harvest activities (packing, storage, handling and transportation). In addition, supermarkets face lower transaction costs when buying from a smaller number of relatively large suppliers. Supermarkets share of the food distribution sector increased from 49% to 62% between 1994 and 2001. Their share of sales increased particularly rapidly for food products, with local sales of most product categories declining by 20-25% over the same interval. Although these changes have been both rapid and profound, the penetration of supermarkets in Chile remains lower than elsewhere in Latin America: whereas the top ten supermarkets accounted for 66% of all Chilean food sales in 2002, the equivalent share in Brazil was 70%, while in Argentina, Colombia and Mexico the shares were all over 90% (ODEPA-UC-RIMISP, 2002). Following the departure of Carrefour and Ahold, all supermarkets in Chile are domestically owned, whereas in 2002 multinational accounted for 37% of supermarket sales in Brazil and 78% in Argentina.

There is also evidence of increased concentration on the processor side, which poses similar problems for small farmers. For example, Muchnik and Saavedra (2002) note that for milk and milk powder, two firms accounted for 58% of the market in 2004, while four firms accounted for 79%. In the case of apple juice processing, the two-firm concentration ratio was 64% in 2001 and the four-firm ratio 90%.

More generally, vertical integration, both upstream and downstream from the farm gate, means that (with the exception of potatoes) markets in Chile no longer correspond to the stylised model with many market participants whose activities are determined by spot prices generated by open markets (Foster and Vargas, 2000).

These developments do not mean that all food production and distribution is destined to occur on a massive scale. Within the supermarket sector, 23 hypermarkets (with a surface area exceeding 10 000 m^2) accounted for 25% of area, while 631 smaller supermarkets (10 000 m^2 or less) had a market share of 75%. The importance of supermarkets in retail sales also varies among commodities. For crops, the share was relatively low in 2001 (3.3% for tomatoes, 4.0% of green maize, 4.8% for potatoes and 8.5% for apples). The proportion was higher for dairy products (22.4% for cheese, 29.9% for yoghurt and 39.5% for milk) and higher still for beef (45-60% according to different sources).

Similarly, there is evidence that some small farmers have managed to participate in the country's largest wholesale market, Lo Valledor, although most traders prefer to buy from medium and large scale farmers. These markets are often integrated, for example offering finance to regular suppliers and providing guaranteed outlets to retailers (Dirven and Faiguenbaum, 2004), which implies significant opportunities for farmers who can become recognised suppliers. Moreover, it does not appear that traditional markets are headed for extinction. Local markets appear to charge higher prices than supermarkets in middle class neighbourhoods, but offer a higher quality product; while in poorer areas, they offer a cheaper product with a better quality-price relation.

Organic agriculture also offers opportunities for smaller scale agriculture. So far, organic production has been of relatively minor importance, with unofficial statistics (provided by private certification companies) suggesting that in 2006 organic farms accounted for 48 043 ha, of which only 7 689 ha were cultivated with crops (less than 0.5% of cultivated crop area). The rest was mainly grassland. Vineyards accounted for 2 443 ha, apples 775 ha and olives 730 ha. Almost 90% of organic production is for exports markets, with a production value of USD 25 million in 2006. Measures to improve opportunities for organic producers include a certification scheme operated by the Agriculture and Livestock Service (SAG), and an initiative by the Economic Development Agency (CORFO) to promote quality and, relatedly, organic farming.

Nevertheless, small scale producers often face scale problems that can only be overcome by consolidation, or through forming associations and pooling production. In general terms, these structural changes offer opportunities for some small to medium scale farmers, but represent a significant threat for many more, as the gap between small scale and commercial production widens. It is important to gauge which farmers can potentially bridge this gap – an issue that is addressed in Chapter 3.

The environment

In 1990 sustainable development became an explicit objective of governmental policies and in 1994 the *Comisión Nacional del Medio Ambiente* (CONAMA) was established as the institution with responsibility for environmental policies, reporting to the Ministry of the Interior. Since the creation of CONAMA under Law 19.300 *Ley de Bases Generales del Medio Ambiente, LBGMA*, some progress has been achieved, including urban water treatment, the decontamination of coastal shores, the implementation of good agricultural practices, better agricultural pest and diseases management control, a reduction of pollution from mining activities, progress in certification systems, and reduced air pollution in urban areas. Nevertheless, there still are several environmental pressures that need to be addressed. These include the continuous productive pressure on natural resources, in particular the important reduction of the native forest which implies an important lost in biodiversity, growing water demand for agriculture and for urban areas, overexploitation of the ocean ecosystem, the erosion and desertification of national soils, and the high environmental costs in energy production (Sotomayor, 2007).

One environmental problem that interacts directly with agriculture is the soil erosion resulting from deforestation, overgrazed land, and the use of inadequate crop and irrigation practices. By 2002 47.3 million hectares were eroded, equivalent to 60% of national area, located mainly in regions I, VIII, IX and VII. The loss of soils was 23% due to deforestation and loss of organic matter, 19% from hydro-erosion, 17% from urban and industrial expansion, 16% a result of chemical degradation, and 11% due to wind erosion, with other factors making up the remainder. One side-effect of reform that policy makers have to contend with is the increased use of capital inputs relative to land and labour. In particular, the use of fertiliser and pesticides has increased significantly, as prices have fallen relative to those of other inputs.

Deforestation of native forests is another important issue. Approximately 13.4 million ha – equivalent to 17.8% of national territory – are covered with native forest (CONAF, 2007). It is estimated that native forest has been lost in regions X and VII at average annual rates of 1.1% and 2.7% respectively, and that only a minority of native forest is managed with sustainable practices (Sotomayor, 2007).

The Ministry of Agriculture has a long history of environmental policies, but it was not until 1990s that policies started to focus on a sustainable development and more direct efforts were made to protect, recover and preserve the environment. MINAGRI agencies, such as SAG, INDAP and CONAF, are the main executers of environmental programmes, including the Soil Recovery Programme, reforestation programmes, and the recuperation and protection of native forest (Sotomayor, 2007). Chile's agri-environmental policies are described in Chapter 2.

Rural poverty and migration

As noted earlier, poverty rates in Chile have more than halved over the past 15 years. While the incidence of rural poverty is higher than the incidence of urban poverty, both have declined at similar rates. A similar observation can be made about changes in relative rates of poverty among agricultural and non-agricultural households, with higher rates of poverty among agricultural households, similar rates of decline across both groups and hence little closing of the income gap. According to CASEN data, the rate of poverty among agricultural households (defined according to the principal occupation of the head of household) declined from 38% to 20% between 1990 and 2003, while among non-agricultural households the decline was from 33% to 12% over the same period. The incidence of extreme poverty also declined swiftly for both categories, falling from 13% to 5% for agricultural households, and from 10% to 2% among non-agricultural households.[12]

Despite these similarities, it is important to bear in mind that not all rural households are agricultural and not all urban households are non-farmers – about 5% of urban households work in agriculture while nearly half of rural households (49%) are employed in non-agricultural activities. Moreover, the distinction between what is rural and what is urban is becoming increasingly blurred. Incomes have grown somewhat more slowly for agricultural households than they have for non-agricultural households, and among agricultural households at a similar rate across income quintiles. This suggests that the economy's structure of growth has raised incomes across the board, but not been pro-poor, nor contributed to reducing the country's income inequality.

It is difficult to discern the role that agricultural growth has played in these developments, given that non-agricultural growth raises the incomes of agricultural households (and, conversely, agricultural growth affects the incomes of non-agricultural households). A study by López and Anríquez (2004) has sought to establish econometrically the relative importance of the three channels through which agricultural growth can affect poverty: changes to the farmer's own income; via higher wages for agricultural employment; and through lower food prices. The main finding of this study are that the agricultural growth has a strong effect on poverty (with the poverty headcount falling by 7.3% in response to a trend growth rate of 4.5%) and that the dominant effect comes from the tendency of agricultural growth to raise unskilled wages. The effects via food prices and own-farm income are relatively unimportant.

One reason for these findings may be the deeper structural trend that militates against poorer farmers who operate alongside a competitive commercial sub-sector. While agricultural growth can raise farm incomes directly, agricultural supply increases are often associated with cost reductions that lower prices. Those costs reductions can originate either domestically or from overseas. But for farmers that do not share in those cost reductions, for example because they do not have access to technology or because they cannot adopt the minimum efficient scale, net income is necessarily put under pressure.

This may explain why the main benefits of agricultural growth to poor farmers come indirectly through development of the commercial agricultural sector.

1.5. Policy challenges

Over the past 20 years, the Chilean economy has enjoyed the strongest growth rates in Latin America. The key to this performance has been sound macroeconomic management, institutional and structural reforms, and trade openness. These basic tenets of economic policy have been retained by successive governments since the return to democracy in 1990.

The agricultural sector, in conjunction with related downstream activities, has played a key role in this economic success, both benefiting from stability and reforms, and making an important contribution, via rapid export growth. Moreover, the growth of agricultural and agribusiness exports has accelerated in recent years, as new exports, such as pork, poultry and dairy products have added to earlier growth sectors such as wine and fresh fruit.

Despite this important contribution, primary agriculture's share of GDP stands at less than 4%, a similar share to that in many developed OECD countries, albeit one that increases considerably once downstream sectors such as wine and fruit processing are factored in. At the same time, agriculture's share of employment is much larger, at about 12%. The difference in these two ratios points to the dual structure of the agricultural sector, where a competitive export-oriented sector co-exists alongside an underdeveloped sector of semi-subsistence farmers with relatively low value added.

Chile's agricultural growth is likely to continue, as the remaining impediments to growth are alleviated. Most of those impediments afflict the economy in general and are not unique to the agricultural sector. They include weak human capital (in particular, low educational attainment), which has implications for farm management and entrepreneurial skills; and a low R&D intensity and weak diffusion of knowledge. A more recent factor, as a result of the strong copper price, has been a high exchange rate. The easing of these constraints should enable growth to continue in absolute terms, and may enable a share of that growth to be enjoyed by some of the country's poorer agriculture-dependent households, either by drawing them into commercial structures directly or offering them employment opportunities on larger agribusiness operations.

However, it is important to recognise that agriculture's share of GDP will not rise to match the sector's share of employment – in all OECD countries the tendency has been precisely the opposite. Moreover, in the long term, it is unlikely that the agricultural sector can itself provide the basis for the 2.5 fold increase in annual per capita incomes that would bring living standards up to the current OECD average (in PPP terms) of USD 29 000. As a small economy, Chile is relatively open, with a share of exports in GDP of 40%. If that ratio is to be maintained at higher income levels, as it probably needs to be, then per capita exports would have to rise to USD 12 000. These sorts of returns cannot be generated by labour-intensive farming and require much greater diversification of the economy.

Such observations should not be equated with an "anti-agriculture" policy prescription, although many policies relevant to the sector are likely to not be agricultural policies. First, a number of key investments, notably in human capital, may be helpful for those seeking greater success within agriculture, while also producing transferable skills enabling them to exploit opportunities outside the sector. Second, there are important

investments in public goods, such as physical infrastructure, and R&D, that can help sustain and improve the sector's competitiveness. Similarly, there is a clear role for policies and programmes that are linked to other objectives, such as protection of the environment. Nevertheless, many policies, notably those that focus on improving the productivity of small-scale farmers involve trade-offs. The nature of these trade-offs is examined in Chapter 3.

With relatively little border protection, most of Chile's agricultural policies involve budgetary expenditures. The country's strong record of growth, helped in recent years by buoyant copper prices, has generated the economic resources with which to undertake a wide range of investments, and Chile has a correspondingly ambitious agricultural policy agenda. Chapter 2 measures and evaluates the support that Chile provides to its farm sector, with a view to determining whether appropriate choices are being made.

Notes

1. According to the 2006 CASEN survey, the incidence of rural poverty was lower than the incidence of urban poverty for the first time, although the comparison needs to be interpreted cautiously, as Chile adopts a particularly narrow definition of rurality (Valdés and Foster, 2007).
2. The agriculture and agro-food sector's share of GDP is about 9%.
3. These ratios exclude forestry and fisheries.
4. Crop production in regions not included in Table 1.5 is negligible.
5. The peso replaced the escudo, with the rate of conversion set at 1 000 escudo = 1 peso.
6. Trade agreements were signed with Latin American countries first: Mexico (1991, revised in 1998), Andean Community countries (1993-98), Mercosur, of which Chile is an Associate Member (1996), and with the Central American Common Market (1999). Agreements have also been signed with Canada (1997), the European Union (2002), the European Free Trade Association (2003), New Zealand-Singapore-Brunei (2005), Korea (2003), the United States (2003), India (2002) and China (2005), Japan (2007). Negotiations are ongoing with Australia and other countries. The nature of these trade agreements is discussed in Chapter 2.
7. The structural balance measures fiscal revenue at the level it would reach if GDP growth and copper prices were at their medium-term trend levels, which are taken to be 5.3% and USD 1.21/lb respectively.
8. The *OECD Economic Survey of Chile* (2007a) recommends that regulations on full-time work be modified such that working time can be reduced by any number of hours, and not by as much as one-third, a limit that triggers special provisions.
9. This section draws heavily on Valdés and Jara (2006) and Foster and Valdés (2006). The recent and current policy environment in Chile is described in detail in Chapter 2.
10. See Chapter 2, Box 2.3, for details.
11. For a discussion of the details of Chile's agrarian reform, see Valdés (1978) and Jarvis (1985).
12. These data are discussed in more detail in Chapter 3. An agricultural household is defined here as one where the household head reports his or her main activity to be in agriculture.

Acronyms and Abbreviations

AFC	Family Agriculture (Agricultura Familiar Campesina)
APEC	Asia-Pacific Economic Community
ASOEX	Chilean Exporters Association (Asociación de Exportadores de Chile)
AVE	Ad Valorem Equivalent
BAF	Financial Coordination Subsidy (Bono de Articulación Financiera)
BECH	Banco Estado – Chile
BSE	Bovine Spongiform Encephalopathy
CASEN	Chile's Socio-economic Survey (Encuesta de Caracterización Socioeconómica)
CCFTA	Chile's Free-Trade Agreement with Canada
CEGES	Managerial Training Centres (Centros de Gestión) – INDAP
CIREN	Natural Resources Information Centre (Centro de Información de Recursos Naturales)
CLP	Chilean Peso
CNR	National Irrigation Commission (Comisión Nacional de Riego)
COMSA	Agricultural Insurance Programme (Comité de Seguro Agrícola)
CONADI	National Service for Indigenous Development (Corporación Nacional de Desarrollo Indígena) – MIDEPLAN
CONAF	National Forest Service (Corporación Nacional Forestal)
CONAMA	Chile's National Commission for the Environment (Comisión Nacional del Medio Ambiente)
COOPEUMO	Cooperativa Campesina Intercomunal Peumo Ltda
CORA	Chile's Agricultural Reform Corporation (Corporación de la Reforma Agraria)
CORFO	Economic Development Agency (Corporación de Fomento de la Producción)
COTRISA	Wheat Marketing Enterprise (Comercializadora de Trigo) – Chile
CSE	Consumer Support Estimate
DIPRES	Budget Department (Dirección de Presupuesto), Chilean Ministry of Finance
DIRECON	Directorate for International Economic Relations – Chilean Ministry of Foreign Affairs (Dirección de Relaciones Económicas Internacionales)
DNA	Deoxyribonucleic acid
DOH	Department of Hydraulic Works – MOP
DSB	WTO's Dispute Settlement Body
ECA	Economic Complementation Agreement
ECLAC	Economic Commission for Latin America and the Caribbean – United Nations (Comisión Económica para América Latina y el Caribe – CEPAL)
EFTA	European Free Trade Association
EU	European Union

FAD	Fund of Delegated Cash Management (Fondo de Administración Delegada)
FAO	Food and Agriculture Organisation of the United Nations
FAOSTAT	FAO's Statistical Database
FAT	Technical Assistance Fund (Fondo de Asistencia Técnica)
FDI	Foreign Direct Investment
FIA	Foundation for Agrarian Innovation (Fundación de Innovación Agraria)
FMD	Foot and Mouth Disease
FOCAL	Quality Promotion Programme (Fomento de la Calidad)
FOSIS	Social and Solidarity Investment Fund (Fondo de Solidaridad e Inversión Social)
FTA	Free Trade Agreement
FUCOA	Foundation for Agricultural Communication, Training and Culture (Fundación de Comunicación, Capacitación y Cultura del Agro)
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GSSE	General Services Support Estimate
GSTP	Global System of Trade Preferences among Developing Countries
HRB	Basic Irrigation Hectares (Hectáreas de Riego Básico)
HS	Harmonised System
ICT	Information and Communication Technology
IER	Institute of Rural Education (Instituto de Educación Rural)
IFA	International Fertiliser Industry Association
INDAP	National Institute for Agricultural Development (Instituto Nacional de Desarrollo Agropecuario)
INE	Chile's National Statistical Office (Instituto Nacional de Estadisticas de Chile)
INFOR	Forestry Research Institute of Chile (Instituto de Investigación Forestal de Chile)
INIA	National Institute for Agricultural Research (Instituto Nacional de Investigaciones Agropecuarias)
INTERPAC	Export Promotion for Small-scale Agriculture (Internacionalización de la Agricultura Familiar Campesina)
ISI	Import Substitution Industrialisation
LBGMA	Chile's Law on the General Bases for the Environment (Ley de Bases Generales del Medio Ambiente)
MEI	OECD Main Economic Indicators
MERCOSUR	Southern Common Market
MFN	Most Favoured Nation
MIDEPLAN	Chilean Ministry of Planning and Cooperation
MINAGRI	Chilean Ministry of Agriculture
MOP	Chilean Ministry of Public Works
MPS	Market Price Support
MYPE	Micro and Small Enterprise (Micro y Pequeña Empresa)
NAC	Nominal Assistance Coefficient
NGO	Non-governmental Organisation
NPC	Nominal Protection Coefficient
NPK	Nitrogen, Phosphate and Potash
ODEPA	Office of Agricultural Policies and Studies (Oficina de Estudios y Políticas Agrarias)

OECD	Organisation for Economic Co-operation and Development
ORIGENES	Indigenous Development Programme (Programa Desarrollo Indígena)
PBS	Price Band System
PDI	Investment Development Programme (Programa de Desarrollo de Inversiones)
PDP	Suppliers Development Programme (Programa de Desarrollo de Proveedores)
PIR	Irrigation Pre-Investment Programme (Pre-Inversión en Riego)
PNPC	Producer Nominal Protection Coefficient
POVCAL	World Bank's software programme for calculating poverty measures for grouped data
PPP	Purchasing Power Parity
PROCHILE	DIRECON's Department, to promote Chilean exports
PRODECOP	Poor Communities Development Project (Proyecto de Desarrollo de Comunas Pobres)
PRODEMU	Foundation for Women Promotion and Development (Programa de Formación y Capacitación para Mujeres Rurales)
PRODES	Organisational Development Fund (Fondo de Proyectos de Desarrollo Organizacional)
PRODESAL	Local Rural Communities Development Programme (Servicio de Desarrollo Local en Comunidades Rurales)
PROFO	Partnership Projects for Development (Proyectos Asociativos de Fomento)
PRORUBROS	Agribusiness Integration Programme (Programa de Redes)
PROSAFE	Product Safety Enforcement Forum of Europe
PSE	Producer Support Estimate
R&D	Research and Development
RIMISP	Latin American Centre for Rural Development (Centro Latinoamericano para el Desarrollo Rural)
SAG	Agriculture and Livestock Service (Servicio Agrícola Ganadero)
SAT	Technical Assistance Services (Servicios de Asesoría Técnica) – INDAP
SENCE	National Service for Training and Employment (Servicio Nacional de Capacitación y Empleo)
SERCOTEC	Technical Cooperation Service (Servicio de Cooperación Técnica) – CORFO
SIRDS	Soil Recovery Programme (Programa para la Recuperación de Suelos Degradados) – INDAP
SMEs	Small and Medium-Sized Enterprises
SPS	Sanitary and Phytosanitary
STE	State Trading Enterprise
SUBSE	Under-Secretariat of Agriculture - Chilean Ministry of Agriculture (Subsecretaría de Agricultura)
TFP	Total Factor Productivity
TSE	Total Support Estimate
UF	Chilean Unit of Account (Unidad de Fomento)
UHT	Ultra-high-temperature (milk) processing
UN	United Nations
URAA	Uruguay Round Agreement on Agriculture
USA	United States of America
USD	United States of America Dollar
WTO	World Trade Organization

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