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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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- to contribute to the expansion of world trade on a multilateral, non-discriminatory basis in accordance with international obligations.

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Publié également en français.

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BASIC STATISTICS OF CHILE

THE LAND

Area (thousand sq. km)	2 006.1	Inhabitants in urban areas (thousands, 2002 Census):	
		Metropolitan region of Santiago	6 061
		Gran Concepcíon	913
		Gran Valparaiso-Viña del Mar	876
		La Serena-Coquimbo	323
		Antofogasta	297

THE PEOPLE

Population (thousands, 2002 Census):	15 116	Life expectancy (1995-2000):	
Urban	13 090	Males	72.3
Rural	2 026	Females	78.3
Inhabitants per sq. km (2002 Census)	7.5	Unemployment (2002 Labour Force Survey,	
Average annual population growth		% of the labour force)	9.0
(1992-2002, per cent)	1.3	Labour Force (2002, thousands)	5 914
Infant mortality (per thousand live-births, 2001)	8.3	Employment (2002, thousands)	5 385

PRODUCTION

GDP (billion pesos) (2002)	45 763	GDP per capita (in USD, PPP exchange rate,	
GDP (billion USD, market exchange rate) (2002)	66.4	World Bank) (2001)	9 190
GDP per capita (in USD, market exchange rate)		Gross fixed investment (per cent of GDP)	
(2002)	4 394	(2002)	21.1
		Private external debt (per cent of GDP) (2002)	50.4

THE GOVERNMENT

General government revenue (2002)		Composition of the Congress		
(per cent of GDP)	24.0	(October 2003, in number of seats):	Parliament	Senate
Fiscal balance (2002) (per cent of GDP)	–0.8	Coalition of Parties for Democracy		
Public debt (Central government, 2002)		Christian Democratic Party		
(per cent of GDP)	15.9	(PDC)	22	12
		Socialist Party (PS)	10	5
		Party for Democracy (PPD)	20	3
		Radical Social Democratic Party		
		(PRSD)	6	
		Alliance for Chile		
		Independent Democratic Union		
		(UDI)	32	7
		National Renewal (RN)	17	6
		Independents	13	5
		Others		10

FOREIGN TRADE

Exports of goods and services (in USD billion)		Imports of goods and services (in USD billion)	
(2002)	22.3	(2002)	20.7
Main goods exports (per cent of total) (2002):		Main goods imports (per cent of total) (2002):	
Copper	37.1	Raw-materials and intermediate goods	45.3
Agricultural goods	10.2	Consumption goods	18.0
Manufactured goods and other	52.7	Mineral fuels and lubricants	15.7
		Capital goods	21.0

CURRENCY

Monetary unit: Chilean peso		Currency units per US dollar (period average):	
		Year 2002	688
		December 2002	701
		September 2003	675

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Assessment and recommendations

A resilient emerging market economy…

In a turbulent region, Chile has emerged as a particularly resilient economy. The Chilean policy framework is characterised by responsible fiscal and monetary policies, a relatively well-developed financial system and modern institutions. Together with a liberal environment for the private sector, this framework has held up well in the face of several strong external shocks over recent years. As a result, Chile has achieved the highest per capita growth in Latin America since the mid-1980s. Confidence of international financial markets in Chile is reflected by the lowest spreads in the region.

… and a benchmark for reforms

Chile has also become a regional benchmark for structural reforms. In particular, it was among the first to implement far-reaching trade and market liberalisation in the mid-1970s. Chile pioneered in the field of competition law and policy. In the early 1980s, Chile was also a precursor in terms of privatisation of pensions, health care and education. The goal of these reforms was to reduce state provision of services, increase efficiency, allow individual choice, while freeing resources to reduce extreme poverty. Liberal reforms continued in the 1990s, with a focus on infrastructure provision and trade liberalisation.

Resilience has been reinforced by the stability of the policy framework

Many of these deep reforms were imposed by the authoritarian regime (1973-89). After the reestablishment of democracy, the legitimacy of the reforms and their uneven social impact was put into question. But the governments in place since 1990 maintained the key features of the market-oriented approach. Notably, they strengthened macroeconomic stability and broadened the liberal institutional environment, while trying to widen access to the benefits of

growth. To improve social standards and equity the democratic governments increased public spending on social policies in absolute terms and as a share of total spending. This was financed by the proceeds of growth and tax increases, which partly reversed the tax cuts implemented by the authoritarian government in 1988.

Major social development challenges need to be addressed…

The pursuit of growth with equity is pressing in the context of the significant and persistent social inequalities. In particular, Chile has one of the most uneven distributions of income among emerging market economies. The labour market is characterised by a dualistic structure, with a high share of informality and precarious contracts. Economic development is also split between the modern and dynamic metropolitan area of Santiago and several poor and relatively underdeveloped regions.

… but there are concerns about how to sustain high growth

The compromise between the liberal model and the social agenda worked well until 1997 because of the remarkably high economic growth. After 1998 GDP growth slowed down substantially. While there are arguments for a benign interpretation, *i.e.* a cyclical deceleration due to a series of adverse external shocks, the slowdown of growth may be also due to structural factors that lowered the long-run trend rate. Amongst others, they could be related to the exhaustion of the gains achieved from market-oriented reforms and the possible negative impact of increased labour market rigidity on the growth potential of the economy.

The government is seeking a compromise between reinvigorating economic growth and pursuing the social agenda

Currently, the government is trying to promote growth while seeking to improve, rather than overturn the social policy foundations based on a market-oriented approach. Several significant reforms have been passed or are announced in areas including labour markets, regulatory policy, state modernisation and the fight against corruption. These are largely the fruit of a new and constructive dialogue between the government and the private sector (the so-called "Pro-growth Agenda", announced in January 2002). At the same time, the government is pursuing major social reforms, notably in health care and education.

Macroeconomic policies are supportive of growth…

Economic activity has been recovering since late 2002 with GDP growth projected at more than 3 per cent in 2003. While targeting a structural surplus, fiscal policy has been mildly counter-cyclical in the context of a nominal deficit of 0.8 per cent of GDP in 2002. Monetary policy has also been very supportive of domestic demand with base rates at historical lows of 2.75 per cent. In 2003, inflation is projected to remain within the 2-4 per cent target range. Nevertheless, the growth rate is still below trend (estimated by an expert panel at around 4 per cent for 2003-04).

… but the margin for manoeuvre is narrow and the size of the state is debated

Therefore, the financing of major social reforms, notably health care, is rather constrained. With a tax to GDP ratio below 20 per cent and a small public debt, the government sees some room for extending the social safety net through tax increases. In October 2003, the value-added tax was raised by 1 percentage point to finance the health care reform and tariff revenue losses resulting from the free trade agreements with the European Community (EC) and the United States. However, these tax increases have been debated, as the size of the government remains a controversial issue and there is also scope to improve efficiency of social policies.

It is essential to achieve policy coherence in the design of reforms

Against this background, this Survey stresses the need for policy coherence. In revisiting its social agenda for growth, the government should consider the linkages across different policy areas and reforms. There are important synergies in preserving macroeconomic stability, deepening financial markets, addressing the duality in labour markets, investing in human capital, regulating product markets and removing administrative barriers, which in turn will help to enhance Chile's international competitiveness. These policy links are discussed below and underlie the main recommendations of this study.

The fiscal policy rule has "locked in" the benefits of credibility built up in the late 1980s and 1990s…

In the area of fiscal policy, the different governments in place from the mid-1980s had generated fiscal surpluses. In 2000, an *explicit* structural budget surplus rule of 1 per cent of actual GDP was introduced, allowing the government to pursue a counter-cyclical policy. It permits the fiscal balance to be below the target in recessions but requires surpluses

during upswings. The rule introduced a medium term orientation and helped to institutionalise fiscal discipline. Fiscal transparency and accountability have also been improved through the creation of independent panels of experts to determine the key parameters of the budget plan and the progressive move from cash to accrual accounting.

… but its design may be improved and the impact of future contingent liabilities taken into account

The fiscal rule has a strong merit *per se*, though its design could be somewhat improved. Currently, the structural budget target is measured against actual rather than potential GDP, which would tend to introduce noise into the interpretation of fiscal developments when there are unexpected changes in the business cycle. In addition, the rule is implemented to include mid-year expenditure adjustments to offset revenue surprises that are not clearly linked to the deviation of actual from projected growth and copper prices. This may be disruptive of smooth programme implementation, but has the virtue of reducing the risk of cumulative departures from the target in case, for instance, potential output is poorly estimated. It might be considered whether a multi-year rule, whereby deviations in the structural balance from target are compensated in succeeding budgets rather than within the budget year (as applied, for instance, in Switzerland) would be an improvement. More importantly, an increase of the structural surplus should be considered in the medium-term to cope with future budget pressures related to social contingent liabilities (see below). This would also help to increase the national saving rate.

Mounting pressures on the minimum-pension schemes will require stronger co-ordination of reforms

Chile has a fully funded defined-contribution pension system, but because of low coverage and a weak density of contributions, the income replacement rates risk being very low for many. This would place mounting pressure on the minimum-income scheme for retirees, which is financed out of general taxes. Reforms in the labour market to increase the coverage of formal employment and in the pension market to reduce high administrative costs and raise returns so as to encourage greater participation by the self employed are necessary if the funded system is to deliver on its promises. Failing such structural changes and synergies, the

Chilean government may have no choice but to re-introduce and fund a basic pillar within the overall pension system.

Financial markets should be deepened and be better integrated

The Chilean financial system is generally sound: the financial position of banks appears to be strong, and the pension funds have underpinned the development of a large capital market. But the contribution of the financial sector to growth is still limited by weaknesses in the functioning of financial intermediation: the capital market, though large in terms of capitalisation, is illiquid and this limits interest of potential foreign equity investors; credit to small and medium size companies remains restricted and risk capital is extremely scarce. The adequacy of risk-diversification instruments and apparent lack of aggressive competition in both banking and pension sectors are further issues that should be examined. There is no single recipe for strengthening financial intermediation, and the government's approach of progressive review and reform of the regulatory framework to address emerging problems is appropriate, including present reforms to corporate governance and bankruptcy provisions. Chile may have particular interest in assuring a steady inflow of foreign investment to supplement domestic saving, while assuring that financial institutions are robust, and hedging instruments sufficiently available, to avoid undue exposure of the domestic economy to disruptions linked to fluctuation in international capital flows. In this regard, the present very high rates of withholding tax on inter-company transfers should be looked at. At the same time, while most capital account restrictions were removed *de facto* in 2001, their elimination *de jure* could also be envisaged. This would demonstrate the authorities' confidence in the resilience of the existing framework.

Reduced severance payments and increased unemployment benefits should favour formal labour contracts…

Chile's labour market is highly segmented, with a relatively high prevalence of insecure and informal jobs. This is mainly due to rigidities existing in the current legislation. In particular, severance payments are rather high and rules for dismissal are strict and cumbersome for those with indefinite contracts. Moreover, the minimum wage has increased at a substantially higher rate than the average wage and the typical remuneration of the unskilled since 1997. Enterprises have reacted to these regulations by widespread recourse to outsourcing and informality. To overcome labour market segmentation and unify the present dual labour market, the regulations that govern ordinary indefinite job contracts must be acceptable to employers and employees. Moreover, the maximum severance benefit should be reduced if possible, say to five monthly wages, while at the same time increasing the public support of the unemployed. The government has modified the system of severance payments, by pre-funding part of them in individual workers' accounts and by the creation of a Solidarity Fund. In the future this fund should evolve into fully-fledged unemployment insurance. Judging from OECD experience, an increase in such benefit spending would nevertheless require further measures to enhance the capacity of relevant administrations to implement activation measures, such as job-search assistance and training. Moreover, the minimum wage should evolve in line with other wages, in particular those of the unskilled.

… while part-time jobs and public child care stimulate female labour participation

Another characteristic of the Chilean labour market is low participation rate of the young and women. This is due to the existence of a legal framework imposing constraints on working hours and flexible work arrangements. Moreover, employers have a disincentive to hire women because they are obliged to provide child-care. The government is seeking to encourage enterprise bargaining to substitute for regulation, notably with regard to working time. This in combination with extended coverage of child education should improve the female participation rate. An improvement in the functioning of the labour market and increased labour participation would have very positive spillovers not only to the pension and health sectors, but also to the dynamism of the enterprise sector.

Despite major progress in education coverage its quality remained low…

Chile has made great progress in the access and coverage of education and health care. It has reached almost universal access in primary education while coverage of secondary schooling has reached 85 per cent of the respective age group. Chile has low repetition rates by Latin American standards. The present universal voucher system in pre-university schooling has allowed for a large increase in coverage, in particular through the creation of subsidised private schools. Those serve more than one third of the school-age population today. Nonetheless, increased coverage has not yet been accompanied by improvements in learning outcomes, as suggested by the results of the OECD Programme for International Student Assessment (PISA+) and national surveys.

… which should be remedied by improving the targeting of vouchers and teacher quality

Indeed, the voucher system as currently applied is not contributing noticeably to greater equality of opportunity. Stronger social targeting may be needed, combined with more decentralised management at the school level. Moreover, Chile will need to improve the quality and assessment of teaching. Appropriate regulations and incentives will be needed while dealing with the entrenched position of the Teachers' Union. Negotiations in this area are now under way.

Public health improvements conceal public and private sector malfunctioning…

In an international comparison, Chile scores favourably in terms of health indicators such as life expectancy and infant mortality rates. This record largely stems from better socio-economic living conditions and a strong improvement in preventive types of care provided by the municipalities. However, diverging health outcomes between socio-economic groups and regions point to insufficient solidarity in the health system. Some malfunctioning of the public and private insurance and care provision needs to be addressed: the public sector is characterised by stagnating productivity of physicians and long waiting lists, while adverse selection problems and excessive supplementary payments for certain treatments are common in the private sector.

… which are addressed by a major and costly health reform

The main aim of the currently discussed health reform is to improve access to care under the so-called plan AUGE that provides minimum care guarantees for the entire population. The estimated cost of this plan is over

USD 300 million (estimated at around ½ per cent of GDP). Controlling the evolution of costs in this area will be essential. This can be stimulated by granting more autonomy to hospitals and moving to more prospective and performance related types of funding. Other aspects of the reform should limit opportunities for "cream skimming" in private health insurance and strengthen patients' rights. In order to evaluate the return on additional investment in health care, Chile should develop a system of indicators to monitor improvements over time. Examples in this area include patient feedback measures, rate of childhood vaccination and mortality rates for key diseases.

A priority is to overcome the administrative opacity and barriers to enterprise creation…

Overall product market restrictions in Chile are comparable to those of other emerging economies in the OECD. The priority now is to improve the regulatory framework by overcoming uncertainty and inefficiencies. The OECD indicators on product market restrictions reveal a certain regulatory and administrative opacity, which is currently being addressed in the "Pro-growth Agenda". For example, the recent introduction of the administrative "silence is consent" rule is to be welcomed. Other administrative measures are needed to unify access to information on licensing, notifications and set-up of "one-stop shops" for enterprise creation. Administrative transparency at the international level could also be improved by encouraging the convergence of the Chilean regulations with international best practices. Important to note, the government is presently undertaking major reforms of the public sector. These include more transparent procedures for the recruitment of high level officials and public procurement, notably through an increased use of *e*-government.

… in particular regulatory uncertainty in the electricity sector needs to be addressed…

A main regulatory problem has emerged in the electricity sector, due to ambiguities in the electricity law concerning transmission costs. This is holding up investment in transmission infrastructure, which in turn is deterring investment in new generation facilities. The regulatory framework does also not address well the specific risks associated with a high share of hydropower and the valuation of reserve supply in periods of serious droughts. Solving this issue would become critical under a resumption

of growth, as the elasticity of electricity demand to output is typically rather high. Diversification of the power-generation mix should nevertheless take into account the environmental dimensions, notably air pollution which is an important concern in the metropolitan area.

… and regulation of financial markets better co-ordinated

Recent corruption scandals in the financial sector demonstrated the need to improve co-ordination and information among the different regulatory bodies. A stronger coordination of the supervisors of pension funds, banks, and capital market is required due to the small size of the Chilean market and the intertwined relations between the largest banks, pension funds and stock market participants. This process is being considered in the second capital market reform now under discussion and would parallel the experience of some OECD countries.

External vulnerability associated with the concentration of exports

Another area of concern is the low degree of diversification of the economy, which continues to rely heavily on natural resources. Chile has been very successful in developing some product segments in the agro-food sector, but their scope is limited. The free trade agreements with the EC and the United States will provide new export opportunities, in particular in terms of improved market access for more value-added goods. The authorities also foresee a large potential for developing Chile as a regional platform for services, notably finance and technical support. The business community also views a possibility to develop more technologically intensive clusters around the traditional sectors such as mining and fisheries. For these options to materialise the barriers for enterprise creation and development should be reduced.

To sum-up: policy coherence and synergies of reforms will strengthen international competitiveness

A stable institutional framework has provided the foundations for growth and confidence of international markets. While a comprehensive social agenda is putting pressure on resources under the recent economic slowdown, the Chilean government should be praised for having maintained a sound fiscal and monetary stance and building on its unique institutional framework based on the freedom of choice. The current challenges are to strengthen the coherence of this development policy agenda with a vision to long-term

growth and broader social consensus. Chile is a small open economy, for which international competitiveness is the cornerstone for sustainable growth. The latter is the outcome of the multiple policy synergies discussed above. The first important link is to continue preserving a sound macroeconomic framework avoiding distortions that may produce excessive real exchange rate appreciation, which could hinder the incentives to invest and expand employment in the tradable sector. The deepening of financial intermediation and development of risk capital are needed to support the emergence of new and more innovative firms. A better functioning of the labour market is critical to the development of the enterprise sector. In particular increased female labour participation would support the development of light industries and services. Investment in human capital, in particular education and workers' training, is needed to develop products with a higher technological content. The administrative conditions and regulation of product markets should also be improved, notably by reducing administrative barriers to enterprise creation and removing distortions in the tax treatment of cross-border inter-enterprise financial flows. These policy linkages would help increase product variety and intra-industry trade that could contribute to reduce the vulnerabilities associated with an excessive reliance on natural resources and export concentration. In all these areas of reform, Chile is now in a position to emulate and converge towards the more advanced benchmark of OECD countries.

I. From liberalisation to a wider policy agenda for growth

Chile is an open and resilient market economy…

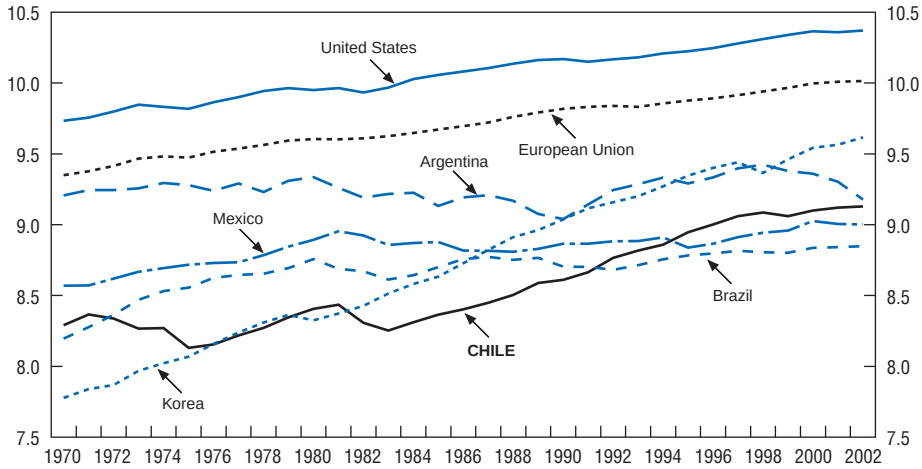
Over the last two decades, Chile has developed into a stable emerging economy within a turbulent region. Following the banking and debt crises in the early 1980s, the country experienced sustained high growth from 1984 to 1997. Subsequently the economy slowed down, though registering negative growth only in 1999. Chile has had the highest per capita income growth in Latin America and a sustained catch-up relative to the OECD average since the mid-1980s (Figure 1). Other signs of its resilience include the steady fall in inflation from 30 per cent at the beginning of the 1990s to 3 per cent annually over the period 1999 to 2002. On the fiscal side, the Chilean government is strongly committed to a structural fiscal surplus of 1 per cent of GDP and has one of the lowest public debt to GDP ratio, together with favourable interest rates and maturities for public debt. Chile has gained praise in international financial markets, as reflected by the lowest spreads in Latin America. Two other factors have also strongly contributed to Chile's resilience: a continued commitment to market-oriented policies and sound institutions.

By 2002, Chile was the sixth largest country in terms of both GDP and population (15 million inhabitants) in Latin America, and one of the most open economies in the region with a volume of trade to GDP ratio above 50 per cent and the highest share of foreign direct investment (FDI) to GDP in the 1990s (Figure 2).

… and a benchmark in the region for reforms and liberalisation

A long tradition of liberal policies and implementation of market-oriented reforms has contributed to the on-going improvement of the functioning of markets and public institutions. Chile went from a state-dominated economy in 1973 to free market in less than a decade (see Box 1). According to the Chilean constitution of 1980, the state has a subsidiary role in the economy. The country was a pioneer in trade liberalisation in the mid-1970s, when it eliminated non-tariff barriers and simplified the tariff structure down to a single import tariff rate in 1979 (see Box 2). More recently, Chile has been active in pursuing free-trade

Figure 1. **GDP per capita in PPPs**
At the price levels and PPPs of 1995 (USD), Log-scale



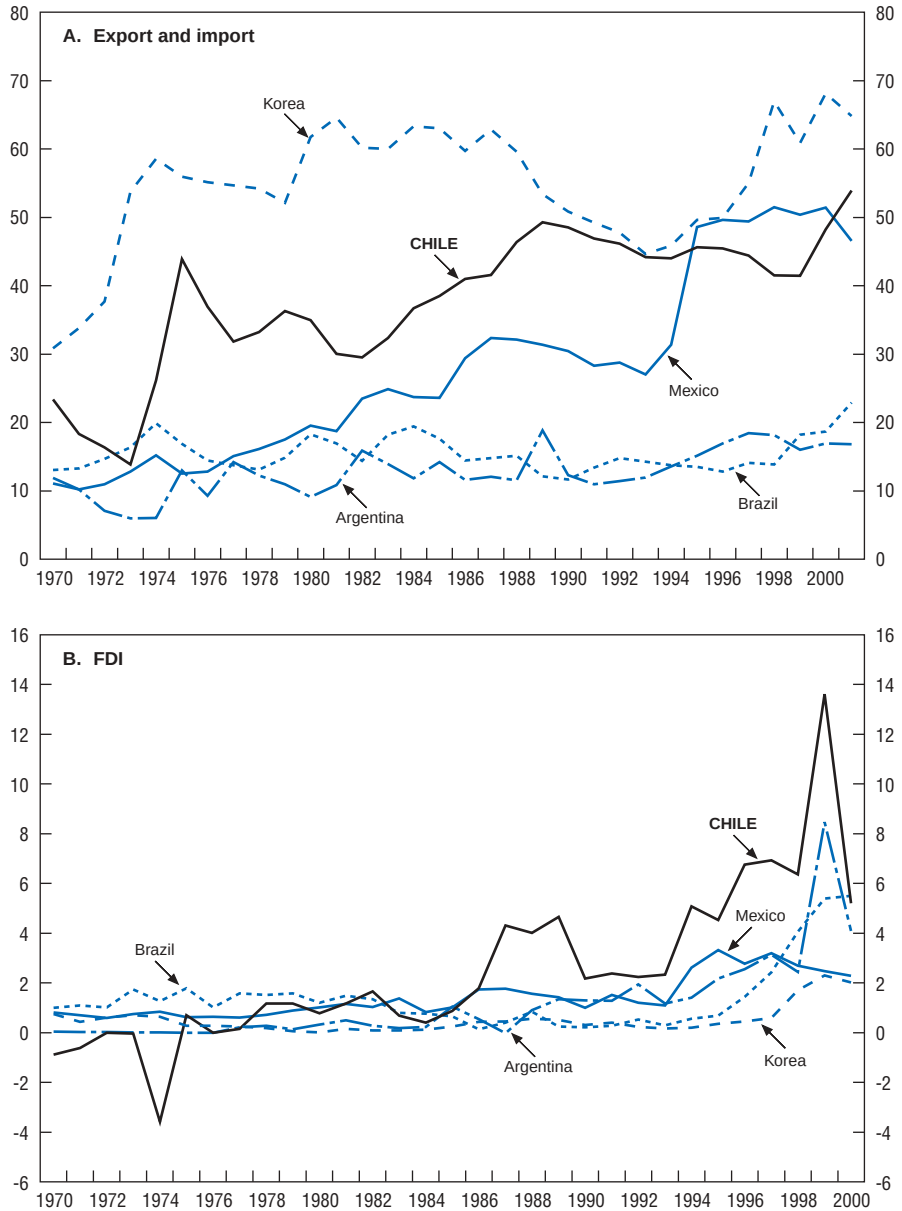
Source: CEPII, CHELEM database and OECD.

agreements with the European Community (EC) and the United States amongst others.[1] With these agreements in place, the overall weighted tariff rate will be around 2 per cent. Most infrastructure development is carried out by private companies through concessions.

Chile was also a pioneer in South America and generally among developing countries in the field of competition law and policy. Indeed, in the application of competition policy principles to some infrastructure sectors, Chilean institutions have been generally at the forefront of competition policy. In the early 1980s, Chile was also a precursor in the privatisation of the pension system, health care and education, with the goal to reduce state involvement, increase efficiency and favour free choice.

A less orthodox experiment in Chile was the introduction of short term capital controls in the 1990s, the (*encaje*),[2] consisting of an unremunerated reserve requirement for short-term (less than one year) credits and portfolio investment from abroad. The objective was to deter short-term speculative capital compared to long-term inflows. Although the evidence on the benefits of *encaje* is mixed (Chapter III), this measure has contributed to a serious discussion on how to help manage short-term capital inflows at the early stage of financial liberalisation.

Figure 2. **Trade and FDI as a per cent of GDP**



Source: CEPII, CHELEM database and OECD.

Box 1. Key political and economic events: 1970-2003

1970-73:	Socialist experiment of President Allende: nationalisation of many banks, foreign-owned mines and other enterprises, workers' self-management in other firms, price controls, high inflation and large fiscal slippage.
11 September 1973:	Military coup by General Pinochet; start of the liberal policy experiment.
1973:	Competition Law.
1975:	Oil and copper crisis (GDP drop of 13 per cent).
1980:	New constitution is adopted extending President Pinochet's term to 1988. Introduction of private pension funds, vouchers in schooling and private insurance in health care.
1982-84:	Debt and banking crisis (GDP drop of 16 per cent).
1986:	Introduction of new banking legislation.
October 1988:	A plebiscite rejected the prolongation of President Pinochet's term, who remained in power in preparation of elections of end-1989.
1989:	Independence of Central Bank, amendments to Constitution.
March 1990:	Democratically elected President Patricio Aylwin (Centre-left, *Concertación*) in power.
1990-94:	Tax reform. New labour law adopted restoring several workers' rights. Introduction of concessions for infrastructure investment (highways, ports, etc.). Education and judiciary reforms.
March 1995:	President Eduardo Frei (Centre-left, *Concertación*) takes office.
March 2000:	President Ricardo Lagos (Centre-left, *Concertación*) takes office.
2001:	Introduction of structural surplus rule for fiscal policy. Reform of the labour law, increased worker protection. Capital market reforms.
January 2002:	Agreement between government and business community on an agenda of reforms to reinvigorate growth ("Pro-growth Agenda").
2002:	Trade liberalisation stepped up with the signature of free trade agreement with the EC.
2003:	Acceleration of the reform process; signature of free trade agreements with the United States and EFTA.

Box 2. Policy highlights during the 1973-89 period*

By 1970, Chile had achieved relatively advanced education, health care and low rent housing compared to other countries in the region. Nevertheless, the income distribution was highly unequal. President Allende tried to dramatically change this situation by increasing the minimum wage and boosting social spending. Moreover, foreign mining companies, many banks and enterprises were nationalised. But unsustainable policies led to high inflation and external disequilibria. In the end, these policies failed to improve the income distribution.

When the military took over in September 1973, the economy was in disarray, with large macroeconomic disequilibria and massive government intervention at all levels of the economy. The military government (1973-89) implemented far-ranging pro-market reforms. The state withdrew from most parts of the economy: public ownership, the state's role in development, labour relations, international economic relations and social services. All international trade restrictions other than tariffs were removed immediately in 1973, while tariffs were reduced from an average of 94 per cent to a uniform rate of 10 per cent between 1973 and 1979. Price ceilings and public purchasing mechanisms were eliminated. After a temporary reversal in the context of the 1982-84 debt and banking crisis, tariffs were gradually reduced again to 15 per cent by the end of military rule in 1989.

All enterprises expropriated under Allende's administration were transferred to the private sector. State enterprises created by previous governments under the control of the government's development agency (*Corporación de Fomento de la Producción* or CORFO) were also privatised. In 1989, the only major remaining state companies were CODELCO (copper mining), ENAP (oil refinery), and enterprises providing infrastructure services (airports, highways, ports, public utilities, railways and state bank *Banco de Estado*). During the 1973-89 period, workers' rights were reduced by prohibiting labour unions and decentralising wage bargaining. The size of the state was scaled down by reducing public expenditure (mostly on investment, social services and subsidies) and eliminating capital taxes. Most banks were privatised in 1975, interest rates were freed and allocation of credit was eliminated. Moreover, the entry of new (foreign) banks was facilitated via a gradual relaxation of capital controls.

Under the military rule, illiteracy rates continued to fall, coverage of secondary education increased (with a small drop in that of primary education), life expectancy increased, and infant and general mortality dropped (see Statistical Annex). These improvements were achieved by targeted spending on education and improved care for mothers, children and the extreme poor. Nonetheless, real expenditures per capita on education, health and family allowances were curtailed. Other social indicators strongly deteriorated in the 1970s and 1980s. In particular, poverty increased to 45 per cent of the population. Average real wages fell by 17 per cent between 1973 and 1985, and only started to recover in 1988-89 (plus 9 per cent). The economic shocks also led to double-digit unemployment rates which averaged 18 per cent during the entire military regime, with a peak above 30 per cent in 1983.

Box 2. **Policy highlights during the 1973-89 period*** (*cont.*)

Social reforms started in the early 1980s. The public defined benefit pay-as-you-go (PAYG) system was replaced by personal pension accounts managed by private pension funds. Nevertheless, the government continued to provide minimum income guarantees to the non-covered population and to those unable to accumulate sufficient funds for a minimum pension. In education, the government strengthened the role of the private sector and competition among public and private schools by the introduction of an implicit voucher system. In health care, a new system was introduced under which employees could choose between private or public insurance coverage.

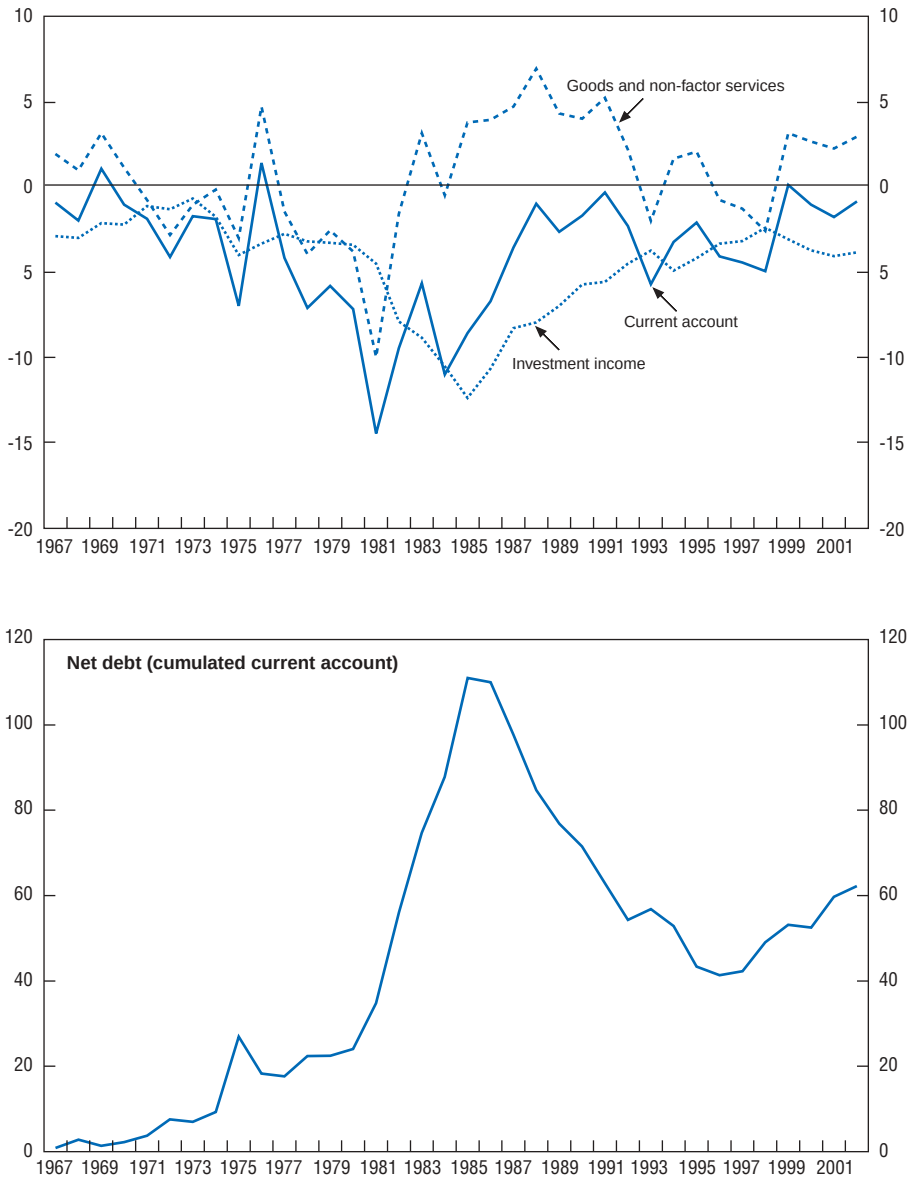
Overall, in terms of economic growth the 1973-89 period was characterised by four distinct phases: a fall in GDP by more than 10 per cent between 1973 and 1975, high growth from 1976 to 1980, the 1982-84 financial crisis that caused a 16 per cent GDP fall, and again a remarkable acceleration of growth, notably driven by exports from 1985 to 1989. The large external financial gap accumulated in the late 1970s (Figure 3) was reversed. The government managed to bring down inflation from levels of 100 per cent in 1973 to around 30 per cent at the end of the 1980s. It also achieved a balanced public budget, but the quasi-fiscal deficit of the central bank increased as result of banks' bailouts during the crisis. The combination of economic setbacks (high unemployment) and erosion of social policies led to a worsening of income inequality and poverty. Moreover, investments in public infrastructure lagged. Before the elections of end-1989, the government decreased the VAT rate from 20 to 16 per cent.

* This historical overview draws mainly on Ffrench-Davis (2002).

A *sound institutional framework*

Market institutions in Chile are relatively modern and, by-and-large, sound. According to Transparency International's 2003 *Corruption Perceptions Index*, which classifies countries in terms of the degree of perceived corruption among public officials and politicians, Chile ranks 20 out of 133 countries which is the lowest of all Latin American countries. On PricewaterhouseCoopers' "*Opacity Index*" (that is "the lack of clear, accurate, formal, and widely accepted practices"), Chile ranked favourably second out of 45 major market economies. In 2002-03, some scandals in the financial sector erupted. But it must be noted that the government has acted swiftly to solve these problems and is undertaking serious efforts to improve mechanisms and procedures to prevent similar problems from occurring in the future, including improved capital market regulations.

Figure 3. **The external balance and net external debt**
In per cent of GDP



Source: Central Bank of Chile and CEPII, CHELEM database.

The present constitution dates from 1980 and is unique in several aspects (Box 3). The Central Bank has been independent since 1989 and is governed by a five-member Council appointed for a 10-year period by the President, with the consent of the Senate. The President of the Central Bank is selected from among the council members to serve for five years. Other key economic aspects of the Constitution are that it prohibits earmarking of taxes and government borrowing from the Central Bank. Private property is institutionalised. The independent judicial system that borrows from the French tradition is currently being modernised. In 1999 a special office for public prosecutions was created. A new code of penal procedures is being introduced, and is currently operational in most regions.

Current important reforms of the public sector now being implemented are the procedures governing recruitment of high level officials and public procurement. Appointment and remuneration of civil servants under the "spoils

Box 3. Strong constitutional power of the executive

Chile's present Constitution was approved in 1980 and last revised in 1989. The principle of the separation of powers is incorporated into its constitutional framework. The constitution assigns a subsidiary role to the state in the economy. Strong presidential powers are balanced by strong protection for property rights and an independent constitutional court. The President is elected for six years and cannot stand for re-election. The President chooses the cabinet and appoints all ambassadors. Moreover, the President sets the agenda for Congress and as such determines the priority of each bill. Several public agencies are under the direct supervision of the President (for example CORFO and the Foreign Investment Committee, both through the Ministry of Economy).

The Congress is composed of the Chamber of Deputies (120 members) and Senate (49 members, of which 38 are elected) that have a limited role in legislative matters relative to earlier legislatures in Chilean history. The executive branch only submits information it views as necessary. Moreover, Congress cannot initiate legislation that requires budgetary appropriations, or new legislation concerning the political or administrative division of the country. With regard to the budget, Congress can only approve, or propose reductions.

One of the legacies from the period of military rule is that the armed forces have remained essentially an autonomous power within the Chilean state. The military leaders are selected by the President for a period of four years among officers having seniority in their respective services, during which time they cannot be removed except under exceptional circumstances.

Source: Hudson (ed.) (1994).

system"[3] produced problems of incentives, accountability and performance that the current reform tackles by introducing more transparent mechanisms of selection. These should provide for more continuity and skill building at the higher level of public administration. The procedures of public procurement have been made more transparent through the use of *e*-government.

Major development challenges for an emerging market economy

Despite an overall good performance and functioning market institutions, Chile still faces the challenge of finding a sustained and equitable development path. Chile has one of the most unequal distributions of income among emerging market economies. Reported Gini coefficients (based on household incomes per capita) were among the highest in the world throughout the 1980s and 1990s – between 0.54 and 0.58 by most estimates – and have changed little in recent years. Only Brazil, South Africa and some small countries in Africa and Latin America have been found to have more unequal income distributions than Chile by this measure.[4] This inequality has been seen to contribute to persistent social segmentation[5] and slow growth of the middle class in Chile (Figure 4) and possibly slow enterprise creation.[6]

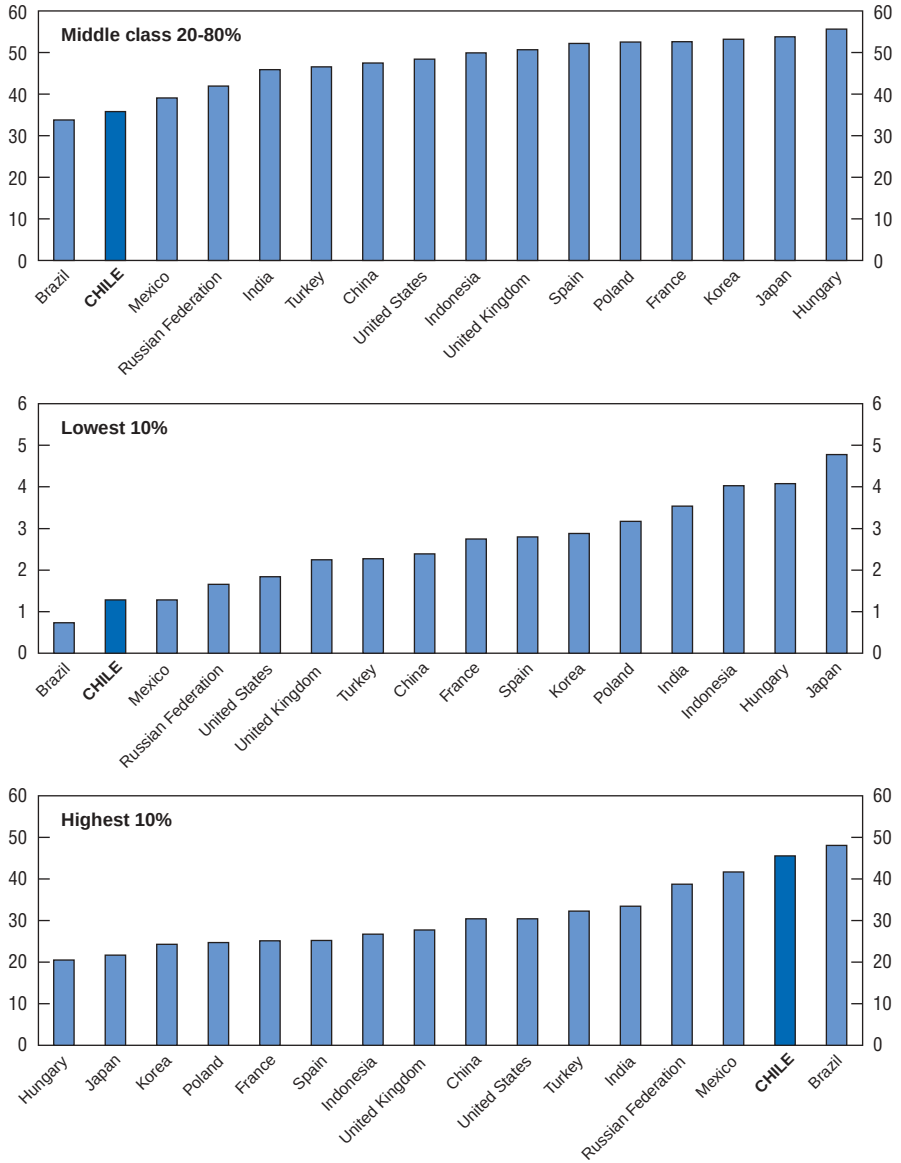
Economic activity is very geographically concentrated, with metropolitan Santiago accounting for more than 50 per cent of GDP (1999) and 40 per cent of the population.[7] While this fosters agglomeration effects, it also produces negative environmental and congestion externalities. The result is a dual economy with a modern and dynamic capital and poor and relatively underdeveloped regions.

Chile's export and production structure continues to be concentrated on non-ferrous ores, mainly copper. Over the recent decades there have been important changes; in particular the share of copper in exports has fallen from two-thirds to less than 40 per cent today, mainly because Chile has been very successful in exploiting certain market niches in agriculture and the agro-food sector. But this structure has allowed only for limited development of product variety – a feature that may constrain the potential for high growth (see Chapter VII).

Democratic governments maintained the market-oriented approach while pursuing equity goals

Following the 1988 plebiscite, the transition from military rule to democracy was organised and took place remarkably smoothly. The amendments to the Constitution introduced in 1989 prepared the basis for the democratic governments that followed. After the end-1989 elections, a new President took office in March 1990. The new government, as well as its successors, decided to pursue a market-oriented approach. In particular, fiscal responsibility was reinforced by announcing that budget surpluses would be maintained. The much needed investment in public infrastructure was carried out by the private sector through

Figure 4. **High income inequality, 1998**[1]
Percentage share of income or consumption



1. Indonesia: 1999, India and United States: 1997, France and United Kingdom: 1995, Turkey: 1994, Japan and Korea: 1993, Spain: 1990.

Source: World Development Indicators, World Bank.

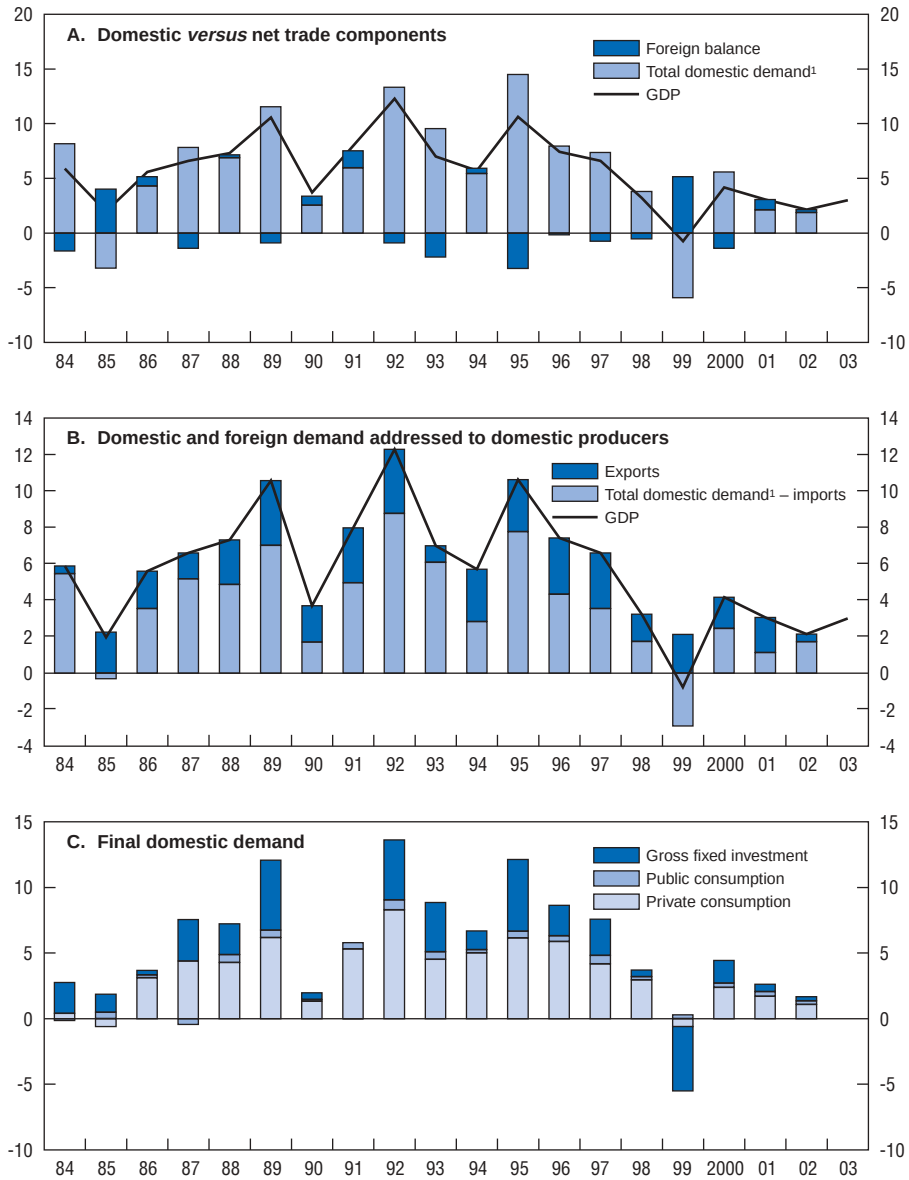
an ambitious programme of concessions. The newly independent Central Bank pursued a gradual, but steady disinflation process. The commitment to stability while implementing a more active social agenda reinforced confidence at home and abroad. Trade liberalisation was also further pursued. Resulting large FDI inflows and high foreign demand helped to sustain the high growth path initiated in the second half of the 1980s (Figure 5). The unemployment rate fell from more than 10 to around 5 per cent in 1996-97 and real wages rose strongly. The sound macroeconomic framework contributed to insulate Chile from the effects of the 1994-95 Mexican crisis.

Focusing on the pursuit of growth with equity, public spending on social policies increased in absolute terms and as a share of total spending, financed by increases of the VAT rate, personal income and corporate taxes. The additional spending was mostly directed to increase wages of medical personnel and teachers, hire new staff and modernise installations. Poverty alleviation was also intensified through increases in the minimum wage, family allowances and targeted programmes in education, health care and labour training. The new 1990 labour law restored several workers' rights that had been removed under military rule. A burgeoning economy and increases in productivity allowed for substantial wage increases. High growth, supported by targeted policies, led to a reduction in poverty from 45 to 21 per cent between 1987 and 2000 (CASEN).

The economy resisted the international financial turmoil of the late 1990s[8] while experiencing large net capital inflows (more than 10 per cent of GDP in 1997). However, following the 1997 Asian crisis, the trade balance started to deteriorate. In combination with a significant fall in copper prices and the induced terms of trade shock, the current account deficit reached over 5 per cent of GDP in 1998 (Figure 6). In the context of a crawling-peg regime, the Central Bank was faced with strong exchange rate pressures. After initially narrowing the exchange rate band and subsequently increasing sharply interest rates, the Central Bank finally abandoned the exchange rate band in 1999 and moved to a floating exchange rate regime without a major shock. However, despite continued FDI inflows, capital outflows were even larger in 1999. In combination with a sharp monetary contraction, this induced a strong drop in domestic demand. In particular, with a larger than anticipated demand shock, investment contracted sharply. After this dramatic episode, the current account gap was corrected and the Central Bank moved into a prolonged easing cycle. Monetary policy rates were reduced gradually from close to 9 per cent (in nominal terms) in 1999 to the current 2.75 per cent by mid-2003.

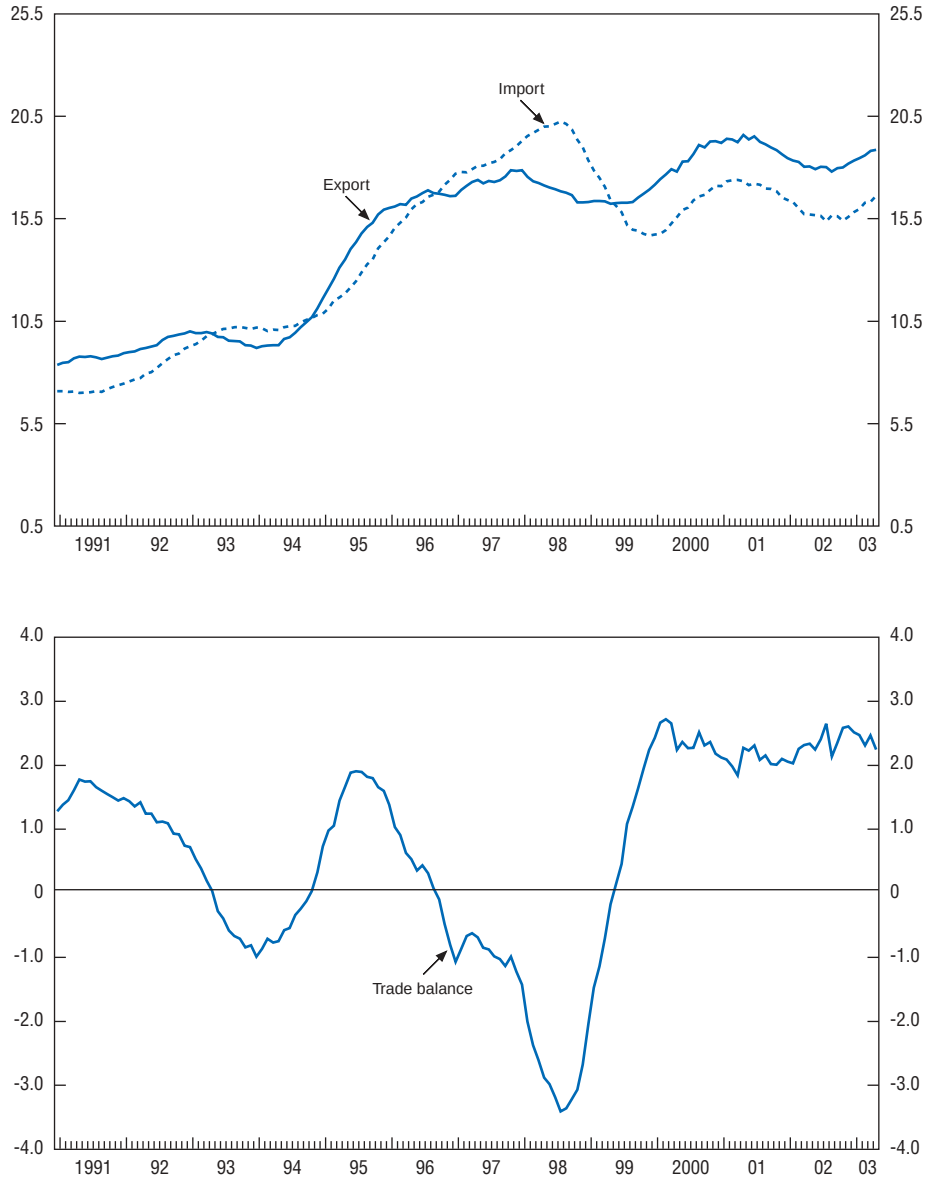
Overall, from 1984 to 1997 Chile experienced an exceptional period of growth and economic convergence.[9] The GDP per capita increased at an annual pace of 5-6 per cent, which is more than double the long-term trend of around 2.4 per cent per year over the last 40 years (Figure 7, Panel A). Since 1998, the

Figure 5. **Contributions to GDP growth in Chile**
As a percentage of GDP in previous year



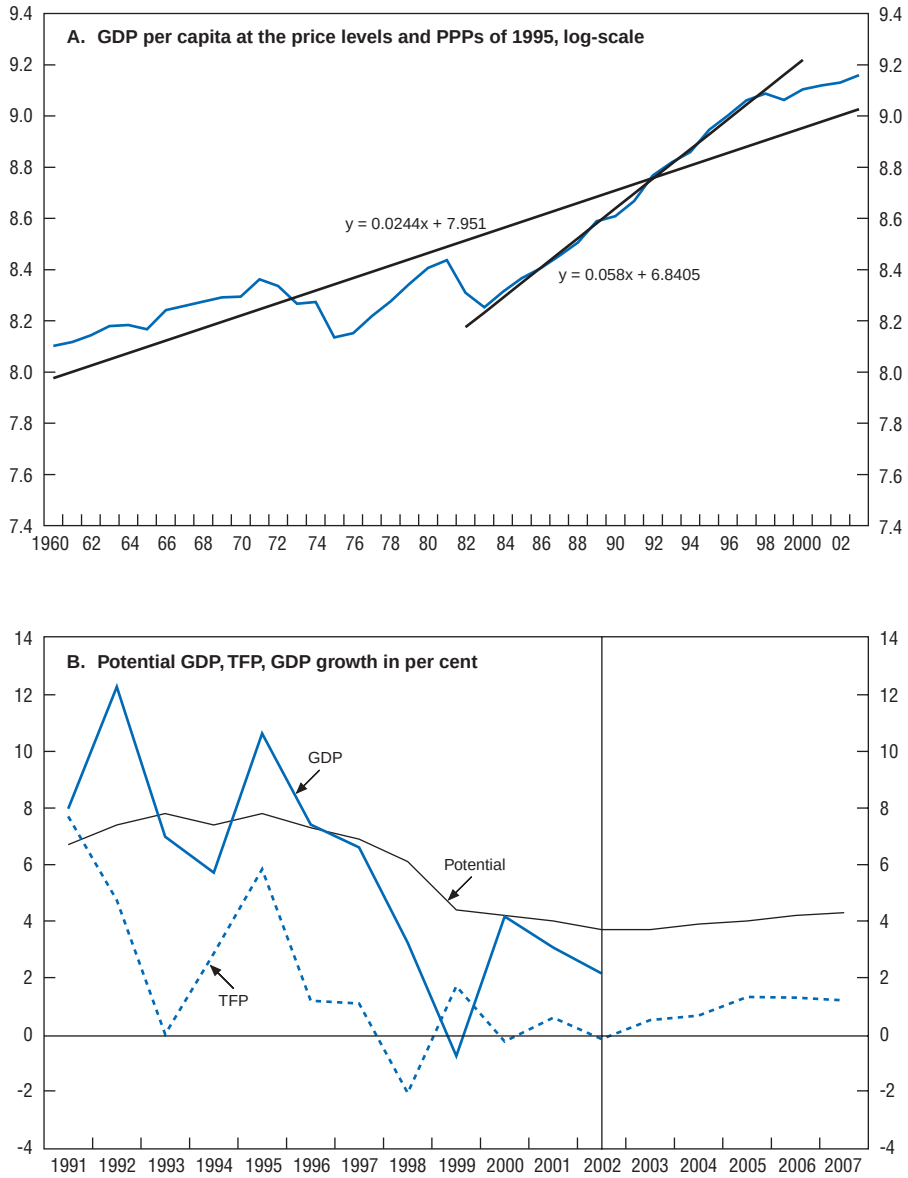
1. Including stock variation.
Source: Central Bank of Chile and OECD.

Figure 6. **Exports, imports and trade balance**
Bn dollars, 12-month cumulative



Source: Central Bank of Chile.

Figure 7. **GDP trends**



Source: Central Bank of Chile, Ministry of Finance (2003), CEPII, CHELEM database.

economy has been growing much more slowly; and while adverse international conditions undoubtedly account for some of this slowdown, trend growth is also likely to have slowed for structural reasons (see below). The current consensus estimates gathered by the Ministry of Finance[10] confirm this slowdown of the growth potential for recent years (Figure 7, Panel B).

Broadening the foundations for long-term growth and social consensus

The economic boom until 1997 made it easier to finance programmes designed to improve equity. The perception that the subsequent economic slowdown was a cyclical and reversible phenomenon, essentially caused by adverse external shocks, sustained government effort to deepen social policies, such as the introduction of full-day education in public schools starting in 1997, a 20 per cent increase of the minimum wage between 1998 and 2000 and the reform of the labour law in 2001.

With the continuation of slow growth, there is a debate in the country as to whether the gains achieved from the reforms undertaken from the 1970s until the early 1990s may have become exhausted and there is need for a second generation of reforms (Box 4). In this context, experts from the private and public sectors have jointly identified a number of necessary microeconomic reforms and proposed a timetable for implementation (the "Pro-growth Agenda", announced in January 2002). Significant reforms have indeed been passed or are announced. Meanwhile, the government is pursuing its social agenda. In particular, it aims to improve access, equity and efficiency in health and education, while giving more explicit consideration to their links with economic growth. A certain pick-up in the economy in late 2002 and early 2003, while the main macroeconomic fundamentals remain in good shape, is facilitating this strategy (Table 1).

The "Pro-growth Agenda" and social reforms

The coherence of the reform agenda is of key importance to the government. Proposed *pro*-growth and social reforms can be grouped into five key areas, which can be mapped into the main topics covered in this Survey (Table 2):

- Reforms that enhance domestic and foreign investment through the development of risk capital, increase competition in financial markets, and a more favourable tax treatment of depreciation, cross-border loans and profit remittances (Chapter III).
- Amendments in the labour law that should encourage enterprise bargaining to substitute for regulation, in particular regarding working time; the government has also reformed the system of job protection, which relies heavily on high severance payments, by pre-funding part of these payments in individual workers' accounts (Chapter IV).

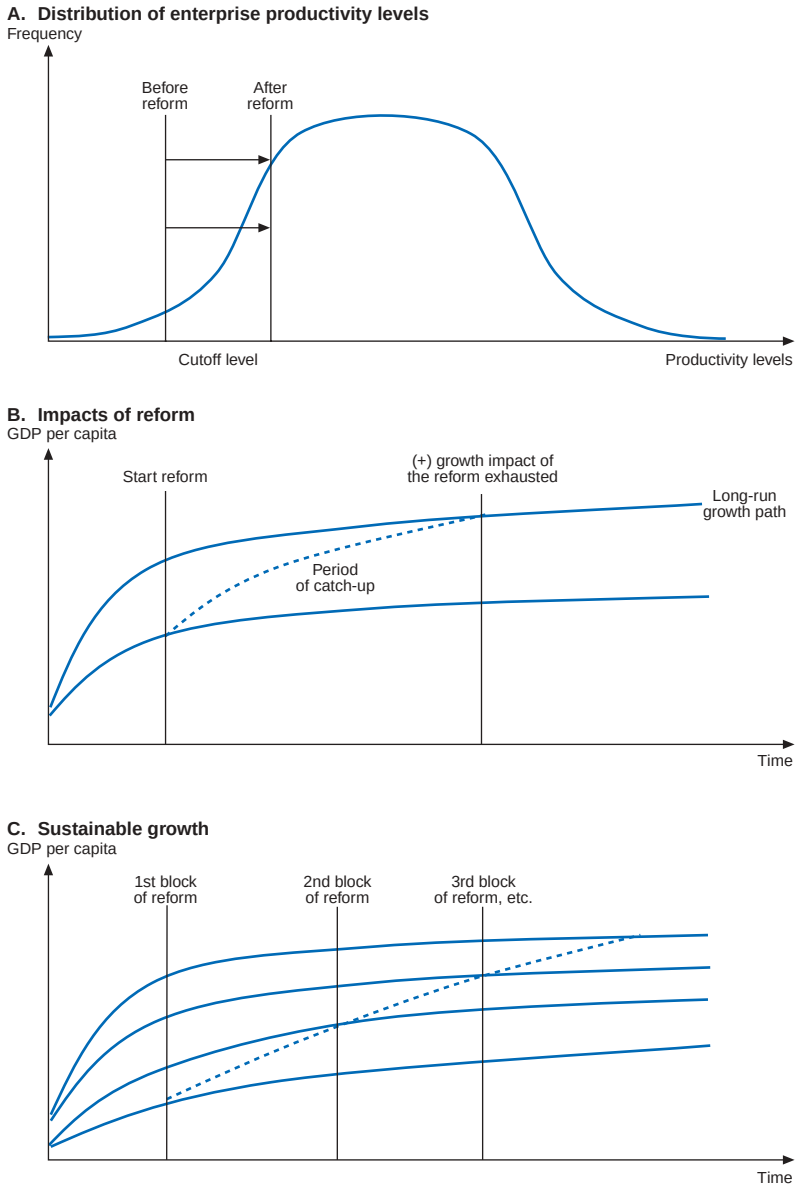
Box 4. Structural reforms and growth: the microeconomic dimensions

Evidence of the impact of economic reforms on growth for Latin American countries is mixed. Notably, the impact of reforms has been small and partly transitory depending crucially on the quality of institutions, and in particular on the rule of law. Reviewing the impact of reforms on growth, Lora and Pannizza (2002) and Williamson and Kuczynski (2003) note that disillusionment with the reforms has been growing, particularly among the middle class. In this respect, Chile has been an exception in the region. Nevertheless, even in Chile there is concern about the substantial slowdown in growth and whether this means that the production frontier has been reached. The general view is that macroeconomic stabilisation is on track and that, while the impact of the early reforms has brought the economy to a higher level of income per capita, further reforms are needed to accelerate the convergence of Chile towards higher income levels.

The relation between the microeconomic impact of reforms and the long-run convergence path of an emerging economy, such as Chile, is suggested in Figure 8. This framework draws from a formal model of exit and entry of firms put forward by Bergoing, Repetto and Soto (2003). The main feature of the model is that firms are heterogeneous in terms of productivity levels. A strong firm heterogeneity seems to be the key characteristic of microeconomic data as it now has been widely documented in the economic literature (see for example Bartelsman *et al.*, 2003) The conditions of market competition are characterised by a minimum productivity level, below which firms are ejected from the market (Figure 8, Panel A). Firms are affected by different types of shocks and managers can decide either to stay in business or to exit the market. Market-oriented reforms push the less efficient firms out of the market and favour the emergence of new units with better technology and higher productivity. This boosts aggregate productivity, enabling the economy to catch-up to a more efficient production frontier, up to the point where the positive impact of reforms on growth is again exhausted (Panel B). A well-managed succession of reforms could continuously push the economy along a convergence path (Panel C).

- Improved human capital by broadening the provision and in particular the quality of public health and education (Chapter V).
- Reforms that should improve the general business environment and augment multi-factor productivity, such as competition, regulation of key sectors, bankruptcy law, modernisation of the state, simplification of procedures in the areas such as enterprise creation and technology policy (Chapter VI).
- Policies that reinforce Chile's position in world markets and favour FDI (Chapter VII).

Figure 8. **Impact of a reform on growth: an illustrative framework**



Source: Bergoeing *et al.* (2003) and OECD.

Table 1. **Main macroeconomic indicators, 1997-2003**

	1997	1998	1999	2000	2001	2002	**2003**
GDP growth	6.6	3.2	–0.8	4.2	3.1	2.1	**3.0-3.5**
Inflation (%)							
End-year	6.0	4.7	2.3	4.5	2.6	2.8	**3.0-3.5**
Average	6.1	5.1	3.3	3.8	3.6	2.5	
Unemployment rate							
Registered, INE	6.1	6.1	9.7	9.2	9.2	9.0	
Greater Santiago	6.6	9.0	13.8	14.0	14.2	13.1	
Fiscal balance (% of GDP)	1.8	0.4	–1.3	0.1	–0.3	–0.9	**–0.7-0.9**
Adjusted balance[1]	1.9	0.1	–2.2	–0.8	–0.6	–1.1	
Structural balance[1]	1.1	0.5	–0.7	0.0	0.9	0.9	
Current account							
USD billion	–3.7	–3.9	0.1	–0.8	–1.2	–0.6	**–0.5**
In % of GDP	–4.4	–4.9	0.1	–1.0	–1.7	–0.8	**–0.7**

1. Central government.
Source: INE, Central Bank of Chile, Ministry of Finance, OECD estimates.

The government's main social goals are the improvement of access to and the quality of health care and education, and the eradication of poverty. These areas are also covered by the growth agenda, which puts the emphasis on efficiency of spending. In education, the problems are how to improve access of students from low-income families to better and higher education, while enacting mechanisms to improve the quality of teachers. In the area of health care, there is a plan (AUGE) to gradually introduce universal care for a defined number of pathologies. However, health reforms will probably be very costly (see Chapter V): while there is room for efficiency gains, an increase in taxes will also be needed. The government is also stepping up its efforts to eradicate extreme poverty through the *Chile Solidario* programme that provides for cash benefits to the very poor and a variety of measures to develop poor areas of the country.

Strengthening policy coherence

The government is trying to promote growth while seeking to improve, rather than overturn the social policy foundations embedded in the current economic model. The generally accepted strong commitment to a sound macroeconomic policy framework is central. The independence and credibility of the Central Bank and fiscal responsibility are important assets for a small open economy like Chile. The resulting international credibility has made it possible to shift from nominal to structural budget targets allowing for counter-cyclical policies, and bring the real interest rate down.

Table 2. **Reforms in support of the "Pro-growth Agenda", until September 2003**

Proposal	Implementation status
Financing long term growth	
a) *Financial and capital markets* (*Chapter* III):	
• Risk capital: increase tax incentives, increase role of pension funds, access private investment funds to public leverage via CORFO, tax treatment of risk capital gains	Submitted
• Competition in capital market: increase number of actors and lift restrictions	Submitted
• Tax treatment of financial transactions; facilitate transfers between financial institutions	Submitted
b) *Taxation*:	
• To promote investment: shortening of fiscal asset lives and acceleration of depreciation	Approved
• Financial transaction tax (timbres y estampillas): exemption for loan renewals for housing	Approved
Labour market (Chapter IV)	
• Labour "adaptability": introduce possibility of bargaining between employers and employees to reduce restrictions on working schedules and remuneration	Under preparation
• Regulation of temporary employment agencies to increase flexibility in (sub-)contracting	Under preparation
• Labour training: creation of national system of labour competencies' certification (*Chile Califica*) and improvement of tax-deductible training programmes within firms (via SENCE)	Under preparation
Investing in human capital (Chapter V): improve the efficiency of public expenditure:	
• Health: universal health plan for total population, give more autonomy to public providers	Under preparation
• Education: increase quality by larger participation of actors, improve information system	Under preparation
• Poverty alleviation: evaluate social protection and specific programmes and funds	Under preparation
• Justice: operation of courts	Under preparation
Improving competition and regulation of product markets (Chapter VI)	
a) *Competition authorities: creation of Tribunal of Defence of Competition to replace Anti-monopoly commission*	Approved
b) *Regulatory framework of key sectors*:	
• Fisheries: quota system of industrial and artisan segments, sustainability	Published
• Electricity: allocation of transmission costs among generators	Submitted
• Telecommunications: fixation of access fees, separating rule setting from enforcement	Postponed
c) *Bankruptcy law: acceleration of procedures, regulations for creditor priority and conflict resolution*	Under study
d) *Modernisation of the state*:	
• Public procurement: increase transparency via internet	Published
• Recruitment for high-level civil servants: through open competition	Approved
• Tax tribunals: provide free and open access when authorities and tax payers disagree	Submitted

Table 2. **Reforms in support of the "Pro-growth Agenda", until September 2003** (*cont.*)

Proposal	Implementation status
e) *Technology policy*:	
• In ICT: promotion of mass use of internet via adoption of electronic signature	Approved
• Improve national innovation system: creation of instruments and initiatives to promote private R&D	Submitted
• Subsidies for ICT investments	Approved
f) *Simplification of procedures*:	
• Between private agents and state through internet	Approved
• Maximum term through "silence is consent" principle	Approved
Increase Chile's competitiveness (Chapter VII)	
a)*Attracting* FDI: *Chile as a platform for Latin America*:	
• Extend double taxation treaties to other countries	Bilateral negotiation
• Investment Platform Law: avoid double taxation on profit remittances by multinationals based in Chile	Published
Export promotion: facilitate use of private warehouses	Submitted

Published = Law already published; Approved = Approved by Congress; Submitted = Submitted to Congress; Under preparation = Draft law under preparation.
Source: SOFOFA, Ministry of Finance, Internal Revenue Service.

A source of major political controversy is the size of the state. With a tax to GDP ratio below 20 per cent and a small public debt, the government sees some room for extending the social safety net through tax increases. But it is also committed to make sure that it does not lose the advantages of fiscal discipline and the support of the international markets. The government is aware of the linkages between stability, growth and equity. The government is also aware that human capital is important for providing the foundations for long-term growth. Against this background, this Survey aims to analyse the interdependencies between the different reforms, identify the relevant policy links and put the Chilean economy in a comparative perspective with OECD countries and international best practices.

II. Preserving macroeconomic stability

Chile has put into place a successful combination of consistent fiscal discipline and monetary credibility. This framework has been reinforced by good co-ordination between macroeconomic policies and structural reforms that enabled a better control of public expenditure, while providing the foundations for a more competitive economy and greater social equity. Important building-blocks in the linkages between macro and structural policies, as well as between financial and real markets, have been the reform of the pension system, the recent creation of an explicit structural surplus rule and a sustained disinflation process. The latter is presently supported by a credible inflation targeting regime together with a floating exchange rate. It should be stressed that the need to preserve macroeconomic stability has a large consensus in Chile.

Institutions for fiscal responsibility

Fiscal policy responsibility in Chile has acquired strong credibility. With the exception of the period 1982-85, the central government's accounts consistently displayed a fiscal surplus on a cash basis from 1975 to 1998 (not taking into account the quasi-fiscal deficit of the central bank). After the military rule, democratic governments reinforced fiscal discipline by adopting an implicit surplus rule and deciding to reduce the public debt, despite political pressure to increase social expenditures. During the Presidential mandates of 1990-93 and 1994-99, the fiscal surpluses averaged 1.7 and 1.2 per cent of GDP, respectively.[11]

The fact that successive governments have maintained a responsible fiscal stance can be explained, among other factors, by the need to generate resources to finance important structural reforms and the large cost of the banking crisis of 1982-84 (see Chapter III). The combined resources of the Central Bank, Treasury and the State Bank to solve the latter crisis amounted to near 11 per cent of GDP (Sanhueza, 1999). Concerning structural reforms, the most important change was the creation of a private pension system in the early 1980s. This reform, expected to alleviate the fiscal burden over the long-run, entailed significant transition costs requiring a substantial effort to contain current expenditures elsewhere. Over time, the fiscal constraint in addition to the independence of the

Central Bank has entrenched fiscal discipline in the political system. The combination of fiscal surpluses and the high growth of the 1984-98 period dramatically reduced the net consolidated public debt to around 14 per cent of GDP. On the basis of this acquired credibility, since 2000 the government has allowed for more counter-cyclicality by targeting a structural rather than actual surplus.

The pension reform required a large fiscal adjustment…

Since 1981, Chile has had a fully funded, privately managed and defined-contribution pension system (Box 5). The reform was designed to limit the role of the state in the provision of social security. The government remains basically in charge of financing the old system's liabilities, regulating and supervising the private funds and providing minimum income guarantees to the non-covered population and to those who have not accumulated enough funds for a minimum pension.

These assistance guarantees are provided in two cases. Firstly, workers who have contributed for at least 20 years, but whose accumulated funds do not yield the minimum pension, have a "top up" income transfer from the government (*minimum pension*). This pension is protected against inflation and, over the last 10 years, its value was 80 to 95 per cent of the minimum wage. Secondly, a means-tested assistance pension is paid to disabled, survivors and old age (over 65 years old) non-covered workers (*assistance pension*). The value of the latter is fixed by legislation and is not automatically protected against inflation: it ranged between 40 to 55 per cent of the minimum pension between 1995 and 2000. Both minimum and assistance pensions are financed by general governmental revenues.

The transition costs to move from one system to another required a major fiscal effort. Without contributions, the old PAYG system generated an increasing deficit from 1.6 to 4.7 per cent of GDP between 1981 and 1984. The required fiscal adjustment was facilitated by the accumulation of public savings in the previous years.[12] Privatisation resources and public bond issues were also used to capitalise the private pension funds. As a result of the reform, the PAYG deficit declined. In the following years Chile continued to maintain a remarkable fiscal discipline, facilitated by the economic boom (see Chapter I).

Currently, the fiscal burden of the Chilean pension system has five components: *i*) operational deficit of the old PAYG civilian reformed scheme; *ii*) operational deficit of the militaries' PAYG non-reformed scheme; *iii*) "recognition bond" expenditures; *iv*) minimum pension expenditures; and the *v*) assistance pension expenditure (see Box 5). The PAYG deficit stabilised at 3 per cent of GDP in the 1990s and is projected to decrease slowly, to reach 0.5 per cent of GDP by 2030 (Figure 9). In contrast, the recognition bond expenditures have grown, as the workers transferred to the AFPs are retiring. These expenditures are expected

Box 5. The Chilean pension reform

The Chilean pension reform was rather impressive, not only for Latin America but also compared with many OECD countries. The system was created in 1981 and replaced the traditional public defined benefit pay-as-you-go (PAYG) scheme, which was on the verge of collapse (see Annex I). All the former fragmented pension institutions, excluding the military and national police schemes, were merged into the Institute of Social Security Normalisation (INPS). The rules were unified and the retirement age was set to 65 for men and 60 for women without a transition rule. This affected current generations of civil servants and several categories of private workers who could previously retire without age limit. The new fully funded scheme was made mandatory for new workers and optional for the current ones. The military were excluded from the reform, keeping a more generous specific PAYG scheme. Moreover, the self-employed were not obliged to contribute.

Employees who switched to the new system received a 12 per cent increase in their net salaries and "recognition bonds" equivalent to accrued rights accumulated under the old regime. These bonds earn a fixed real return of 4 per cent per year. Over 75 per cent of the members of the old system and their pension contributions were transferred to private Pension Funds Administrators (AFPs). The AFPs are responsible for collection, asset management and benefit payments (together with insurance companies).

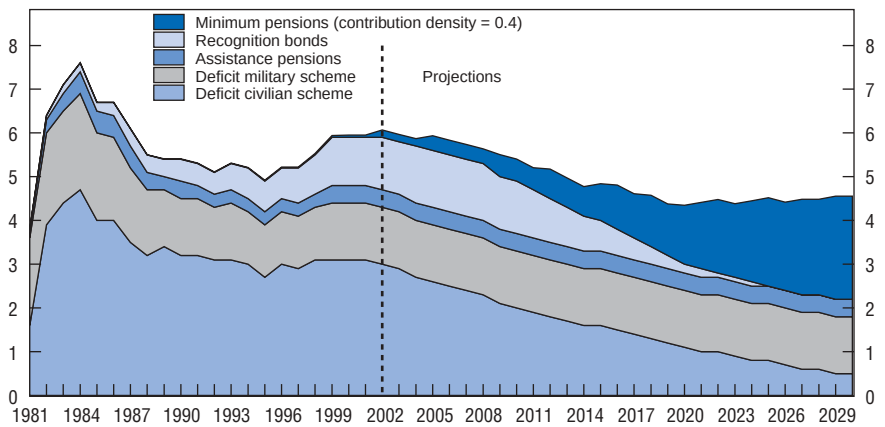
The former employer contribution (12-15 per cent) was eliminated. The reduction of the pension burden on the wage bill and increased labour market flexibility were part of a policy package designed to increase the use of formal labour contracts and raise pension system coverage while reducing labour costs. These measures were also connected to the 1975 tax reform, which introduced the value added tax, and to the unilateral trade liberalisation carried out in the mid-1970s. The ultimate goal of these measures was to move the fiscal burden from payroll to value-added taxes and enhancing cost competitiveness of enterprises. Workers are free to select their pension fund and pay 10 per cent of their salaries into an individual account. Depending on the pension fund, there is a 2.1 to 2.6 per cent extra fee to finance administrative costs, survivor pensions and disability insurance, and a fixed fee that ranges between USD 0 and 1.4 (June 2003).

Pension annuities and minimum pensions are protected against inflation. Benefits are paid in *Unidades de Fomento* (UF), which is a monetary unit indexed against consumer prices. The benefits can be paid in life annuities sold by insurance companies, programmed withdrawals or mixed arrangements combining temporary income and a deferred annuity. The annuities modality represented 51 per cent of the pensions paid in 2002. Under this scheme, the beneficiary contracts with the insurance company a fixed monthly price-indexed life transfer. Except for a partial cash withdraw, individual funds are transferred to the insurance administrator that assumes the life expectancy and financial risk and charges the beneficiary a premium of 5 per cent. The programmed withdrawal is paid by AFPs until death according to the individual account balance. In this case, retirees benefit from a higher fund's return just after retirement and bear the onus of a decreasing return in line with life expectancy – 43 per cent of the payments are made under this modality.

Box 5. **The Chilean pension reform** (*cont.*)

The pension benefit is calculated according to the accumulated funds in the individual accounts and the gender-specific life expectancy. Early retirement is allowed if the worker accumulated enough resources to finance a pension equivalent to 50 per cent of the average wage over the last 10 years of work and corresponding to at least 110 per cent of minimum pension paid by the government. Retirees are allowed to take another paid job without contributing to the pension system. This is a clear incentive for high income workers to retire earlier, as illustrated by the average retirement age that was around 55 years in 2002.

Figure 9. **Chilean social security deficit**
In percentage of GDP



Source: Ministry of Finance, Ministry of Planning and Cooperation (MIDEPLAN) (2002), Bennett and Schmidt-Hebbel (2001) and OECD estimates.

to peak at 1.3 per cent of GDP between 2004 and 2007 and then phase out gradually by 2020. The deficit associated with the special military regime is expected to stay roughly constant at above 1 per cent of GDP, throughout the projection period.[13]

... but more policy coherence is required for sustainability of the system

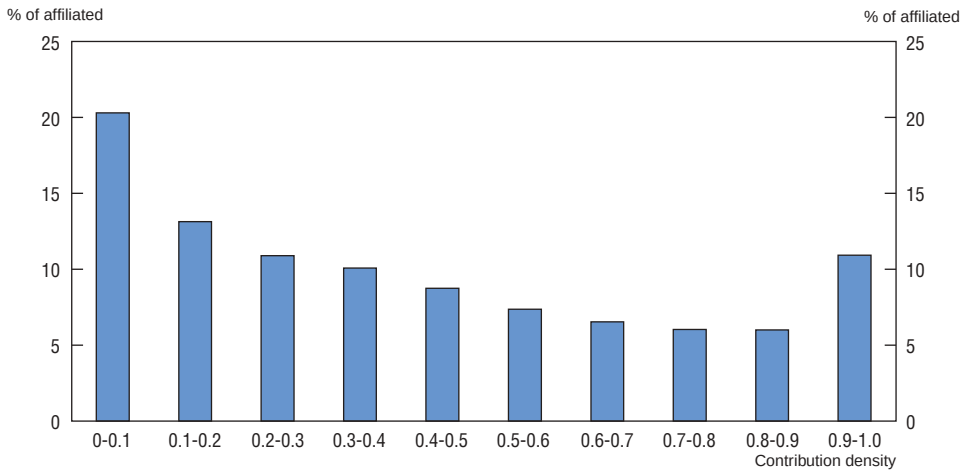
The most important challenge in terms of the long-run sustainability of the system is the likely growth of the minimum and assistance pensions' expenditure.[14] In other words, although Chile's fully funded pension model offers built-in incentives to contribute and to work longer, these incentives may not have the intended effects if too much of total pension spending, and too high a share of retirements, is financed from alternative sources such as minimum and assistance pensions.

The main problem is the low coverage and contribution density. In Chile, effective social security *coverage* (*i.e.* number of contributors/active population) was around 56 per cent in 2002,[15] the coverage problem being particularly serious for women. The low coverage level is related to structural features of the labour market, which is characterised by a large share of self-employment and informal labour (see Chapter IV). Indeed, affiliation to the system is not mandatory for the self-employed (roughly 30 per cent of employment). Moreover, in Chile a high share of labour demand is for low-wage jobs, and can switch rapidly from formal to informal labour. In this regard, the recent increases in the minimum wage may have had a negative impact on the offer of formal jobs contributing to the pension system. The negative correlation between the level of minimum wages and the contribution to private pension funds corroborates this view (Valdés Prieto, 2002).

The fact that low-income workers are entitled to receive a minimum pension after 20 years of affiliation also represents a disincentive to continue contributing to pension funds. Additionally, low coverage may be related to a disincentive for low-income workers to contribute to the health fund (FONASA). The workers who can prove they do not have sufficient resources to contribute to FONASA have free access to public health provision. This support is important for those who are really in the need, but it can be abused by workers who decide not to contribute to any social fund and still receive informal income. In contrast, low-income workers who are affiliated to pension funds must also contribute 7 per cent of their wages to health insurance (see Chapter V). This could work as another disincentive to be jointly affiliated to the social funds and increases the cost for the budget of public health care. Another disincentive for low-income workers to affiliate is that they perceive the private pension system as risky and expensive due to the volatility of the asset's returns and the high administrative fees (see Chapter VI).

The *contribution density* (the ratio of the number of months of effective contributions to the number of affiliated months) is rather low at 0.4, according to recent surveys (see also Chapter IV). Around 20 per cent of the workers have contributed for less than 10 per cent of the time of affiliation to the pension fund. Only 10 per cent have contributed regularly for at least 80 per cent of their work life (Figure 10).

Figure 10. **Contribution density**[1]
December 2002



1. Number of contributions/number of months affiliated.
Source: Ministry of Finance.

This low contribution density is partly due to the relative importance of the agricultural and fisheries sectors, which are characterised by a strong seasonal component and exposure to international demand shocks (Chapter VII). This induces a high employment volatility, which hinders the stability of contributions.

Low contribution density reduces income replacement rates and increases the fiscal pressure to finance minimum pensions. Initial estimations based on a contribution density of 0.9 implied replacement rates of 80-86 and 52-57 per cent for men and women, respectively (Ministry of Planning and Cooperation, 2002). With the current contribution density of 0.4, replacement rates would fall to around 40 and 30 per cent for men and women. Even with a contribution density of 0.7 (the current official estimate), the majority of affiliates will not accumulate enough capital in their accounts to receive the equivalent of a minimum pension. For those affiliates who have 20 years of contributions, the public budget will then have to top-up the difference. By the 2030s, around 52 per cent of the total private pension funds' beneficiaries could require extra support for minimum pensions. Almost ⅔ of the beneficiaries in this case will be women. Assuming that the current density of 0.4 will not change over the projection period, around 70 per cent of workers will be eligible to receive a complement to a minimum pension by 2030 (Table 3). Under this pessimistic assumption, the minimum pension and assistance benefit expenditures will increase progressively to 2.4 per cent of GDP in 2030 and will continue to rise thereafter.

Table 3. **Chilean minimum pension expenditures and number of benefits (1999-2037)**

	Scenarios for real interest rate (r)		
	r = 3%	r = 4%	r = 5%
Minimum pension expenditures present value (1999-2037) as % of GDP	12.3	10.9	9.5
Number of minimum pensions/total pensions (%)	57.7	52.0	44.3
Number of minimum pensions for men/total private pensions for men (%)	48.5	42.3	34.7
Number of minimum pensions for women/total private pensions for women (%)	72.0	67.1	59.3

Source: Hernandez and Arenas de Mesa (1999).

To sum-up, the fully-funded pension system in Chile may not be immune to the problem of ageing. A careful assessment of policy interactions across specific areas of reform is needed to ensure sustainability. Without major changes in the labour market conditions enhancing business incentives to hire formal labour, improved co-ordination of health and pension policies, better functioning of the pension market and a more diversified economic structure, the pension system may end up causing again a large burden to the fiscal accounts. Several measures could be envisaged to address this problem: *i*) mandatory pension contribution, as well as tax incentives, for self-employed; *ii*) increased flexibility of payments of contributions for seasonal workers; *iii*) de-linking minimum contribution and minimum wage; *iv*) increasing financial literacy; and *v*) reviewing the penalty system for non-compliance of payment of contributions by employers. If these policy synergies do not materialise, the Chilean government may be obliged to re-introduce and fund a basic pillar. In this regard, just increasing contribution rates does not provide a long-term solution as it tends to increase the informal sector. This is illustrated by evidence from OECD and some non-OECD countries.

The structural budget surplus rule is a step forward

In 2000, the government introduced a new fiscal rule, referred to as the structural budget surplus rule (SB) for the central government. It puts a cap on expenditure with a view to maintain a surplus of the structural budget of 1 per cent of actual GDP (Box 6). This rule allows the government to pursue some counter-cyclical fiscal policy, as it permits the fiscal balance to be below 1 per cent of GDP in recessions but requires surpluses above 1 per cent to be achieved during upswings. The SB is a notional concept representing the amount of revenues and public spending that would be achieved if the economy operated at potential or trend GDP and the price of copper price stayed at its medium-term trend level. The SB aims at correctly identifying the cyclical and structural

Box 6. The structural budget surplus rule in the formulation of fiscal policy

The structural surplus rule (SB) aims to maintain a structural budget surplus of the central government of 1 per cent of GDP while allowing for cyclical fluctuations. The rule puts a ceiling on expenditure, which has to remain 1 per cent below the cyclically-adjusted revenues. Although the revenues of the central government are subject to cyclical fluctuations, the SB prevents these variations to be transmitted to expenditure. The SB is applied in the elaboration of the annual Budget Law in the preceding quarter of each fiscal year. The application can be summarised by the following formula, with all variables expressed as percentages of GDP:

$$E_{t+1} = R^{E}_{t+1} * (GDP^{P}_{t+1}/GDP^{E}_{t+1})^{\varepsilon} - (PC^{E}_{t+1} - PC^{T}_{t+1}) - NW_{t+1} - 1$$

Where E_{t+1} is the expenditure target for year $t+1$, R^{E}_{t+1} represents the total expected revenue for $t+1$; $(GDP^{P}_{t+1}/GDP^{E}_{t+1})$ is ratio of projected potential GDP to expected GDP in $t+1$ representing the cyclical position of the economy at $t+1$; $(PC^{E}_{t+1} - PC^{T}_{t+1})$ is the cyclical component associated with the difference between the expected and trend price of copper; and NW_{t+1} refers to adjustments made to capture some changes in the government's net worth.[1] The ε coefficient corresponds to the revenue elasticity to GDP.

Only revenues and not expenditure are adjusted for cyclical components, because in Chile the latter are mostly not subject to economic cycles. Separate adjustments are made for the central government's copper receipts from the state mining company (CODELCO) in the context of the gap between the export price and an estimated reference price for refined copper, and the output gap. The impact of the latter is estimated by applying an elasticity of tax revenues (ε) of 1.05 to the output gap, a value which is in line with that of other countries. Any estimation error of the elasticity is likely to be relatively unimportant. More crucial is the estimation of potential output, as it determines the cyclical component of output that may have large effects on revenues.[2]

If projected trend GDP is higher than the projected actual GDP, the cyclical adjustment will be above 1 so that expenditure is allowed to exceed revenue, resulting in a surplus below 1 per cent of GDP. Conversely, in an upswing, the adjustment factor will be below 1, forcing expenditure to be below revenue, yielding a surplus above 1 per cent of GDP. The same mechanism applies to the impact of differences in the projected actual and trend prices of copper on expenditure. Over the economic cycle, the budget will be in surplus by 1 per cent of GDP.

Since 2001, the Ministry of Finance has called on two independent panels of experts to prepare projections of potential output and the reference price for copper. These panels have 9 and 17 members, respectively, representing academia, the financial and mining sectors. Each member submits independently in written form its own estimates, after which a simple average is taken excluding outliers. For copper, the reference price for the next 10 years has to be submitted.

Box 6. The structural budget surplus rule in the formulation of fiscal policy (*cont.*)

For potential output, the experts provide growth estimates for the next five years of multi-factor productivity, gross fixed capital formation and labour supply, which are subsequently inserted into a Cobb-Douglas production function to calculate potential output.

1. From fiscal revenues the receipts from privatisation and flows related to the sale and purchase of assets are deducted, while flows from the Copper Stabilisation Fund (withdrawals/deposits during periods of low/high copper prices) are taken out. Moreover, an adjustment is made for the cost of the oil stabilisation fund. On the expenditure side, an adjustment is made to ensure the accrual-based treatment of the Pension Recognition Bonds. The adjustments made only partially account for changes in the public sector net worth, as the government accounts remain on a cash rather than an accrual basis.
2. For example, in 1997 output exceeded its estimated potential by 3.2 per cent and in 1999 output was below potential by 3.4 per cent. Applying the elasticity, the estimated cyclical component of revenue for these two years was +0.6 and –0.7 per cent of GDP, respectively.

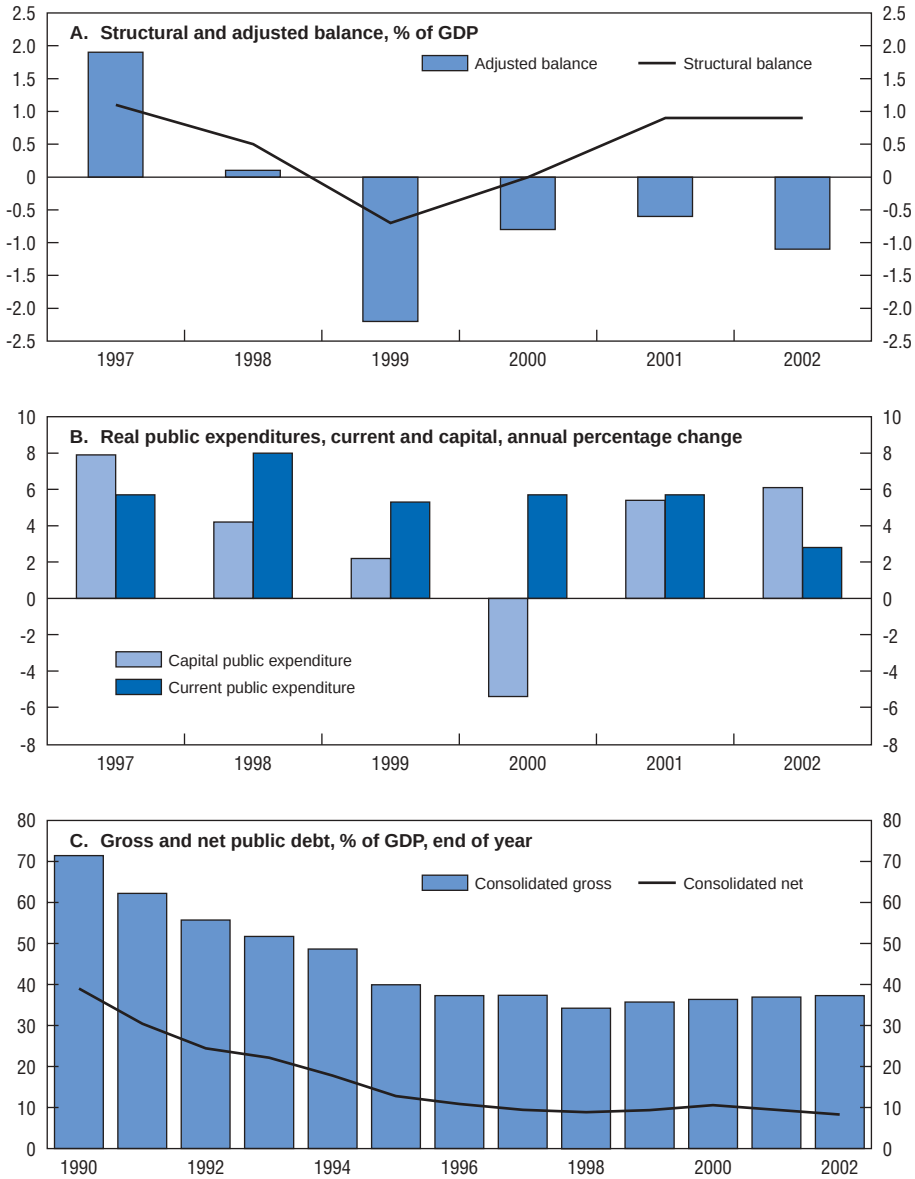
Source: Fiess (2002), IMF (2001), Joumard and Giorno (2002), Marcel *et al.* (2001) and Ministry of Finance (various issues).

components of the budget. A failure to distinguish between the two components creates a risk that fiscal policy over- or under-adjusts in reaction to budget developments. The SB overcomes this problem.

The introduction of this rule confirmed and intensified Chile's commitment to fiscal responsibility since the mid-1980s, as noted above. Previously, decisions about the fiscal stance were taken each year without referring to a quantitative framework or benchmark. The SB introduced a medium term orientation and helped to strengthen fiscal discipline and accountability. As such the SB "locked in" the benefits of credibility built up in the late 1980s and 1990s. Moreover, the adoption of SB also reflected the desire to smooth public spending in the context of output cycle effects and copper price shocks, and as such achieve more stable conditions for the implementation of long term social and investment programmes (Figure 11). Finally, the SB rule reinforced the counter-cyclical character of the macropolicy framework, as monetary policy is also mostly counter-cyclical.

The structural surplus measure in Chile does not qualify as a fiscal rule in a strict sense, as it is not embedded in law. Instead, the government announced and self-imposed this rule for the period 2001-05. The conduct of fiscal policy in a given year is governed only by the budget law adopted in the quarter prior to the year. Moreover, there is no legal framework that enacts sanctions or policy actions

Figure 11. **Budget balance, expenditures and public debt**



Source: Central Bank of Chile.

in the event the SB target is not met. In counterpart, the Chilean rule is somewhat rigid as the point target has to be achieved each year without allowing adjustments over more years.

The government chose the SB among a variety of fiscal rules because its methodology is well known and widely applied by the OECD and IMF (see Giorno *et al.*, 1995 and Hagemann, 1999, respectively). The Chilean approach parallels that of Switzerland. Chile's adjustment for the fluctuations in the price of copper is rather unique. Instead of a balanced budget, the government targets a surplus of 1 per cent to provide for future social commitments and to address contingent liabilities. The latter include the persistent operating deficit of the Central Bank,[16] and guarantees given to ensure a minimum return for investments in concessions of public works. In the social area, an important item in the foreseeable future is the growing number of people dependent on minimum assistance state pensions which are not funded (as discussed above).

The main elements of the public sector left outside the SB are the Central Bank (a quasi-fiscal deficit of around 1 per cent of GDP), public non-financial enterprises (mostly zero balance to small surplus), military sector (deficit of around 0.4 per cent) and municipalities (zero balance). Fiscal discipline of state enterprises is enhanced by market-based management subject to information requirements that apply to private companies. Any financial underperformance in this area would immediately draw attention. Chile's budget target for the central government balance is probably preferable to that of other countries that exclude public sector investment, as the distinction between investment and consumption is often difficult to make.

Improving the fiscal rule

Although the new fiscal rule has functioned relatively well in 2001 and 2002 (see Annex Table A.3), its formulation may require some expenditure adjustments if actual GDP deviates from projected GDP. This is because in Chile, the structural budget target is measured by the ratio of structural revenues minus expenditures to *actual* GDP. In the case of major projection errors, necessary spending adjustments may turn out to be large and disruptive, and may even turn counter-cyclical into pro-cyclical fiscal policy. This runs counter the spirit of the rule which is to provide continuity to fiscal policy. An advantage of Chile's definition of the target is that it creates credibility in the short run as the target ratio will be hit almost exactly every year provided sufficiently flexible spending.

If potential GDP instead of actual GDP were used in the denominator of the budget target ratio, as is done by the OECD, IMF and Switzerland, the government could stick to an initially defined budget despite unexpected changes in the business cycle and copper price. Such a policy target is more counter-cyclical than the one used by Chile. However, in contrast to Chile's rule, it may produce

cumulative imbalances when the potential is poorly estimated, notably resulting in larger actual budget deficits. Under this rule, to avoid the accumulation of too large deficits, one could consider the introduction of a correcting mechanism via a system of intertemporal compensation. Such a mechanism exists in Switzerland, where in the case of a deficit in excess of 0.6 per cent of GDP, the government has to reduce expenditure to return below that limit within the next three years. If a surplus arises it will be kept into a special account that will be used to correct possible future excess spending unless the Parliament decides to use it to reduce federal debt (Joumard and Giorno, 2002).

Balancing revenues and expenditure under the structural budget rule

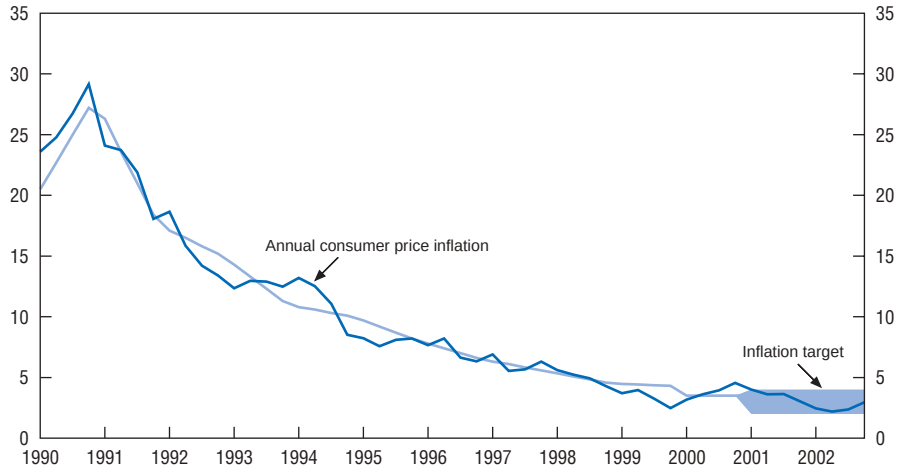
The SB rule has an important impact on the policy debate, as illustrated by the recent discussion on the financing of social plans (AUGE and *Chile Solidario*, see Chapter V) and the foregone tax revenues associated with the free-trade agreements. These two measures combined require USD 2.2 billion of additional revenues for 2004-06, of which the government seeks to finance half while the rest is obtained through expenditure cuts. For the additional financing, the government could choose among different alternatives. Privatisation, treated as a financing item, was not an option as it would reduce the stock of public sector assets. A change in the SB rule was also discarded as this would negatively affect the credibility of the fiscal policy. Instead, the government decided to increase the VAT rate by one point to 19 per cent in October 2003. There is a debate on increasing taxes on the mining sector, but the government is not actively considering this option.[17] The prevalence of tax increases over expenditure cuts is a political choice subject to debate, but decisions have been timely and fiscal responsibility preserved.

Maintaining monetary credibility under a floating exchange rate

A sustained disinflation process

Average inflation in Chile fell from close to 30 per cent at the beginning of the 1990s to 3 per cent over the period 1999 to 2002. Inflation has been stable over the last few years, even in the face of a series of global and regional shocks. The conduct of monetary policy during the last decade can be split into two different periods. The first goes from 1990 to 1998, and corresponds to the gradual disinflation, the use of exchange rate policy in the form of a band, a period of large capital inflows that were subsequently sterilised, and large fiscal surpluses. Since 1999, the monetary framework is characterised by a fully-fledged inflation targeting, introduction of a floating exchange rate regime, a sharp reversal of capital inflows, and a deterioration of the fiscal accounts (while maintaining a cyclically adjusted surplus).[18]

Figure 12. **Inflation and inflation targets**
Per cent



Source: Central Bank of Chile.

The most striking aspect of the gradual reduction in inflation rates over most of the 1990s was the close association of actual inflation rates with the public inflation targets-*cum*-forecasts that were part of the annual presentation of the Central Bank Board to the Senate. Figure 12 shows this close association.

Together with the increased credibility of the Central Bank, there were several other factors that supported this process. First, a rapid acceleration in labour productivity growth in the first half of the 1990s. This surge in productivity growth did not seem to be anticipated, and therefore was not reflected in increased nominal wage growth, hence leading to a rapid deceleration in unit labour costs. These fell to a one-digit rate of growth three to four years earlier than corresponding disinflation. This productivity increase prevented inflationary pressures stemming from high capacity utilisation and low average rate of unemployment over this period. Second, the appreciation of the real exchange rate, particularly in the 1995 to 1997 period, also muted cost pressures, allowing for the maintenance of low levels of annual inflation. Finally, perhaps the most important factor, is the *credibility* of the inflation targeting that helped to coordinate expectations (see Garcia, 2003). Given the widespread wage indexation, the disinflation process needed to be continuous in order to reduce steadily the inflationary expectations. This explains why the central bank adopted a gradual rather than a more aggressive disinflation strategy.

Facing external shocks

After the Asian and Russian crises (1997 and 1998), the deterioration of the external environment for emerging markets was widely assumed to be short-lived. Events, however, unfolded in a different way. World GDP growth picked up again in 1999-2000, but the recovery rapidly stalled. Industrial production began a second sharp contraction, which kept commodity prices at low levels (Figure 13). Chile's terms of trade strongly deteriorated. This was driven by the lack of recovery in copper prices, which remained close to their historic lows in 1998 and 1999. Subsequently, world trade also started to decelerate fast in 2000 and 2001, together with an adverse increase of oil prices in 2000.

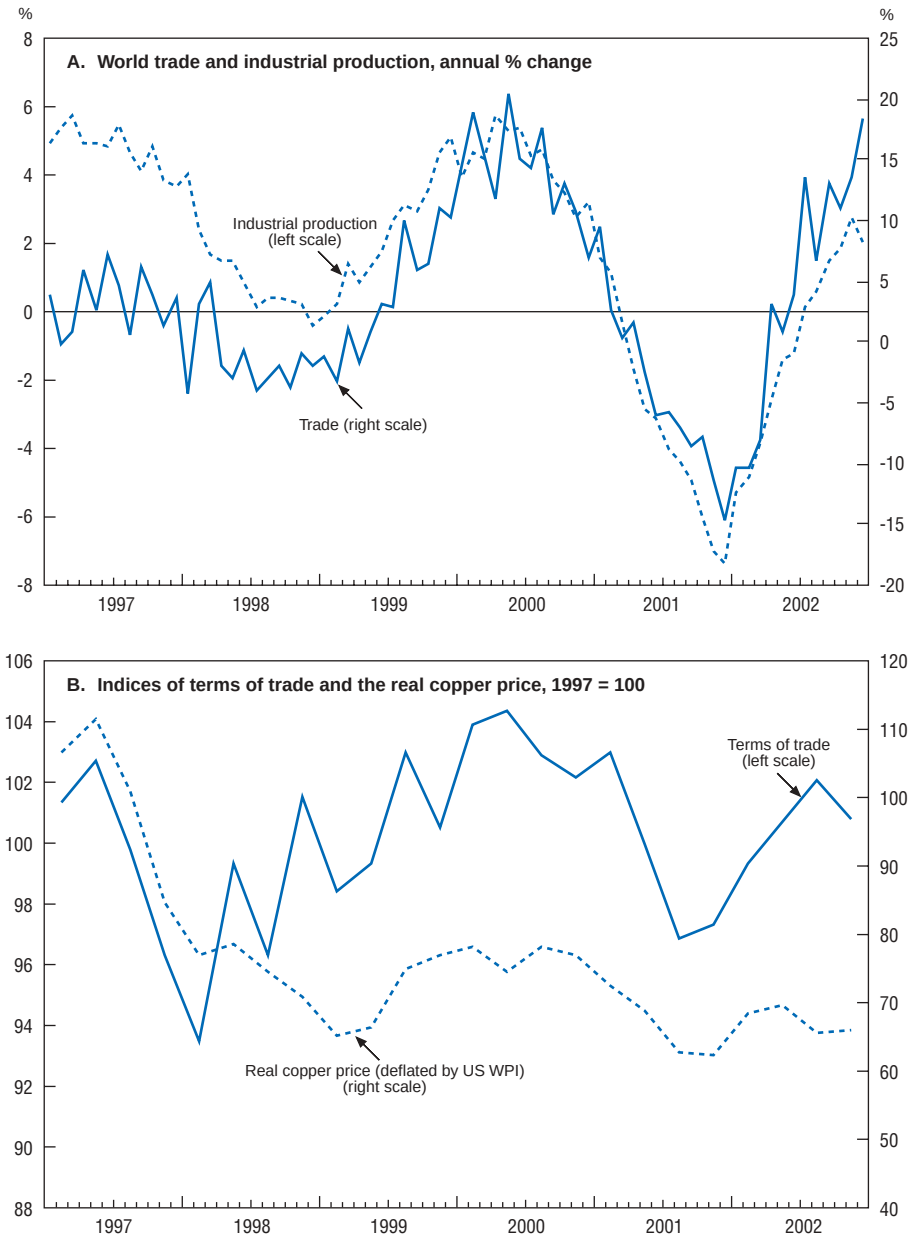
From 1997 to 2002, capital flows to emerging markets decreased by more than 50 per cent. The contraction in the flows to Latin America was particularly large. Volatility in financial markets on average also remained high. Sovereign spreads increased substantially and were punctuated by sharp peaks due to the turbulence in Argentina in 2001 and Brazil in 2002. Uncertainty in the international business environment also increased due to the accounting scandals during 2002, and the geopolitical situation in 2002-03. A positive aspect of this complex situation was the global loosening of monetary conditions, in particular due to the policy of the US Federal Reserve, which brought down interest rates and prevented a more abrupt and drastic adjustment in asset prices.

In Chile, the gap between outcomes and expectations from 1999 onwards was dramatic. Instead of witnessing a rapid recovery, the domestic economy has suffered from a period of low growth and high unemployment. The credit boom of the 1990-98 period, both in terms of corporate external debt and domestic consumer credit, was followed by a period of retrenchment and consolidation. Consumer credit remained stagnant until the middle of 2002, and total corporate credit has increased at a more moderate pace since 1998, with a shift away from bank credit towards corporate bond issues.

The adjustment process and co-ordination of macroeconomic policies

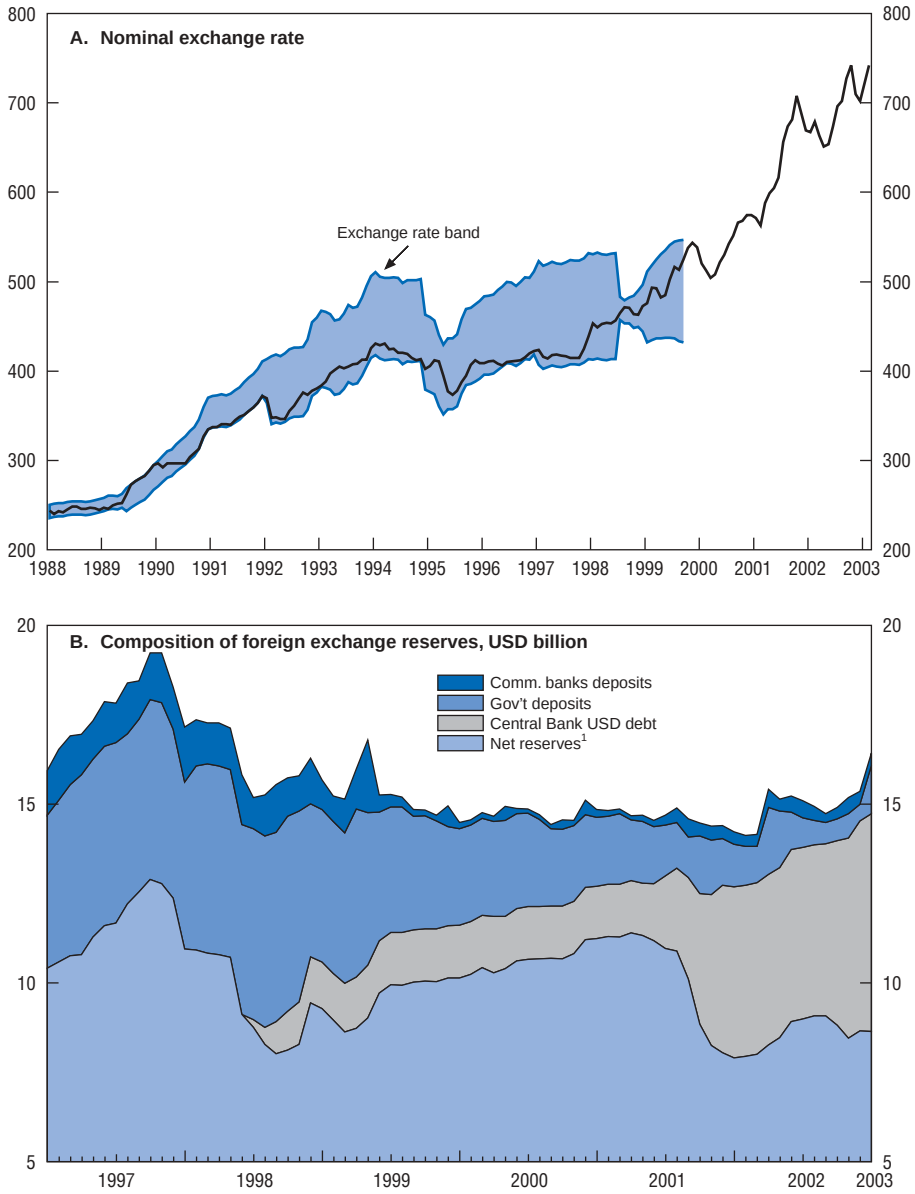
In the face of the terms of trade shock and the reversal in capital flows of 1998, the Central Bank first tried to defend the parity by narrowing the exchange rate band and pushing interest rates up to 30 per cent. But this policy was costly and quickly reached its limits. The *de jure* abandonment of the exchange rate band in September 1999, was preceded by a *de facto* move to a floating rate arrangement (Figure 14). The successful transition to the floating exchange rate regime contributed to consolidating Central Bank's anti-inflationary reputation and the credibility of the policy framework. The Central Bank maintained its prerogative of intervening under "exceptional circumstances", though requiring a public announcement of the intervention package. This possibility was used twice during the third quarter of 2001 to accommodate pressures from the looming Argentine

Figure 13. **World demand and terms of trade**



Source: Central Bank of Chile and *International Financial Statistics*, IMF.

Figure 14. **Foreign exchange markets**



1. Excludes Central Bank debt indexed to the USD, banks and government deposits.
Source: Central Bank of Chile.

default, and in the fourth quarter of 2002, due to the turmoil in Brazil. These (sterilised) interventions prevented extreme exchange rate scenarios and, in this way, minimised disruptive movements in financial markets.[19]

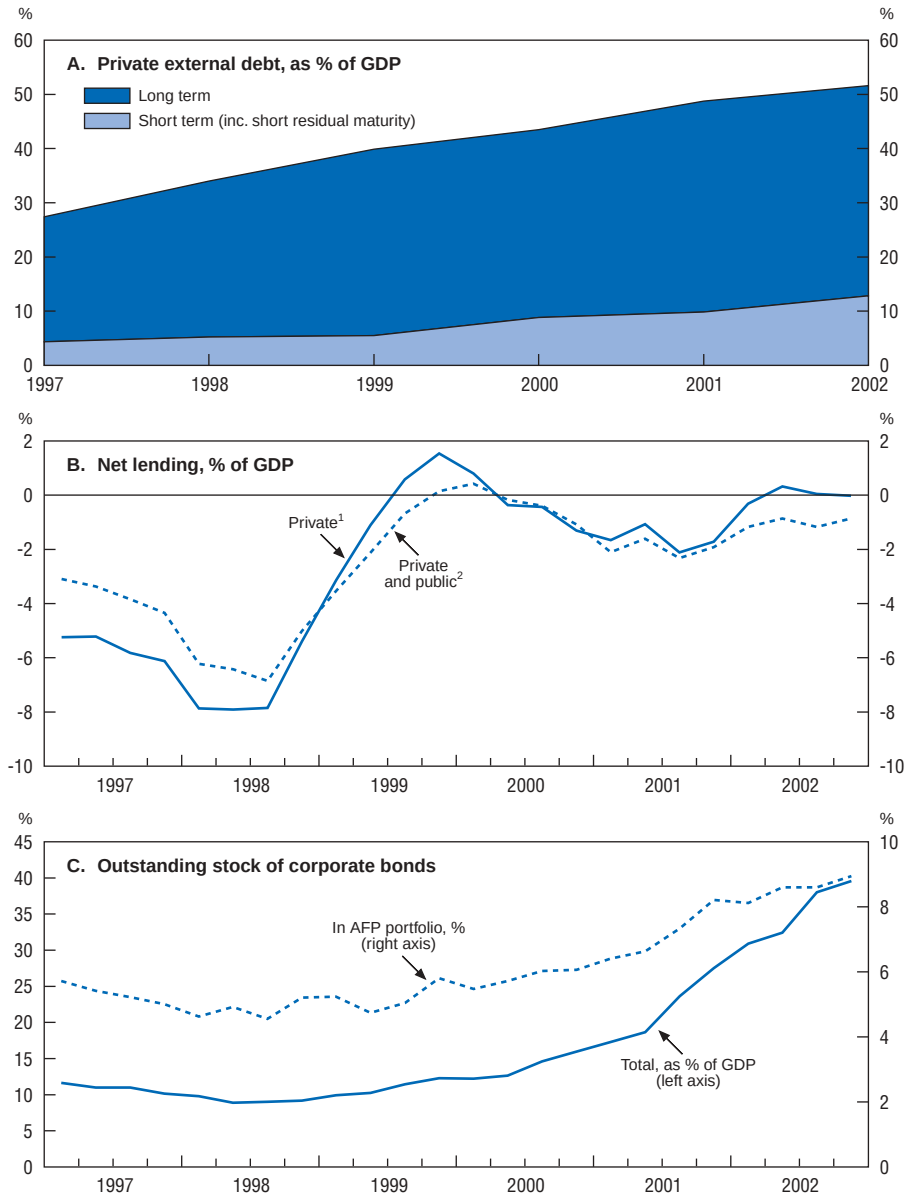
Against the background of a relatively large private external indebtness (above 50 per cent of GDP), the private sector reacted to these new policy conditions broadly in three directions. First, a sharp (8 per cent of GDP) and fairly durable contraction in the current account deficit occurred between late-1998 and late-1999. Total financing needs have remained high nevertheless, due to amortizations. Second, the relative scarcity of capital inflows, as well as the end of the exchange rate band, led to an increased demand for hedging instruments. This has been accommodated in the last few years by a negative net market position of the financial sector. The deepening of these markets has been accompanied by an increase in turnover in the inter-bank market for US dollars. Finally, the corporate sector has tapped increasingly the domestic market for inflation indexed bonds, substituting foreign sources of financing with the issuance of domestic inflation-indexed (UF-linked) bonds (Figure 15).

To accommodate these developments, the Central Bank moved into a prolonged easing cycle. The Monetary Policy (TPM) and Interbank rates were reduced from close to 9 per cent (in nominal terms) in 1999 to the current 2.75 per cent by mid-2003 (Figure 16). This has been gradually reflected in an improvement in credit conditions to the private sector.[20] To varying degrees consumer and corporate lending interest rates have declined, as well as mortgage rates. The total stock of credit (including bank credit and corporate bonds) has steadily increased, with a more pronounced recent recovery in consumer credit loans.

Overall, these macroeconomic developments have led to a large shift in the structural features of the Chilean economy. Between the second half of 1998 and the end of 2002, the real exchange rate depreciated between 30 and 40 per cent, of which a substantial part corresponds to fundamentals, such as the terms of trade. Lower rates of capital accumulation and a subdued growth of total factor productivity have brought down trend GDP growth from 6-7 to around 4 per cent annually. Retail margins have remained stable and at lower levels than in 1997, a fact that cannot be fully attributed to cyclical factors, and contributed to a low pass-through from exchange rate depreciation to inflation.

In spite of the large movements in relative prices, actual inflation has averaged 3.3 per cent annually between September 1999 and March 2003, very close to the middle of the 2 to 4 per cent target range for inflation. More importantly, the different measures of inflationary expectations, based on surveys and market prices, have remained close to 3 per cent even at long horizons (five years). These developments allowed the Central Bank since 2001 to progressively support the de-indexation of financial contracts and transactions to the U*nidad de Fomento* (UF).

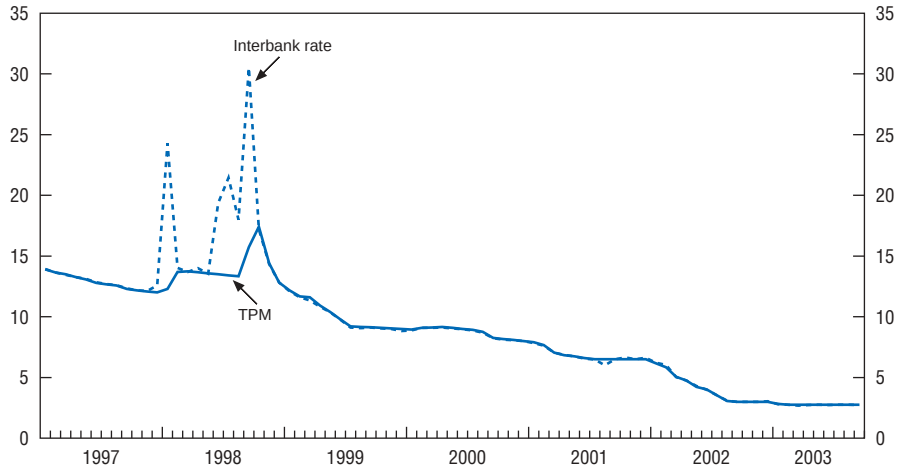
Figure 15. **Domestic financial markets and financing needs**



1. Current account deficit minus public sector deficit (including the Copper Stabilisation Fund, FEC).
2. Current account deficit.

Source: Central Bank of Chile and Budget Office.

Figure 16. **Monetary policy (TPM) and interbank rates**
Percentage



Source: Central Bank of Chile.

Ultimately, the success in disinflation can be attributed to the efficient co-ordination of macroeconomic policies, with a build-up of credibility and a reduction in the consolidated public debt. Low levels of public debt have kept sovereign spreads low, in the range of 100-200 basis points over US T-Bills. This helped to sustain the sharp reduction in monetary policy rates since 2000, noted above.

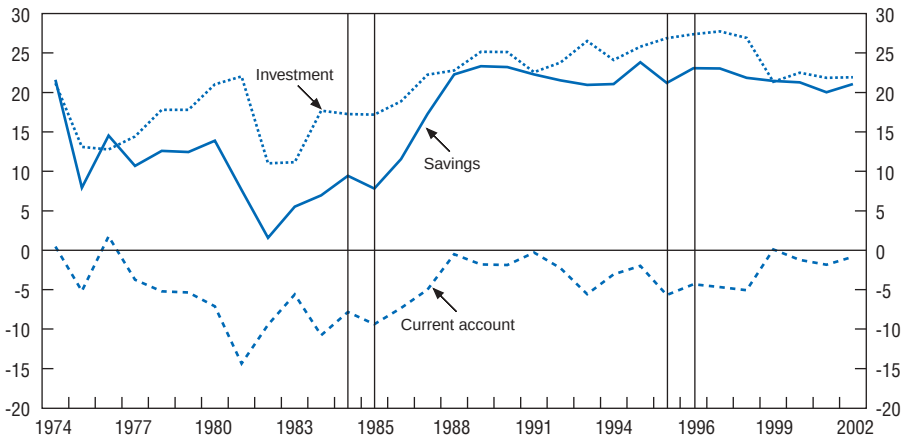
This coordination between fiscal and monetary policies is behind the countercyclical mix of macroeconomic polices in recent years in Chile. It has a sound institutional base today, in the fully-fledged inflation-targeting framework implemented by the Central Bank and the structural surplus rule for fiscal policy. This is perhaps the most important asset for the government for its further conduct of economic policy. In this sense, fiscal and monetary institutions not only shape the way macropolicy is conducted today but, more importantly, they have become the cornerstone of future policy making and a crucial reference for international markets.

III. Deepening financial intermediation and integration

A structural need of external financing

Well regulated and dynamic financial markets are a necessary component of a long term strategy for growth. Chile's progress in this area is remarkable, but further policy actions are required to deepen capital markets and attract new forms of foreign investments. After a sharp increase during the 1980s, national savings have remained stable at around 20 per cent of GDP (Figure 17). This implies that a significant part of new investment has to be financed through foreign savings.

Figure 17. **Savings-investment balance in Chile**
In per cent of GDP



Note: The vertical lines correspond to changes in the system of National Accounts.
Source: Central Bank of Chile and OECD.

In this context, Chile adopted during the last decade a specific approach to favour long-term investment, while restricting short-term inflows. Such an approach may have facilitated macroeconomic management during periods of large and volatile capital flows. With the consolidation of the macroeconomic framework and a flexible exchange rate regime, the rationale for maintaining capital account restrictions is less obvious.[21] The government is presently focusing on the development of financial instruments and market liquidity. Under the "Pro-growth Agenda", a new legislation is focusing on the development of capital markets, and in particular risk capital. This move is supported by the sizeable private pension market (nearly 60 per cent of GDP) that has become the dominant source of long-term domestic financing.

Building on a sound institutional background

Capital account and domestic financial market liberalisation during the 1970s led to the acceleration of external debt accumulation, while sound prudential regulations and strong supervision authority were not yet in place. Following the Mexican debt crisis of 1982, a large reversal of the capital flows to the region led to a collapse of Chilean banks in 1983. The Central Bank intervened to support several private banks.[22] During the crisis, external debt payments were suspended for 90 days. The constraint on external borrowings remained very strong until 1985.

Measures to address the banking crisis in the early 1980s contributed to the consolidation of effective working financial markets and an increased awareness of the need to reduce the exposure to external shocks. In the aftermath of the crisis, the government renewed its strict fiscal discipline and adopted two major institutional reforms. The first was the autonomy of the Central Bank, a process that was fully completed in 1989. The second was a substantial reform of the General Banking Act in 1986-87, leading to a better regulatory framework (see Box 7).

After 1997, some revisions have been introduced in the General Banking Act.[23] In retrospect, the reforms of the 1980s and 1990s have been successful in creating the conditions for a sound and dynamic financial sector. The efficiency of the sector has increased[24] and the Chilean banks display a comparatively sound position with the average capital adequacy ratio around 13 per cent and non-performing loans below 2 per cent for the period 1988-2002 (see Table 4).

Relatively good protection of creditor rights

An important institutional feature that has enabled Chile to consolidate and develop its financial markets is the protection of creditor rights, in particular in the area of bankruptcy procedures. While lack of effective legislation in this area hinders financial intermediation and boosts the cost of credit in other countries in the region,[25] in Chile, the bankruptcy law provides for a compromise between strong creditor rights and debtor protection. It builds on both the French legal tradition and the Anglo-Saxon approach to private business.

Box 7. Banking reforms and supervision

The Banking Law

The 1986 changes in the General Banking Act (GBA) included an increase of banks' reserve requirements, with an obligation for current account and sight deposits exceeding 2.5 times the bank's capital to be made in cash or in liquid Central Bank assets. A maximum 20 to 1 debt to capital ratio was imposed on banks. An explicit guarantee on individual deposits was introduced covering 100 per cent of short-term deposits and up to 90 per cent of long-term deposits with a limit of 120 UF. In addition, the Central Bank's power to establish deposit requirements was limited to 40 per cent for short-term obligations and up to 20 per cent for long-term deposits and other liabilities. The new GBA regulated more strictly the acquisition of new businesses by banks and financial institutions (notably those unrelated to the financial sector). Higher bank accountability and information requirements were also introduced, with the mandate for the Superintendency of Banks and Financial Institutions (SBIF) to publish three times a year all information about the status of financial institutions.

In 1997, some of these restrictions were lifted, allowing for progressive liberalisation. The previous restrictions on new businesses were eliminated to promote efficiency through scope and scale economies, opening of new banks, access to factoring, securitisation and insurance brokerage, with the exception of social security. The debt-to-capital ratio was brought down to 8 per cent for particular assets such as loans, mortgage obligations, etc., in accordance with the capital requirement standards set by the Basle Agreement. Finally, the procedures for acquiring banking licenses were also made more transparent and objective (Article 28), a major step towards increasing efficiency through competition and reduced risks of corruption. Since 1997, the SBIF also established an explicit rating of management and solvency, through checks on banking assets, liabilities and solvency.

The banking supervision

The SBIF carries out off-site and *in situ* evaluations. The SBIF must publish all relevant data on all financial institutions on a monthly basis and the complete balance sheet of each institution at the end of each year. Three main preventive regulations are set by law and are required by the SBIF: asset quality control, liquidity control, and solvency control. Asset quality control consists in supervising the correct risk classification of assets according to general criteria provided by the SBIF. The second control relates to minimum liquidity requirements and focuses on the ratio of reserves to deposits plus capital, and on reserve requirement. The solvency control addresses solvency risks and checks requirements of minimum capital to operate banks. If an institution fails to pass any of these tests, the SBIF can take preventive actions, such as capitalisation (increase in paid capital or capitalisation through the financial system), forced agreements between bank and debtors and forced liquidation. More recently, the agency has moved to supervise and increase market discipline. For example, an enterprise aiming to acquire more than 10 per cent of the capital of a bank has to prove that it has the available resources in terms of net worth. The Agency also demands the accountability of bank managers and directors, as they have to agree on loan provisions.

Table 4. **Selected indicators of the Chilean banking sector (December 1998-December 2002)**

	1998	1999	2000	2001	2002
Capital/risk weighted assets	12.48	13.53	13.34	12.73	14.01
Loan loss provision/total loans	1.91	2.55	2.52	2.37	2.34
Non performing loans/total loans	1.45	1.67	1.73	1.62	1.82
After tax income/adjusted assets	0.90	0.73	1.00	1.32	1.13

Source: Superintendency of Banks and Financial Institutions (*www.sbif.cl*).

According to a study by La Porta *et al.* (1998), in a world-wide comparison Chile's legal framework provides strong shareholder and creditor protection along with well-defined property rights and enforceability of contracts (see Box 8). Nevertheless, there is room for improvement. The bankruptcy proceedings are still lengthy (up to three years) and marred by bureaucratic procedures. The second capital market reform (see below) focuses precisely on improving completion times, alleviating legal costs and providing a better definition of priorities among creditors.

Box 8. Bankruptcy legislation in Chile

The Chilean Bankruptcy law was revised in 1982 following the major banking crisis and a failed experiment with a regime more favourable to debtors. The current legislation provides strong creditor protection with safeguard mechanisms for debtors. Creditors' rights benefit from provisions that facilitate claims on troubled companies. Bankruptcy proceedings are easy to initiate, and in many cases need just one single overdue commercial obligation. Once on track, the process is predictable and creditors get strong protection for their claims.

Safeguard mechanisms for debtors are explicit, though weaker than creditor rights. Liquidation is neither immediate nor inevitable. Bankruptcy proceedings provide for restructuring rather than liquidation that may be agreed upon by debtors and creditors, assuring continuity of the firm and a possible rehabilitation. The ability of a minority of creditors to veto a restructuring or liquidation is limited. A qualified majority of creditors can force decisions upon minority interests only under the debtor protection mechanisms.

The banking sector has been consolidating and increasing financial intermediation

As a result of the reforms described above, the banking sector in Chile has developed a level of intermediation that nearly doubles those of neighbouring countries, though it remains well below the OECD levels. Chile's domestic credit provided by the banking sector, and to the private sector, also shows a clear positive trend in the second half of the 1990s (Table 5).

Following the 1982-84 crisis, several banks were rescued or liquidated and those which continued in operation contracted large debts with the Chilean government through the Central Bank (by means of a special, "Subordinated Debt" Law). Towards the end of the 1980s, confidence in the financial system was gradually restored. The changes in the number and assets of financial institutions were mainly due to private bank mergers and acquisitions. Interestingly, the state bank (*Banco del Estado*) has maintained a relevant position in the market, competing side by side with private institutions. *Banco del Estado* is also a source of risk capital and a provider of credit to businesses in less favoured regions. With bank mergers and the transformation of the last independent financial company (*financiera*) into a small bank specialised in consumer loans, the total number of banks and financial companies fell from 40 in 1990 to 26 in 2002 (see Table 6).

Two major bank mergers in 2002 (*Banco de Chile* with *Banco Edwards*; *Banco Santiago* with *Banco Santander*) have raised some concerns about possible anti-competitive practices (see Chapter VI) and systemic risk. The former has been

Table 5. **Financial intermediation in Chile and selected countries**
Percentage of GDP

	Domestic credit						Domestic credit to private sector					
	1997	1998	1999	2000	2001	2002	1997	1998	1999	2000	2001	2002
Monetary survey												
Chile	**58.2**	**61.8**	**66.1**	**69.2**	**73.0**	**71.5**	**55.1**	**57.2**	**61.4**	**62.8**	**65.5**	**63.8**
Argentina	30.0	31.9	34.7	33.7	36.6	62.3	21.6	23.6	24.1	23.2	20.2	15.1
Brazil	43.4	55.6	51.2	45.5	54.8	60.4	29.2	32.5	31.0	28.7	28.8	29.2
Mexico	30.2	26.6	23.0	19.4	18.7	21.0	17.7	17.4	14.5	11.4	9.6	10.4
Poland	34.1	35.1	37.6	34.1	36.3	36.0	22.7	24.5	27.6	27.8	28.4	28.8
Korea	69.4	79.0	85.4	91.9	99.0	108.2	68.2	75.0	82.2	89.8	96.6	106.9
Spain	104.3	107.8	114.7	119.1	125.0	129.6	79.8	87.0	91.9	101.1	105.6	111.1
Banking survey												
Chile	**60.2**	**63.8**	**67.0**	**69.8**	**73.4**	**71.7**	**57.3**	**59.2**	**62.3**	**63.5**	**65.9**	**64.1**
Argentina	30.4	32.5	35.5	34.5	37.2	62.8	21.9	24.2	24.9	23.9	20.8	15.3
Brazil	45.9	58.2	54.0	49.5	58.4	64.8	33.1	36.1	35.9	34.7	34.2	35.4
Mexico	39.9	35.2	30.2	26.7	24.5	26.6	20.1	19.4	16.3	13.0	11.4	12.6

Source: *International Financial Statistics*, IMF.

Table 6. **Structure of the banking sector in Chile**

	Number		Assets (in %)	Deposits (in %)
	End-1990	End-2002	End-2002	End-2002
Private banks	14	15	76	75
of which:				
Domestically-owned		9	40	40
Foreign owned		6	36	34
State bank (*Banco de Estado*)	1	1	15	16
Foreign banks' branches	21	9	9	9
Financial companies	4	1	0	1
Total	**40**	**26**	**100**	**100**

Source: Superintendency of Banks and Financial Institutions (*www.sbif.cl*).

addressed at least in part by easing the requirements for opening new banks; in addition, reforms introduced in the 1997 banking law aim at ensuring competition and reducing official discretion over licensing new banks. Nevertheless, the authorities are reconsidering again the use of discretionary power in this area in the light of recent scandals in the financial sector. Notably, a "moral fitness" judgement could be applied. Regarding systemic risk in the banking sector, the authorities are studying reforms to the safety net structure and will introduce a new real time gross settlement system in 2004. Newly merged banks have also advantages in diversifying risk portfolios, and the banking sector in general continues upgrading its risk management strategies and practices.

Table 7 provides a comparison of interest rate spreads (between average lending rates and average deposit rates) for a selected group of countries. Spreads, which are a proxy for efficiency, are remarkably stable and low in Chile even compared with OECD countries, and particularly low compared to Brazil.

Why banks do not provide long-term credits to SMEs?

Sound institutional framework and macroeconomic fundamentals are reflected on low domestic interest rates, but financial intermediation has yet to improve. A major area where progress is needed is financing to SMEs. Large Chilean companies can easily tap domestic and international markets, but long-term financing for small and medium size enterprises (SMEs) is difficult to obtain.

This problem is not specific to the Chilean economy. Even in developed countries, lending to SMEs is risky and requires intensive information.[26] Transaction costs relative to the loan principal are likely to be higher in the case of SMEs. Risks are also generally higher because of the lack of management expertise or the difficulty to evaluate it (information asymmetries) and a high rate of failure.

Table 7. **Interest rates spreads in selected countries (1990-2002)**

	1990	1995	1998	2000	2001	2002
	Ratios (lending rate/deposit rate)					
Chile	**1.3**	**1.3**	**1.3**	**1.5**	**1.6**	**1.9**
Argentina	. .	1.2	1.3	1.4	1.3	1.7
Brazil	. .	. .	3.2	3.1	3.3	3.2
Mexico	. .	1.5	1.7	2.7	2.9	2.9
Korea	1.1	1.0	1.1	1.2	1.1	1.3
Australia	1.3	1.9	1.8	2.1	2.1	2.5
Canada	1.1	1.2	1.4	1.3	1.3	1.5
Spain	1.7	1.3	1.5	2.1	1.8	1.7
Italy	2.1	1.8	2.0	3.5	3.4	3.3
France	2.2	1.8	1.8	2.4	2.5	2.3
Germany	1.8	2.6	3.4	3.6	2.8	2.8
United Kingdom	1.2	1.5	1.8	. .	. .	. .
	Lending rate minus deposit rate					
Chile	**8.2**	**5.2**	**3.7**	**4.1**	**5.6**	**5.7**
Argentina	. .	2.0	2.3	3.0	2.8	11.6
Brazil	. .	. .	53.8	54.4	39.6	39.8
Mexico	. .	7.1	9.9	16.3	12.0	9.1
Korea	1.3	0.0	1.1	1.5	0.6	1.9
Australia	4.3	4.5	4.2	4.0	4.7	4.9
Canada	1.2	1.3	1.4	1.5	1.6	2.0
Spain	6.3	2.3	2.1	2.1	2.2	2.1
Italy	7.3	5.0	4.9	4.0	4.4	4.6
France	5.5	3.4	2.8	3.7	4.1	4.0
Germany	4.4	7.0	6.4	6.4	6.2	6.5
United Kingdom	2.4	1.8	3.0	. .	. .	. .

Source: *International Financial Statistics*, IMF.

SMEs also tend to have relatively few tangible assets that can be used as collateral. Therefore, risk *premia* typically tend to be much higher and credit decisions more difficult than for large firms.

In addition, the banking sector maximises efficiency by achieving large economies of scale and scope, with a growing delocalisation and centralisation of lending decisions.[27] Competition with foreign banks and more intensive use of new information technologies support this trend. On the other hand, information on the most profitable business operations is not collected at the local level. In some sense, technological advantages may work against getting the best of the existing social capital. To address these informational asymmetries, many OECD countries have promoted the development of specialised banks. In Chile, some banks target SMEs (*e.g.* B*anco de Desarrollo*),[28] but their credit pass-through is typically much lower than for bigger enterprises.

A bank can spread risks over a large number of lending operations. This condition is fulfilled for consumer credit, for which credit scoring methods are well developed and risks can be statistically minimised. However, this approach does not favour SME lending, when enterprise density is low and therefore bank credits remain rare and expensive. This vicious circle is difficult to break. In Chile, consumer credits are typically easier and cheaper than enterprise credits. For example, in 2003 consumer credits between 200 and 500 UF with a maturity above 90 days could be obtained at around 14 per cent whereas the credit lines for enterprises under the same conditions were close to 19 per cent. Based on OECD field interviews, small entrepreneurs typically overcome the commercial credit constraint by using consumer credits.

Shortage of credit to SMEs not only restrains investment, but also hinders SME's current operations through the financing of working capital. This segment of the credit market is particularly critical for small enterprises during economic downturns, as suppliers require shorter payment delays while clients ask for longer ones. A severe squeeze on the working capital of small businesses may worsen the business cycle.

The ceiling on interest rates for bank lending may hinder the development of credit to SMEs. In Chile, lending rates above 50 per cent of the average lending rates in the market are not allowed and this limit is reviewed every month.[29] A similar regulation exists in other countries, including OECD, and is related to the so-called "usury" interest, a rate in excess of a common standard of what is acceptable in a community.[30] While this limit rests on ethical or other reasons, its economic rationale is not obvious. Moreover, it reduces access to credit for small entrepreneurs. When certain business projects have a high risk, it is normal in such a context that lending operations also entail a high premium. In Chile, the concentration of bank credits at rates near the imposed ceiling suggests the latter could be a binding constraint. Noticeably, the usury rate has been recently abolished in France, a welcomed initiative by the representatives of SMEs.[31] Nonetheless, even lifting these restrictions would not overcome the asymmetric information problem associated with risky lending.

Another constraint on lending to SMEs is the regulation of banks limiting the maturity mismatch between assets and liabilities. This is a regulatory trade-off between financial efficiency and stability. For the all above-mentioned reasons, it is likely that banking credit to SMEs will remain limited. Developing business relations and risk capital seems therefore the most promising avenue for solving the credit constraint faced by the small and medium enterprises.

The effort to promote long-term lending: CORFO *vs. developing risk capital*

Authorities have historically directed their efforts for long-term and risk financing through the CORFO. The government has also two other credit schemes:

Box 9. The role of CORFO in providing long-term and risk capital

CORFO is a state-owned corporation, created in 1939 to promote domestic productive activities. Until the early seventies, CORFO developed activities in sectors that were beyond the interest and financial capability of private business. This was the case of hydroelectric plants, steel and oil factories. CORFO also developed major telecommunication projects, creating phone companies and broadcast networks. After 1973, and during the military government's privatisation drive, CORFO's focus radically changed from direct ownership of state enterprises to promotion of private productive capacities. Nowadays, CORFO finances research and development of new technologies, promotes entrepreneurial activities – especially in medium and small business – and contributes to regional development.

CORFO is organised into several specialised branches and funds. After 1990, CORFO was able to reduce its own liabilities and financial losses by redirecting its efforts to localised actions. Considering that the country's wealth is based to a too large extent on primary products and commodities, CORFO's specialised branches are trying to promote renewable natural resources, moving away from mineral exploitation and fossil fuel extraction. Two (out of five) of CORFO's special branches deal specifically with forest and sea products; two focus on new technology; and only one is a natural resources information centre.

a credit guarantee for small enterprises (FOGAPE), administrated by the State Bank (*Banco del Estado*); and a special programme for microenterprise credit (IFIS), administrated by the Technical Co-operation Service (SERCOTEC) of the Ministry of Economy. In practical terms, CORFO is the main source of long-term financing for SMEs through the allocation of credit lines to commercial banks (Box 9). The first attempt to develop risk capital through the creation of CORFO's Enterprise Development Investment Funds in 1989 was not very successful.

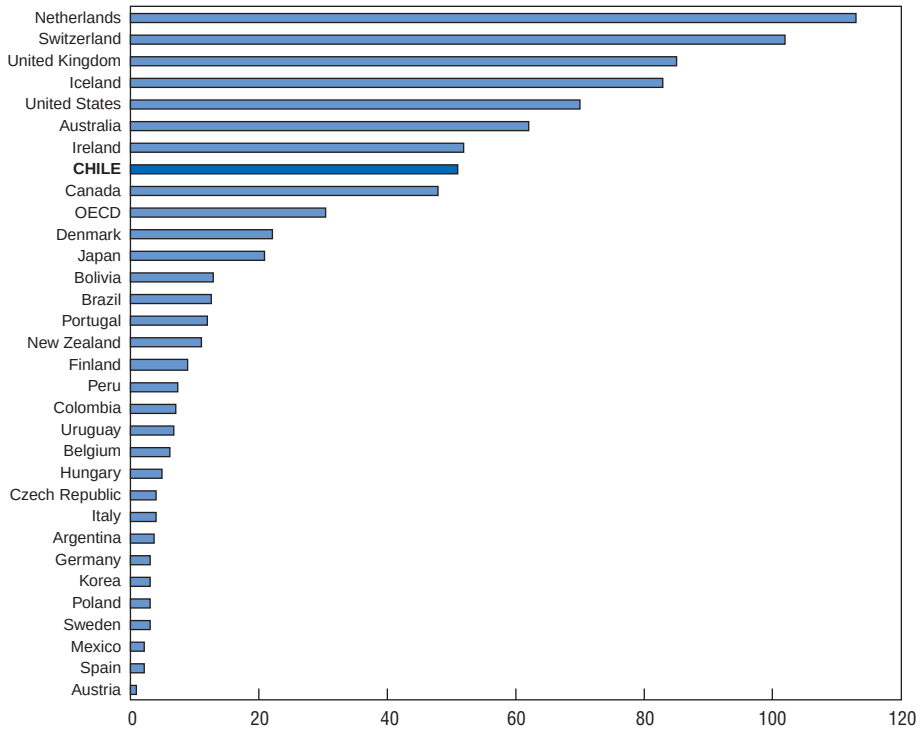
Given the dominance of pension funds in the capital market, the authorities tried in 1999-2000 to promote the creation of risk capital by eliminating some restrictions to pension fund management. However, this form of financing has developed very slowly. On the supply side, pension fund managers remain extremely cautious and conservative in their investment decisions, due to legal minimum yield restrictions that effectively prevent out-of-herd behaviour. The difficulty in assessing enterprise performance (information asymmetry) explains why the demand for this kind of investment remains insignificant. In addition, bureaucratic red tape in some government institutions (see Chapter VI, for indicators of Product Market Restrictions), and the unfavourable capital gains tax do not help. A lack of qualified and experienced professionals in risk capital management is also a negative factor.

The pension funds as a key pillar for the development of financial markets

The pension reform has led to a rapid accumulation of capital. The pension funds (AFPs) have become the largest players in the financial market, with assets reaching 56 per cent of GDP by end-2002. They hold significant shares of Chile's equity, bank deposits and public debt and have spurred the development of financial instruments and services in the capital and insurance markets. Compared to both OECD and Latin American countries, Chile ranks high on the scale of pension funds assets as a percentage of GDP (Figure 18).

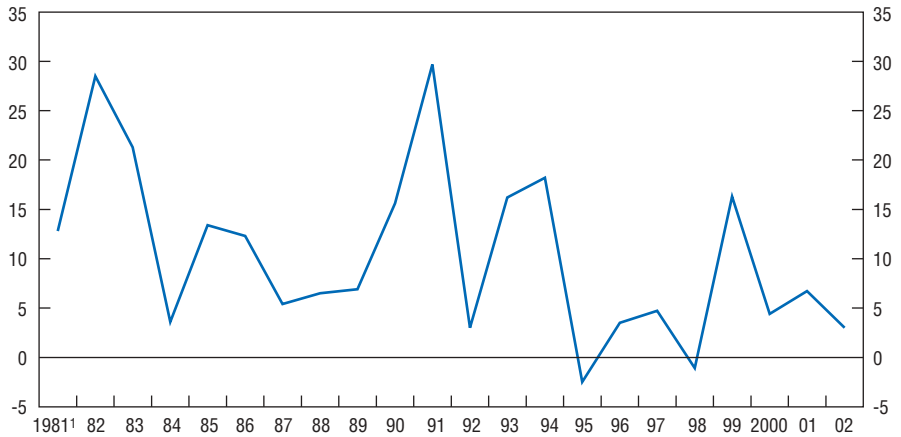
From 1981 to 2002, the pension funds have also displayed high profitability, with an average net real return of around 10 per cent. This good performance is partially due to the high rates of interest paid by the Chilean government and its nationalised banks during the financial crisis of the 1980s. But high returns also were

Figure 18. **Pension fund assets**
In per cent of GDP, 1990-2001



Source: OECD and International Association of Supervisors of Pension Funds (AIOS).

Figure 19. **Real annual average returns of the Chilean pension funds**
Per cent



1. July to December 1981.
Source: Superintendency of Pension Funds Administrators (*www.safp.cl*).

earned in the early 1990s, when the stock market capitalisation doubled due to massive foreign investments (Figure 19). Nonetheless, a closer look shows that pension funds' returns have been volatile due the relative small size of the financial market compared to their assets, ranging from 30 per cent in 1991 to –2.5 in 1995.

The pension reform also had a positive impact on the insurance market, because disability, survivors' benefits and annuities are paid by insurance companies. These have developed high standard financial services related to asset valuation, risk-rating and depositary services contributing also to the well-functioning of the banking and securities sectors. Pension funds and insurance companies have stimulated the development of mortgage lending and the development of the real estate market through the supply of long-term funds. Finally, the accumulation of funds has consolidated the government debt structure. In Chile, pension funds hold 70 per cent of the total public debt. This has helped to reduce the exposure to international capital and to increase, over time, the maturity of the government bonds.

Empirical evidence does not provide a clear-cut answer about the impact of private pension funds on the increase in aggregate savings during the 1980s, noted above. Some research corroborates the view that the creation of a private pension system underlies the rapid increase of private savings.[32] Others note that the direct impact is probably very small or negative, given that the increase in

private savings went along with the decrease in public savings over the time of transition from a public pension system to private pension funds.[33] Nonetheless, one can argue that a positive indirect impact were increased fiscal discipline, increased liquidity in capital markets, development of a long-term capital market, a better maturity profile of the public debt and increased efficiency in labour markets.

Deepening domestic capital markets

By the end of the 1990s, the local equity and bond markets supported by institutional investors, – namely pension funds, mutual and investment funds as well as life-insurance companies – had surpassed the credit market in scale. The main concern remains the liquidity and efficiency of the system. As noted earlier, the Chilean domestic financial market is not deep enough and in several aspects ranks well below world average. For example, international funds available to the Chilean economy through syndicated loans and the issuance of bonds and equities are concentrated in a small number of very large and highly rated companies. The low turnover of equity markets as well as fixed-income paper (except for central bank's bonds) reflects the structure of corporate ownership as well as the concentration of institutional investors (resulting from a process of consolidation of pension and insurance industries). Foreign direct investment also remains concentrated in a few sectors and companies. There is scope for deepening the Chilean domestic financial market. To this end, during the last few years several legal improvements have been introduced. In 2000, a new law regulating leverage-buy-out operations (L*ey de* OPAS) addressed the issue of minority shareholder protection in corporations. In 2001, the authorities passed a first package of capital reform measures (see Box 10).

Recently some efforts were made to increase the flexibility of pension funds' investment. In addition to the creation of the multi-fund pension system on the Capital Market reform in 2001, which provides more flexibility for investment (Box 10), pension funds have progressively been allowed to invest an increasingly larger share of the assets abroad with fewer restrictions. For instance, in November 2002, funds were allowed to invest up to 20 per cent of their assets in Chilean corporate paper issued abroad. Similarly, in March 2003, the ceiling on foreign investment was raised to 25 per cent of total assets.

Further measures to deepen financial markets are currently being considered in a second wave of capital market reforms (mark-II) scheduled for 2003-04. These include the creation of incentives to develop a venture capital industry. A guarantee for venture capital funds will be created resulting from an agreement between CORFO and the Inter-American Development Bank (FOMIN funds). Together they will guarantee up to ⅔ of the capital of the new investment funds. There are also tax incentives, including exemptions on capital gains and the

Box 10. Main elements of the capital market reform in 2001

In 2001, the first phase (mark-I) of the capital market reform was implemented. It comprised several tax and regulatory measures:

Tax measures

- Tax benefits on voluntary savings made by dependent and independent workers to promote a third pension pillar.
- Tax exemption for short sale of highly traded stocks and bonds.
- Capital gains tax exemption for stocks highly traded or listed on the stock exchange. This exemption extends to the selling or re-purchasing of instalments from mutual and investment funds whose portfolios are on average constituted by at least 90 per cent of highly traded equity.
- Capital gains tax exemption for traded stocks of emerging companies (until 2006).
- Elimination of the 4 per cent tax on interests applied to bank intermediation of credits abroad.
- Reduction from 35 to 4 per cent of the withholding tax on interests for fixed income instruments, denominated in local currency acquired by foreign institutional investors.
- Possibilities for companies to register commercial paper or bonds so that the maximum stamp duty will be equivalent to 1.2 per cent of the registered amount, for the duration of 10 years.

Regulatory measures

- Deregulation of the insurance industry through the creation of a policy deposit, the incorporation of modern mechanisms of portfolio risk measurement, and increased board responsibilities. At the same time, in investment matters the insurance law is made more flexible, with the aim of providing insurance companies the tools needed to operate with the speed and freedom required in modern capital markets.
- Deregulation of Mutual Funds through the relaxation of constraints that impeded the design of efficient investment portfolios, as well as accountability requirements for the dissemination of information to the fund participants and administrators' accountability.
- Amendments to the General Banking law to increase competition inside the industry through changes in the effective net worth, the limits on indebtedness and requirements for shareholders.
- Creation of the statute of General Fund Administrators, which will allow different types of funds to be administered under the same administration society, allowing better allocation of resources for the administration of funds by sharing and optimising resources used within the administered funds and improving the quality of the decision making and investment process.

Box 10. **Main elements of the capital market reform in 2001** (*cont.*)

- Creation of the statute of Qualified Investor which will allow the existence of special markets where the information requisites are lower. The Superintendence of Securities and Insurance (SVS) defines qualified investor as institutional investors, securities intermediaries acting on their own or by administration of third party portfolios, natural or legal entities, Chilean or foreign, that declare and ensure having financial investments not lower than the equivalent in local currency of UF 2 000 (USD 48 000 as of July 2003) and legal entities or institutions in which all of their partners, shareholders, participants or members, have the characteristics mentioned above.
- Creation of a system of multi-funds pension that allows offering fund investment portfolios to their affiliates differentiated by the percentage of variable income of each one.
- Elimination of a special accountancy rule (the so-called *Activo Contable Depurado*), which results in a more fluid management of the investment portfolio of AFPs and a consequent increase in the efficiency of their administration.
- Creation of a Commodity Exchange for Agricultural Products making possible the issuance and transaction of titles backed by stocked products, reducing the financial cost of maintaining these stocks. In particular, the proposal contemplates the deferral of VAT on the transaction of titles representative of physical products until these titles leave the exchange.

distribution of profits to shareholders at early stages of investment projects. Transactions costs will also be reduced by creating a new type of corporation of limited liability adapted to the needs of venture capital. In parallel, CORFO has introduced subsidies for seed-capital to small firms and enterprise incubators in the regions. Training programmes for fund managers will also be set up. A new register of pledges and guarantees will facilitate access to credit by SMEs.

Weaknesses of the regulation of financial markets will also be addressed, in part motivated by the recent scandal involving CORFO and an investment fund (Inverlink).[34] In particular, supervision and control mechanisms and co-ordination among the three regulatory agencies dealing with financial markets will be strengthened (see Chapter VI). Entry to financial markets will be subject to solvency compliance and competence criteria and powers of the regulators in this area will be increased. Regulatory agencies will also have enhanced power to deal with crisis situations by sharing information and coordinating actions.

Finally, the new reforms will include mechanisms to stimulate voluntary savings. Following the US 401(k) scheme, enterprise-level saving plans will be introduced, to which the employers' contribution will be tax-exempted. Other measures aim to increase the diversification of the investor base in the bonds and security markets through additional incentives to foreign investor and smaller company participation, and to develop the derivative markets for more efficient risk hedging.

Favouring long-term capital inflows: the Chilean approach

The creation of reliable financial instruments, low country risk and openness helped to attract long-term financing and create confidence in the Chilean market. In the late 1980s and early 1990s, slow world economic growth, low international interests rates and a recovery of confidence in Latin America attracted capital inflows back to the region. Chile benefited from an early start in structural reforms and the return to democracy. Larraín, Labán and Chumacero (2000) have argued that domestic factors (pull-factors) also played an important role in attracting capital inflows over that period. Purchases of domestic bonds and equities by international investors developed rapidly in the mid-1990s. Long-term inflows (like FDI) reacted mainly to fundamentals such as the investment rate and the debt-to-output ratio. As to short-term capital inflows, it is necessary to distinguish between those subject to selective controls from others. Short-term capital inflows subject to taxation reacted more strongly to arbitrage conditions (interest rate differentials) in low-growth scenarios, while those exempted reacted mainly to the output gap.[35]

Trying to stop excessive short-term speculative capital inflows that may cause serious imbalances in exchange rate markets and hinder stabilisation efforts, monetary authorities introduced selective capital controls in the early 1990s. The main instrument used was the *encaje*, an unremunerated reserve requirement for short-term credits. The objective was to deter short-term speculative capital, while favouring long-term flows. It should be noted that the effectiveness of the *encaje* is still much debated. Some studies claim that selective capital controls did not help deter short-term capital inflows, and did not affect significantly the capital inflow composition.[36] The unremunerated reserve requirement also had important microeconomic effects on the costs and ways of financing of firms with different sizes and access to international capital markets (Gallego and Hernandez, 2003).

Therefore, even if selective capital control may have been an effective way to deter short-term capital inflows, it has certainly proven to be costly for firms and created uncertainty among the international investment community, because of its status as a non-legislated tax. Given the reduced inflationary risks and the drought in capital inflows in the last few years (2000-02), the *encaje* is now set at zero or *de facto* eliminated.[37] Though it is too early to assess the effect of this timely decision, in principle, this should contribute to reinforce investors' confidence.

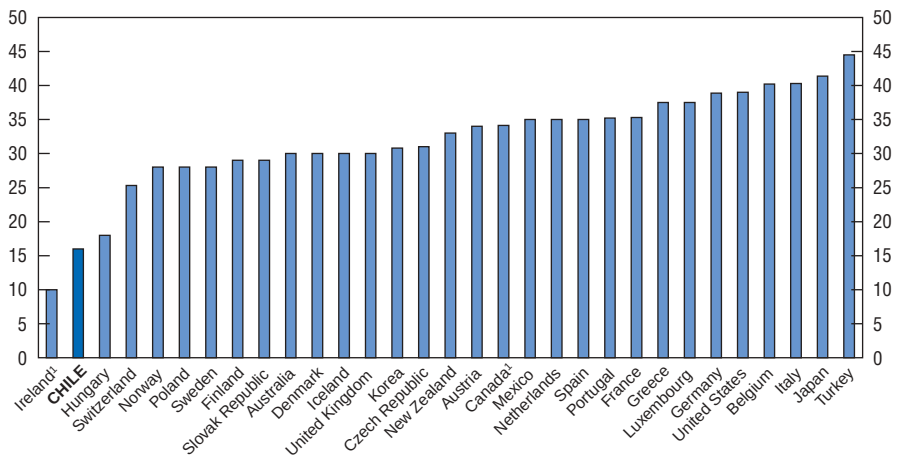
Tax incidence on investment: an international comparison

The level of the corporate tax in Chile ranks low compared with OECD countries (Figure 20), the only notable exception being Ireland (although this favourable rate only applies to manufacturing). In contrast, the general withholding tax level of 35 per cent does not appear particularly low (Table 8).[38] There are, however, possibilities to obtain a favourable tax regime through institutional investors or foreign banks. This discrimination may not favour the development of inter-enterprise loans between Chilean and foreign firms, especially in the case of small and medium-sized companies. By 2003, Chile has, or is currently negotiating, a series of bilateral tax treaties with other Latin American and OECD countries (*e.g.* Mexico, Canada, Spain, UK, Ireland and New Zealand). These agreements are important to favour the development of cross financial relations, especially in the perspective of Chile evolving as a financial platform.

FDI *restrictiveness: a comparison with the* OECD *benchmark*

The Secretariat has produced an estimate of Chile's openness to foreign direct investment (FDI) by classifying and quantifying barriers to inward FDI (see Annex III).[39] The results are worth noting in comparison to OECD countries. Chile has very few restrictions on inward FDI, the major exception being the transport sector. In fact, Chile's overall measure of restrictiveness is lower than that of all but

Figure 20. **Corporate tax rate, an international comparison**



1. Rates for Canada and Ireland are those for the manufacturing sector.
Source: Ministry of Finance, OECD.

Table 8. **Withholding taxes on cross-border payments, 2001**

Per cent

Withholding taxes on cross-border payments of dividend by source country			Withholding taxes on cross-border payments of interest by source country		
From/to	Max.	Min.	From/to	Max	Min.
Switzerland	35.0	0.0	Greece	37.5	0.0
Chile	**35.0**	**19.0**[1]	Switzerland	35.0	0.0
Australia	30.0	15.0	**Chile**[2]	**35.0**	**4.0**
New Zealand	30.0	15.0	United States	30.0	0.0
United States	30.0	5.0	Slovak Republic	25.0	0.0
Italy	27.0	0.0	Canada	25.0	10.0
Austria	25.0	0.0	Czech Republic	25.0	0.0
Canada	25.0	5.0	Korea	25.0	0.0
Czech Republic	25.0	0.0	Ireland	22.0	0.0
Korea	25.0	0.0	Poland	20.0	0.0
Luxembourg	25.0	0.0	Portugal	20.0	10.0
Portugal	25.0	0.0	Hungary	18.0	0.0
Spain	25.0	0.0	Spain	18.0	0.0
Ireland	22.0	0.0	United Kingdom	15.0	0.0
Hungary	20.0	5.0	Belgium	15.0	10.0
Iceland	20.0	0.0	Finland	15.0	0.0
Japan	20.0	0.0	Germany	15.0	0.0
Norway	20.0	0.0	Sweden	15.0	0.0
Turkey	16.5	5.0	Japan	15.0	10.0
Belgium	15.0	0.0	New Zealand	15.0	10.0
Finland	15.0	0.0	Turkey	13.2	10.0
France	15.0	0.0	Italy	12.5	0.0
Germany	15.0	0.0	Mexico	10.0	4.9
Netherlands	15.0	0.0	Australia	10.0	10.0
Poland	15.0	0.0	Denmark	0.0	0.0
Slovak Republic	15.0	0.0	France	0.0	0.0
Sweden	15.0	0.0	Netherlands	0.0	0.0
Denmark	0.0	0.0	Iceland	0.0	0.0
Greece	0.0	0.0	Norway	0.0	0.0
Mexico	0.0	0.0	Austria	0.0	0.0
United Kingdom[3]	0.0	–0.3	Luxembourg	0.0	0.0

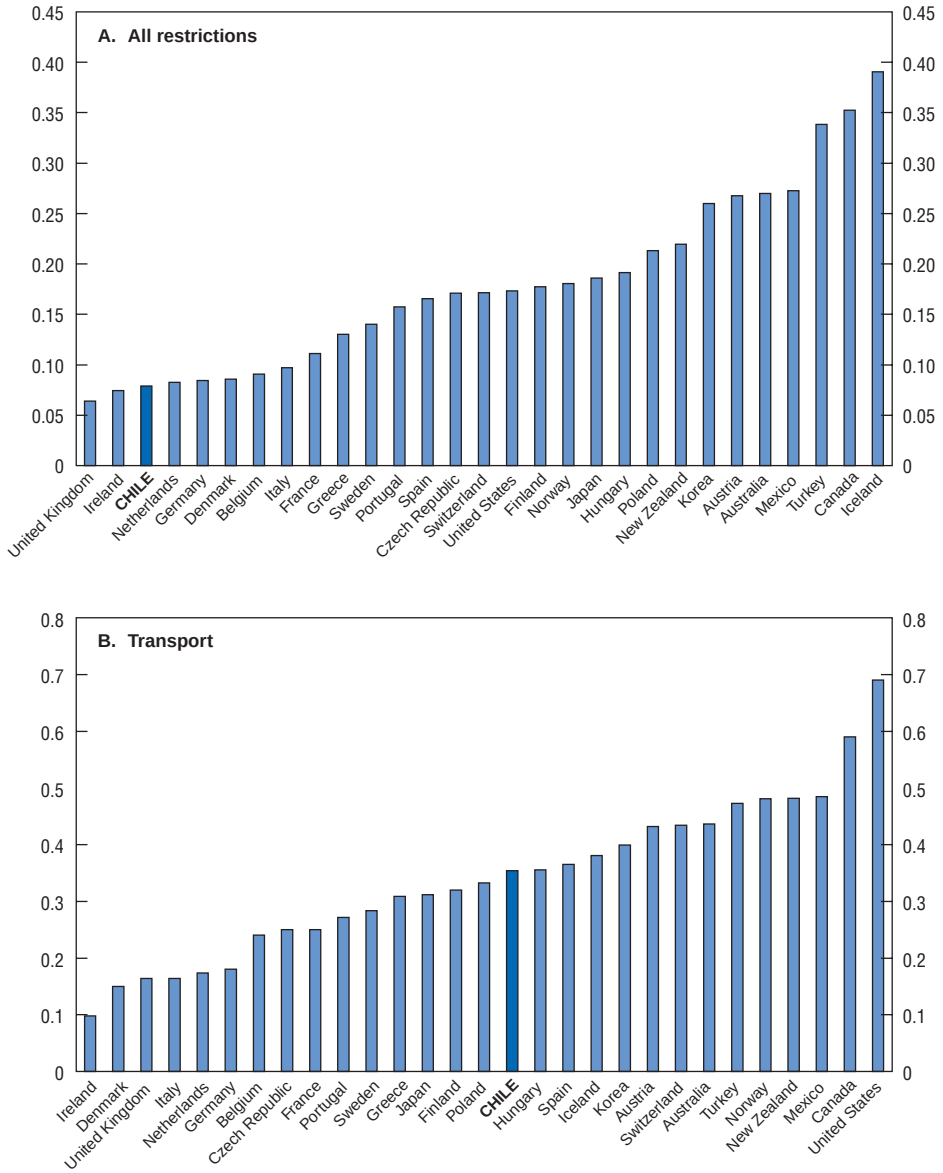
1. The rate is 35 per cent less a 16 per cent credit for the corporate tax paid.
2. For Canada and Mexico: 15 per cent. The rate is 4 per cent for interest paid to foreign banks if the loan is approved by the Central Bank of Chile and reported to the International Revenue Service (IRS).
3. The UK does not levy withholding tax on the payment of dividends at home or abroad. The non-resident parent company, however, is entitled to repayment of a proportion of tax credit under the tax treaty.

Source: For Chile: Ernst and Young (except Canada and Mexico, source = Chile), and OECD.

one OECD country, the United Kingdom. Chile's score is 0.08, barely higher than the United Kingdom (at 0.06) and equal to Ireland. The US score is 0.17 and the OECD average is 0.18 (Figure 21).

In the transport sector Chile has moderate restrictions in air, maritime and road transport. Chile's scores in these sub-sectors are respectively 0.12, 0.51, and 0.32, and a weighted average score in the overall transport sector of 0.35,

Figure 21. **A comparison of FDI restrictiveness: Chile and OECD countries**



Source: OECD.

almost equal to the OECD average (Figure 21). Chile's restrictions in this sector consist of equity and some operational restrictions. Noteworthy, the transport industry, for its strategic and politically-sensitive nature, is one of the most heavily restricted sectors in OECD countries. It is worth noting that Chile has no restrictions in other sensitive sectors such as finance, telecoms, and electricity, where for most OECD countries they exist at a more or less important degree. From this comparison, Chile appears as one of the most open countries in the world in terms of inward FDI.[40]

In recognition of its general openness to foreign investment and supporting economic policies, Chile was invited to adhere to the OECD Declaration on International Investment and Multinational Enterprises[41] in 1997. Chile generally does not engage in policies of attracting foreign direct investment by means of fiscal or financial incentives. Rather, authorities aim at maintaining a strong enabling environment by means a stable and transparent policy framework for foreign investment, embodied both in the 1980 Constitution and in the Foreign Investment Statute, known as Decree Law 600 (see Box 11). Under Chile's Constitution and its legal system, foreign investors are guaranteed non-discrimination. The constitutional Article 19 curtails the use of investment incentives by specifying that "… only by virtue of law, and provided it does not imply discrimination, certain direct or indirect benefits accorded to any sector, an activity or a geographical region, may be authorized". Under DL-600, the Foreign Investment Committee may approve or reject an application but investors may still transfer capital even if their application is rejected. The advantage of this contract for a foreign investor is that it locks in its status, thus reducing uncertainty. Since this is entirely voluntary and there is no discrimination between foreign and domestic investors, it also cannot be considered as restriction.

Pursuing the international integration of the Chilean financial system

Chile needs further reforms to widen international financial integration, including the elimination of excessive regulations. Authorities have taken steps in the right direction, such as phasing-out the rate of the *encaje* and a number of authorisation requirements for short-term capital movements. The Capital Market reform of 2001 (mark-I) is also a good example of the right policies to increase financial intermediation. Although significant, the 2001 reform does not address issues such as ways to develop risk capital and stimulate pension funds to adopt more flexible investment decisions. These are being addressed in the second wave of capital market reforms.

Despite the very open stance towards FDI, some restrictions remain in place, such as the one year minimum permanence requirement for the equity portion of the investment under the DL-600 (see Box 11). The last revision of that rule was made in 1993, when the limit was reduced from three years to one year.

Box 11. The DL-600 and the promotion of long-term investment

The DL-600, approved in 1974 and revised several times since, regulates foreign direct investment in Chile. Basically, it represents a contract between the state of Chile and the foreign investor regarding the particular investment at hand. As a contract, it cannot be modified unilaterally by either part.

Contract clauses

- Investment can take the form of foreign currency, assets (new or used, physical or non-physical), technology or loans.
- The minimum investment is USD 5 million in foreign currency or USD 25 000 if the investment is carried out through other assets (*e.g.* tangible assets or technology).
- The investor commits not to repatriate capital during the first year.
- Profit repatriation is not restricted in any way.

Contract guarantees

- Free access to foreign currency to repatriate capital, profits or interests.
- A freeze of the custom regime and the VAT rate until completion of the physical capital investment.
- Non-discrimination with respect to Chilean investors.
- A fixed income tax rate of 42 per cent, including the tax on profit repatriation, during a ten-year period. However, the investor can choose between this agreement and the general income tax system (progressive tax rate with a maximum of 40 per cent).
- Norms and instructions of the domestic revenue service, in terms of depreciation, loss accumulation, organisational and start up expenses may be frozen for the same period of time.
- Additional benefits for investments over USD 50 million.
- If the investment is intended to produce for export, Central Bank regulations on trade may be frozen, and the investor accedes to special profit repatriation norms (such as escrow accounts abroad).

Given the recent slowdown in international capital inflows to the region and increased competition for attracting capital, it is important and timely to further liberalize FDI flows. Restrictions on repatriation are often seen as implicit taxes on foreign direct investment because they reduce the option-value of the investment,[42] thus lowering the overall flow of capital to the country. Given the elimination of selective capital controls on foreign credit, the minimum permanence

requirement could hamper FDI flows in the medium-term, since long-term inflows in the form of FDI are penalised compared to short-term capital, which faces no restrictions. Careful re-examination of the DL-600 is needed to attract new capital inflows. Another important issue to be addressed is the elimination of the double taxation on FDI through international tax treaties, as already noted above.

Broader integration in the world market is also important for the pension funds. Domestic banks have several instruments available to invest abroad and are allowed to open branches offshore, though these possibilities are not yet fully exploited, while the most important players, the pension funds, face restrictions on investments in foreign equities and bonds. There is room for easing these restrictions.

Finally, Chile's financial market needs additional financial instruments to diversify risk. The consequences of increased liberalisation without enough financial instruments to reduce the risks can precipitate large swings in consumption and investment along with large fluctuations in real interest rates and capital flows. The important point is that more sophisticated financial markets allow better inter-temporal consumption-savings decisions under aggregate uncertainty, as they provide efficient hedging across multiple risk scenarios. Futures contracts on oil, for example, can dramatically reduce uncertainty about future oil prices; currency options can eliminate the risk for individuals of unexpected appreciation or depreciation. An important task for the Chilean economy is, then, to deepen financial markets through deregulation and internationalisation. While Chile has made significant progress in financial markets and opened up its capital account over the last two and a half decades, yet several challenges remain. In this and other economic areas, Chile should progressively converge towards the OECD benchmark.

IV. A dual labour market can hamper growth

A return to higher economic growth in Chile is likely to be constrained by the segmented labour market. The functioning of the formal market is hindered by the limit of one year for fixed-term contracts, the high severance payments for employers, and strict and cumbersome rules for dismissal for those with indefinite contracts. Enterprises have reacted to these rigidities by widespread and increasing recourse to outsourcing and informality. These non-standard jobs are insecure and provide little incentive for employers and employees to invest in skill improvement. Other characteristics of the Chilean labour market are the low participation rate of the young and women, which is partly related to a shortage of part-time jobs, and the lack of centralised tripartite negotiations and dialogue, as well as decentralised bargaining between employers and employees.

In this context, the present chapter analyses the key labour market institutions including the recently reformed Labour Law, the minimum wage and provisions to support the unemployed. It considers the possible need for further modifications of these institutions, for example to clarify when employers can terminate employment and to reduce the cost of such decisions. It also discusses measures to improve labour participation and programmes to enhance worker skills.

Labour institutions: the difficult trade-off between labour protection and flexibility

Chile's history of social conflict has exposed the need for dialogue and consensus-building in order to inspire more confidence that workers and employers can solve problems together. After the period of military rule, when many labour rights were suppressed, substantial progress has been made in developing modern labour market legislation that defines the rights and obligations of workers, employers and their respective associations. Other amendments were introduced in order to improve enforcement of existing regulations (see Box 12). But striking a good balance between enhancing labour rights and fostering incentives for business and job creation has proved to be difficult. While by and large the provisions of the Labour Law as amended in 2001 are similar to those in many

Box 12. The relatively rigid labour law

As is common in other countries, Chile's Labour Law enshrines such basic principles as contractual freedom, freedom of association, non-discrimination and a ban on child labour (under age 15). It permits longer weekly and annual working time than is common in European countries, though the rules about allocation of working time are more stringent than in some of the latter. The maximum allowed working time, which corresponds to practice in many enterprises, is now 48 hours per week but will be reduced to 45 hours from 2005. Sunday work is forbidden in most sectors and, although enterprises can vary the weekly working time over longer periods, this may oblige them to pay overtime compensation. The minimum durations of annual leave (15 working days) and maternity leave (18 weeks) are in line with basic international standards.

In some respects, Chile's Labour Law takes a more "individualistic" approach than the corresponding laws in a number of OECD countries, notably in Europe. For example, any trade union or other group of workers that fulfils certain requirements can participate in collective bargaining in an enterprise, and a collective agreement signed by a union is binding only for its members unless other workers have associated themselves with its bargaining stance (Article 323).[1] Similarly, while collective bargaining may concern several enterprises, no employer can be obliged to co-operate with other employers or to apply their collective agreements (Article 303). The law also grants employers an exclusive right to organise and administer their enterprises (Article 306), while workers are free to join or not join trade unions, and their employment cannot be conditional on this choice.

The 2001 reform of the labour law has strengthened the rights of trade unions on several points. For example, while employers previously had few obligations to inform workers about business matters, trade unions can now request financial information from employers three months ahead of a collective agreement's expiry date (Article 315). Other notable amendments concern: *i*) a ban on anti-union action by employers, to be enforced by the Labour Inspection and courts; *ii*) restrictions of employers' right to replace striking workers; and *iii*) increased penalties for breaking rules in the Labour Law.[2]

Chile, unlike many OECD countries, has multi-year wage bargaining: collective agreements are valid for two years and no more than four years (Article 347). The fact that one-year wage settlements are ruled out should contribute to greater labour-cost stability and enhance competitiveness. However, there is some evidence that the resulting wage rigidity has put additional pressure on employment in the recent period of low inflation and declining output in key sectors (Cowan *et al.*, 2003).

1. However, non-members can be obliged to pay 75 per cent of the membership fee to a trade union if their employer extends to them the benefits stipulated in the union's collective agreement (Article 346). Within an enterprise, all trade unions and other worker representatives that fulfil certain minimum conditions can submit proposals for collective agreements, but they must do so at the same time (Article 315ff). Employers must reply in writing – within 15 days, according to a 2001 amendment – but after this there are no required bargaining procedures.
2. Penalties for violating the Labour Law can be up to 60 U*nidades Tributarias* (UT) in most cases, or about seven average monthly wages. For small firms, the ceilings are lower. Augmented penalties apply if firms sign false labour contracts via third parties (100 UT) and if they falsify enterprise documents of importance for their responsibility as employers (150 UT).

OECD countries, they are costly for a developing country that needs a high degree of labour market flexibility in order to sustain high economic growth and employment. The acceptable causes of dismissal are more narrowly defined than in most OECD countries. Also, notwithstanding the introduction of a partial unemployment insurance, mandatory severance payments still represent a high cost for employers by OECD standards.

The 2001 labour reform as a whole has been met with employer hostility and it has been seen as a cause of reduced recruitment and increased reliance on sub-contractors to reduce the cost of hiring and firing.[43] The long-term impact of such negative reactions is difficult to assess, since there is probably a transitory element of uncertainty about the implications of the new rules. Businesses' reticence in hiring may also reflect the cyclical slowdown in economic activity. Nevertheless, this illustrates the need for a broader and negotiated consensus on labour market reforms involving all interested parties (see also Reinecke and Torres, 2001).

To promote more flexible working-time arrangements, the government is seeking to pass a Labour Adaptability Law in the second half of 2003. This proposal foresees enterprise-specific agreements to regulate the allocation of an annual number of working hours.[44] This law represents a positive step in the promotion of collective bargaining at the enterprise level. The government could increase the employers' and employees' interest in bargaining by including additional items in the negotiations, the outcomes of which should be allowed to prevail over some parts of the Labour Law, while respecting certain minimum norms. In the absence of a bilateral agreement, the Labour law should apply. In some OECD countries, like Australia, this policy has worked relatively well in terms of allowing a transition from centralised to decentralised bargaining, while maintaining workers' rights and incentives to negotiate on the part of employers.

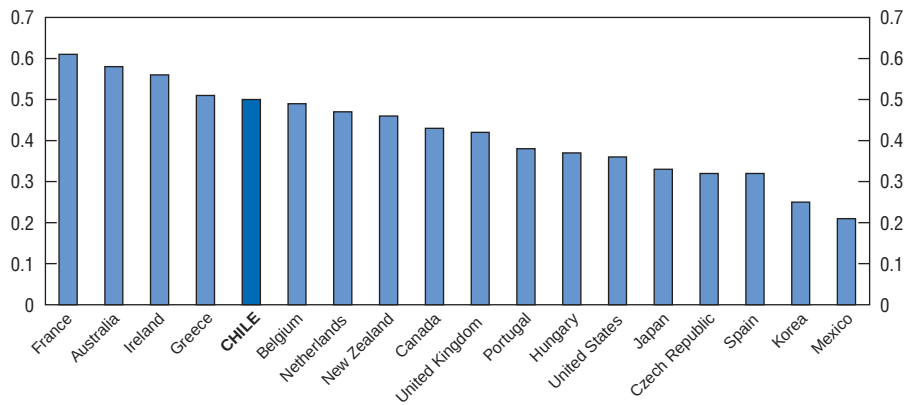
The reported trade union membership diminished from a peak at 22 per cent of employees in the early 1990s to 15 per cent in 1999 (counting enterprises with 5 or more employees), and the decline has probably continued. This decline has been partly the result of structural changes in the Chilean economy, particularly a reduced importance of industrial employment and a dismantling of protected sectors. Both union membership and collective bargaining is highly concentrated in the public sector and big enterprises. A survey in 1999 showed that some form of collective bargaining occurred in over half of the big firms, but much less often in medium-sized and small firms. Among the bargaining enterprises, over one-half had reached collective agreements using the Labour Law's procedures, but about as many had signed wage settlements after collective bargaining of a less-regulated type. Numerous employers probably use different procedures for various groups of employees.[45]

The minimum wage is close to one-half the median wage

Chile's legal minimum wage is higher in relative terms than in most OECD countries (Figure 22). From July 2003 it is 115 648 pesos per month (around USD 164). In 2002 it corresponded to 43 per cent of the mean wage and was probably close to 50 per cent of the median wage. After the real minimum wage fell by more than 30 per cent in the 1980s, it increased by almost 40 per cent during the 1990 to 1997 period. Although the minimum and average wages developed in a similar fashion from for a long time, the minimum wage has increased substantially faster since 1998. In the context of the major slowdown of economic growth and increased unemployment of the latter period, the real minimum wage increased about 20 per cent between 1998 and 2000, while average wages grew by only 5 per cent and typical low-skilled wages stagnated.

Several studies attempted to determine whether the minimum wage had a negative effect on employment in Chile. Although some studies in the late 1990s did not find conclusive evidence, more recent work points to such a negative effect. Bravo and Contreras (2001) estimated that the minimum wage increase in 1998 affected negatively in particular youth employment.[46] Cowan *et al.* (2003) also found a negative effect in particular for the young and less educated. The CASEN survey showed that 13 per cent of the workforce earned less than 1.2 times the minimum wage in 1998, while some 8 per cent of all employees including one in four agricultural workers and 9 per cent of construction workers earned less than the minimum wage. In sum, the minimum wage at its present level is destined to

Figure 22. **Minimum wage relative to the median wage**



Source: Data for 2000 compiled by the OECD; for Chile, 2002. The Chilean median wage was estimated approximately.

influence wage-setting and employment in a large part of the formal labour market. But the substantial numbers of workers earning less than the minimum wage suggests that non-compliance is significant. This might reduce the overall employment impact, but it indicates that the minimum wage is one of the factors that discourage the use of written labour contracts.

Employment protection regulations must be acceptable to both sides in the labour market

As in many OECD countries, rules about termination of employment contracts have proved controversial. A key recommendation in the OECD *Jobs Strategy* (OECD 1994, 1999) was that governments should liberalise employment security provisions which had been found to inhibit job growth, especially in western Europe. The causal relationships are probably complex and varying, but recent OECD studies have also suggested that strict employment protection can obstruct innovation and diffusion of new technologies (*Employment Outlook*, 2002, Chapter V and *Economic Outlook* No. 71, June 2002). For Chile, which needs to sustain a higher growth rate than OECD countries in order to catch up, it is important to preserve a higher degree of labour market flexibility than is presently found in Western Europe.

Chile does not allow fixed-term employment contracts for periods longer than a year (Article 159, Point 4). This limit is unusually strict by OECD standards (Table 9, first column). However, as discussed below, employers can often circumvent it by using alternative forms of employment. They may, for example, sign contracts for specified tasks or services (Article 159, Point 5) or "sub-contract" workers who are acting, formally or informally, as self-employed or as employees of a subcontracting enterprise.

OECD experience shows that such non-standard forms of employment must often be understood as a market response to perceived rigidities in the prevailing regulations governing jobs of indefinite duration. To reconcile economic efficiency with an orderly application of the rules, it is crucial that the legal implications of this "mainstream" form of employment relationship are acceptable to both parties in normal situations. Most critical are usually the rules about mandatory procedures, notice periods and severance compensation in cases of dismissal for economic reasons.

As Table 9 shows, the Chilean rules about termination of indefinite contracts are flexible in some respects compared with many OECD countries. But the definitions of legal causes of dismissal are cumbersome and the required severance benefits can be expensive to employers. The Law recognises three groups of legal causes: mutual agreement and *force majeure* (Article 159); serious misbehaviour, unjustified absence etc. (Article 160); and economic reasons ("the needs of the enterprise", Article 161). In contrast to most OECD countries and the Chilean Labour law before 2001, the "lack of skills" (*falta de adecuación laboral o técnica del trabajador*) and disability are not sufficient causes of dismissal.[47]

Table 9. **Employment protection regulations in Chile and OECD countries**

	Fixed-term contracts: maximum accumulated duration	Termination of contracts of indefinite duration								
		Procedures before notification		Difficulty of dismissal			Notice period at two different lengths of service		Severance pay at two different lengths of service	
		Individual dismissal	Collective dismissal	Definition of justified dismissal[1]	Compensation for illegal dismissal[2]	Extent of reinstatement	9 months	20 years	9 months	20 years
	Years	Days	Months	Strictness score (0-3)	Monthly wages	Strictness score (0-3)	Months	Months	Monthly wages	Monthly wages
Chile	**1**	**1**	**. .**	**3**	**14.3-22**	**0.5**	**1**	**1**	**. .**	**11**
Australia	No limit	1	. .	0	. .	1.5	0.2	1	. .	2
Austria	No limit	9	1	1	15	1	0.5-1.5	0.5-4	. .	2
Belgium	2-3	1.5	1-2	0	15	0	1-3	2-21	. .	. .
Czech Republic	No limit	7	3	2	8	2	2	2-3	0-2	0-2
Denmark	No limit	1	1+	0	12	1	1-3	2-6	. .	0-3
Finland	No limit	15	1.5+	1.5	12	0	1	6	. .	. .
France	1.5-2	15	0.5-2	1.5	15	0	1	2	. .	3
Germany	2+	17	1-2	2	24	1.5	1	7	. .	. .
Hungary	No limit	13	1-3	0	10	2	1	3	. .	5
Ireland	No limit	2	1	0	24	1	0.5	2	. .	0-4
Italy	1	1	< 1.5	0	32.5	2	< 0.5	0.5-4	0.7	18
Japan	No limit	5	0.2	2	26	2	1	1	. .	4
Korea	No limit	1-63	2	2	n.a.	2	1	1	. .	6
Mexico	No limit	1	. .	3	16	1	. .	. .	3	3
Netherlands	3	31	1	1.5	18	1	1	4	. .	. .
Poland	No limit	13	1.5	0	3	2	1	3	. .	. .
Portugal	2-3	21	2.5-3	2	20	2.5	2	2	3	20
Spain	3	1	1-1.5	2	22	0	1	1	0.5	12
Sweden	1-3	7	2-6	2	32	1	1	6	. .	. .
United Kingdom	No limit	3	1-3	0	8	0	0.2	3	. .	. .
United States	No limit	1	2	0	n.a.	0.5	. .	. .	. .	. .

1. 0 = Worker capability or job redundancy is sufficient. 1 = Social factors must be considered. 2 = Job transfer must be considered. 3 = Worker capability cannot justify dismissal.
2. The worker is assumed to have 20 years of job tenure.

Source: For OECD countries, *The Employment Outlook*, OECD (1999), Annex 2A. For Chile: 2002 Chile's labour code (*Código del Trabajo*), Article 159, pp. 4 and 161-163.

Chile's Labour Law mentions few procedures the employer must follow apart from giving a written notification, with copy to the Labour Inspection, wherein the reason for dismissal must be specified. A one-month notice period and severance benefits are required when dismissals are justified by Article 161, but not in other cases.[48] The severance benefit is one monthly wage per year of service, with a ceiling at 11 monthly wages.

Contrary to the situation in many OECD countries, employers face no explicit obligation to negotiate with workers or public authorities before implementing a dismissal, nor are there any mandatory criteria for selection of workers to dismiss. But in Chile it is important for employers to specify the legal justifications in a convincing manner, and, if possible, reach an agreement because the cost and duration of a court case can be difficult to predict. The penalties for unwarranted dismissals were also increased in 2001.[49] A dismissed worker can appeal to a labour court within 60 working days (Article 168) and the court can impose an augmented severance benefit not only if the dismissal was unjustified, but also if the employer was citing an inappropriate justification – a possibility that may have added to the present uncertainty about legal practice.[50]

To a large extent, the 2001 legal amendments were undoubtedly motivated by concern with a widespread non-application of various rules in the law, including those about severance benefits. In this regard, the reform must be welcomed as a step towards better protection of workers' legitimate rights and their enforcement. Employers, too, have a strong interest in a speedy and predictable application of the law. Competitive markets are most effective if all businesses are playing by the same rules, a condition that is not fulfilled if many enterprises can circumvent the law. But nor is this condition fulfilled if the consequences of more effective enforcement are unpredictable. The authorities should carefully monitor the application of the new rules and be prepared to modify them if necessary and to strengthen the relevant administrative bodies and courts.[51]

Sharing the cost of dismissals

The Labour Law would be more business-friendly, and so facilitate application and enforcement while encouraging the use of indefinite contracts, if maximum severance benefit were reduced from 11 to for example 5 months. The latter maximum would be more similar to the situation in most OECD countries (see Table 9, last column and Box 13). Although this option has been discussed in Chile, the authorities have retained the present relatively high benefit ceiling and introduced, in October 2002, a peculiar type of insurance (*seguro de cesantía*) which resembles the unemployment insurance (UI) programmes found in OECD countries to some extent. Employers and employees pay 1.6 and 0.6 per cent, respectively, of the wage into an individual account for each worker, managed by

Box 13. How rigid is Chile's Employment-Protection Legislation (EPL)?

To permit an approximate comparison of EPL rigidity across OECD countries, the OECD's 1999 *Employment Outlook* (Chapter II) developed a method for calculating "rigidity scores" on a scale from 0 to 6, with 0 representing total flexibility and 6 the highest possible rigidity. This was done for 22 detailed legal provisions in all OECD countries. Every detailed score was weighted to permit calculation of average scores for certain groups of variables and, finally, an overall average score representing the "rigidity" of each country's EPL as a whole.

Using the same method for Chile on the basis of the *Código del Trabajo* (Articles 159-178) as of 2003, an overall EPL score can be estimated at 1.8 – thus lower than the unweighted average for OECD countries in 1998, which was 2.2. Nevertheless, EPL appears noticeably more rigid in Chile than in any Anglo-Saxon OECD country, and it is also more rigid than in Switzerland, Denmark and Hungary.

A closer scrutiny reveals (see Table 10) that Chile's EPL is more rigid than average on three points:

- Expensive severance benefits.
- Greater-than-average "difficulty of achieving dismissal". This reflects two detailed rigidities:
  - *i*) "lack of skills" is not a valid reason for dismissal in Chile (see main text);
  - *ii*) unusually expensive compensations for unjustified dismissal (augmented severance pay).
- Temporary jobs are more regulated than average, reflecting Chile's one-year limit on the duration of fixed-term contracts.

Chile's legislation is less stringent with respect to the required procedures. In particular – in contrast to all OECD countries – Chile imposes no additional procedures for collective dismissals, *i.e.* when more than some specified number of workers are dismissed at the same time. In sum, when Chilean enterprises face major reductions in sales or profitability, they can relatively easily dismiss many workers – provided that they pay severance benefits. But if they are not facing substantial economic difficulties, they have less scope than enterprises in most OECD countries to implement short-term employment adjustments.

an insurance fund (*Administradora de Fondos de Cesantia*),[52] while an additional 0.8 per cent of the employer contribution and a small public subsidy are allocated to a Solidarity Fund. The balance on the individual account is paid to the worker after any job separation, including voluntary quits and the end of fixed-term contracts, while the Solidarity Fund can provide additional support after dismissal.[53] Employers can deduct their contributions from the severance benefits they must pay upon dismissal.

Table 10. **Estimated rigidity of employment protection legislation in Chile and OECD countries**

Scores (1-6), Countries ranked from lowest to highest overall rigidity

	Termination of indefinite contracts				Collective dismissals (additional procedures)	Temporary jobs[3]	Overall score[4]
	Procedural inconveniences[1]	Notice and severance pay	Difficulty of achieving dismissal[2]	Average			
United States	0.0	0.0	0.5	0.2	2.9	0.3	0.7
United Kingdom	1.0	1.1	0.3	0.8	2.9	0.3	0.9
New Zealand	1.3	1.4	2.3	1.7	0.4	0.4	0.9
Canada	0.0	0.8	2.0	0.9	3.4	0.3	1.1
Ireland	2.0	0.8	2.0	1.6	2.1	0.3	1.1
Australia	0.5	1.0	1.5	1.0	2.6	0.9	1.2
Switzerland	0.5	1.5	1.5	1.2	3.9	0.9	1.5
Denmark	0.5	1.8	2.3	1.5	3.1	0.9	1.5
Hungary	2.0	1.8	2.5	2.1	3.4	0.6	1.7
Chile	**1.0**	**2.8**	**3.3**	**2.3**	**0.0**	**2.0**	**1.8**
Poland	3.0	1.3	2.3	2.2	3.9	1.0	2.0
Finland	2.8	1.4	2.3	2.1	2.4	1.9	2.1
Czech Republic	2.5	2.5	3.3	2.8	4.3	0.5	2.1
Netherlands	5.0	1.0	3.3	3.1	2.8	1.2	2.2
Japan	2.0	1.8	4.3	2.7	1.5	2.2	2.3
Austria	2.5	2.0	3.3	2.6	3.3	1.8	2.4
Belgium	0.5	2.1	1.8	1.5	4.1	2.8	2.4
Korea	3.8	1.8	4.0	3.2	1.9	2.1	2.5
Sweden	3.0	1.4	3.8	2.7	4.5	1.6	2.6
Norway	1.5	1.1	4.5	2.4	2.8	2.8	2.6
Germany	3.5	1.3	3.5	2.8	3.1	2.3	2.6
Mexico	1.0	2.1	3.7	2.3	3.8	2.5	2.6
France	2.8	1.5	2.8	2.3	2.1	3.7	2.8
Spain	2.0	2.6	3.3	2.6	3.1	3.6	3.1
Italy	1.5	2.9	4.0	2.8	4.1	3.8	3.4
Turkey	2.0	3.4	2.5	2.6	2.4	4.9	3.5
Greece	2.0	2.2	3.0	2.4	3.3	4.8	3.5
Portugal	3.5	5.0	4.5	4.3	3.6	3.0	3.7
OECD average	1.9	1.8	2.8	2.2	3.0	1.9	2.2

Note: For OECD countries, policy changes after 1998 have not been taken into account.

1. Procedures and delays before giving notice.
2. Valid reasons, possible trial period before new workers enjoy protection, compensation for unjustified dismissal, extent of reinstatement.
3. Fixed-term contracts and temporary-work agencies. For Chile and Mexico, the scores estimated for fixed-term contracts were assumed to apply to temporary-work agencies as well.
4. The following weights were used: indefinite contracts, 5/12; collective dismissals, 2/12; temporary jobs, 5/12.

Source: OECD *Employment Outlook* 1999, Chapter II and Chile's Labour Code (*Código del Trabajo*).

The insurance is likely to enhance labour mobility because a worker can keep some accumulated rights after a job change. It may also make it more difficult for employers to avoid paying severance benefits, although such effects are difficult to predict. Being mandatory for new contracts and optional for existing

ones, the insurance covered about 1.7 million employees in the fall 2003. It is expected to reach full coverage of the approximately 3 million eligible workers by the end of 2005.

Although the insurance increases total labour costs[54] it reduces the specific cost of a decision to dismiss a worker. Against this background, it would still be justified to reduce the maximum severance benefits employers must pay after dismissal. But such a policy step could justify higher public spending on benefits to the unemployed.

Unemployment, under-employment and the need for flexible jobs

The official unemployment rate was around 8 per cent in the first quarter of 2003 according to the national labour force survey (INE, E*ncuesta* N*acional de* E*mpleo*). According to other sources, unemployment may be substantially higher.[55] However, its cyclical variation has been moderate. After several years of slow decline, unemployment reached an apparent floor of 6 per cent in 1996 and then changed little until 1999. But in the latter year it rose briefly to 10 per cent, before stabilising at around 9 per cent for most of the past three years.

Employment fluctuates more than unemployment, but its cyclical fluctuations are partly accommodated by variations in the labour force participation rate. For a long period until the mid-1990s, rising real wages attracted a significant increase in labour force participation. After 1999, unemployment might have risen well above the actual peak level of 10 per cent had not labour force participation declined.

While the effects of the recent economic downturn certainly have had a negative impact, there are important structural components in the actual and hidden unemployment in Chile. The employment-population ratio is particularly low and declining for youths, while for adult women it is also low but rising. Less than one-third of all youths aged 15 to 24 were in the labour force in 2001, and only one in four was employed (Table 11). The employment/population ratio for youth was much lower than in most OECD countries, albeit similar to the ratios in France, Greece, Italy and Poland (Table 12). For adult men, the employment/population ratio was close to the OECD average in the prime age and above the OECD average in the age group 55 to 64. For women, however, employment rates are relatively low in every age group.

Increase labour force participation of women and young people

Chile clearly has a large potential to augment labour force participation, particularly among youths and women. If the Chilean labour market could accommodate this potential labour supply, the country would be in a better position to achieve high growth rates once the present cyclical downturn has come

Table 11. **Labour force participation, employment and unemployment by age and gender**

Labour force and employment as per cent of the population
Unemployment as per cent of the labour force

Gender, age	Labour force participation rate				Employment rate				Unemployment rate			
	1997	1999	2001	2002	1997	1999	2001	2002	1997	1999	2001	2002
Men												
15-24	47.1	44.9	41.5		41.1	35.8	33.3		12.9	20.2	19.8	
25-54	94.9	95.0	94.2		90.9	87.4	87.0		4.3	8.0	7.7	
55-64	74.3	76.8	76.1		71.7	71.6	71.8		3.6	6.8	5.7	
65+	27.4	25.5	23.9		27.0	24.9	23.4		1.3	2.5	2.0	
15-64	80.0	79.9	78.4		75.6	72.2	71.2		5.5	9.7	9.1	
15+	74.7	74.3	72.5	71.8	70.7	67.3	66.1	65.4	5.4	9.4	8.9	8.9
Women												
15-24	27.1	24.7	22.8		22.1	18.5	17.5		18.4	25.0	23.2	
25-54	45.5	47.1	46.7		42.8	43.0	42.9		5.9	8.8	8.2	
55-64	23.7	25.6	25.8		23.3	24.7	25.2		1.9	3.4	2.5	
65+	6.3	6.2	5.9		6.3	6.2	5.9		0.3	0.2	0.6	
15-64	38.4	39.2	38.3		35.4	35.0	34.5		7.8	10.9	9.9	
15+	34.6	35.3	34.1	33.7	31.9	31.5	30.8	30.4	7.7	10.7	9.7	9.7
Both genders												
15-24	37.2	35.1	32.4		31.7	27.5	25.7		14.8	21.8	21.0	21.5
25-54	69.8	70.5	70.1		66.4	64.7	64.6		4.8	8.3	7.8	7.6
55-64	48.1	50.2	50.0		46.5	47.2	47.6		3.1	5.9	4.9	4.6
65+	15.9	14.9	13.8		15.6	14.7	13.6		1.1	2.0	1.6	1.9
15-64	59.0	59.3	58.2		55.3	53.4	52.8		6.3	10.1	9.4	9.2
15+	54.2	54.4	52.9	52.4	50.9	49.0	48.1	47.6	6.1	9.8	9.1	8.9

Note: The figures for 2002 refer to January-October.
Source: INE: website and *Indicadores de Empleo por Sexo y grupos de Edad*, *Separata* No. 10, Santiago, 2002.

to an end. Moreover, a rise in the participation rate would also increase the number of contributors of the pension system which is currently relatively low. Without an increase in this number, public spending on assistance pensions will rise sharply over the next decades and aggravate the social budget deficit (see Chapter II). Increasing the participation rate is also a powerful means to alleviate poverty.

Chile's already low labour force participation rate for youth fell even more after the economic growth slowdown in 1998. The drop was partly related to increasing enrolment in upper-secondary and tertiary education. However, evidence from OECD countries suggests that rising education enrolment may be compatible with higher levels of youth employment, if there are sufficient numbers of temporary and part-time jobs. Such flexible job opportunities can be important for students as a source of income during a long period of education. In Chile, however, youth employment is constrained by several institutional

Table 12. **Employment-population ratios by age and gender in Chile and OECD countries in 2001**

In each age class, countries were ranked according to the ratios for both sexes

A. Youth: 15 to 24				B. Prime age: 25 to 54				C. Elderly: 55 to 64			
	Men	Women	Both sexes		Men	Women	Both sexes		Men	Women	Both sexes
Netherlands	72	69	70	Iceland	95	86	91	Iceland	91	80	86
Iceland[1]	67	67	67	Switzerland	95	77	86	Norway	72	62	67
Switzerland	65	61	64	Norway	89	81	85	Switzerland	81	55	67
Denmark	64	59	62	Sweden	87	82	85	Sweden	70	64	67
Australia	62	60	61	Denmark	89	80	85	Japan	78	47	62
United States[1]	59	56	58	Netherlands	93	73	83	New Zealand	71	50	61
Norway[1]	58	55	57	Portugal	90	75	82	United States	66	52	58
Canada	56	56	56	Austria	90	74	82	Korea	69	48	58
New Zealand	59	53	56	Czech Republic	90	74	82	Denmark	63	50	57
United Kingdom[1]	57	52	55	Finland	85	78	82	United Kingdom	62	43	52
Austria	56	47	51	United Kingdom	88	74	81	Mexico	80	27	52
Sweden[1]	47	49	48	United States	88	74	81	Portugal	62	41	50
Germany	52	44	48	Germany	87	72	80	All OECD	60	38	48
Mexico	64	33	48	Canada	85	74	80	Canada	58	39	48
Ireland	52	42	47	France	88	71	79	**Chile**	**72**	**25**	**48**
All OECD	49	40	44	New Zealand	88	71	79	Ireland	65	28	47
Portugal	49	38	44	Luxembourg	93	64	79	Australia	57	36	46
Japan	42	42	42	Japan	93	64	79	Finland	47	45	46
Finland	40	40	40	Belgium	87	66	77	Netherlands	50	28	39
Spain[1]	44	30	37	Australia	85	68	76	Spain	58	22	39
Czech Republic	40	31	36	Ireland	89	64	76	Greece	55	23	38
Hungary	37	28	32	All OECD	88	64	76	Czech Republic	53	23	37
Luxembourg	34	30	32	Slovak Republic	79	71	75	Germany	45	28	37
Turkey	43	22	32	Hungary	79	67	73	France	41	32	37
Korea	23	34	29	Korea	88	57	73	Turkey	49	18	33
Belgium	32	25	29	Greece	89	53	70	Poland	37	22	29
Slovak Republic	29	27	28	Italy	85	53	70	Italy	40	16	29
Italy	33	22	27	Spain	86	53	70	Austria	38	17	27
Greece	30	22	26	Poland	76	63	69	Belgium	35	16	25
Chile	**33**	**18**	**26**	Mexico	95	45	68	Luxembourg	35	14	25
France	28	21	24	**Chile**	**87**	**43**	**65**	Hungary	35	15	24
Poland	24	20	22	Turkey	79	26	53	Slovak Republic	38	10	22

1. Age 16 to 24.

Source: Labour force survey data compiled by the OECD and Eurostat; INE.

rigidities, including the scarcity of part-time jobs, the minimum wage and the severance-benefit system, which tends to make workers without job tenure most vulnerable to economic cycles (Cowan *et al.*, 2003).

Several OECD studies have been devoted to the factors and policies that can increase female labour participation (see Box 14). Most importantly, women (with children) often want to have part-time work and flexible working-time arrangements. In Chile in 2001, 39 per cent of the employed women had a usual working time of less than 48 hours per week, but most of them worked almost

Box 14. Increasing female labour participation: the OECD experience

Large variations exist in female labour participation among OECD countries, with Scandinavian countries having the highest and Mediterranean countries and Mexico having the lowest participation rates. In addition to cultural and individual characteristics (marital status, number of children and years of education) and the labour market context, there are several policy variables that explain the cross-country variances. An OECD (2003b) study analysed the relative importance of six potential types of policies using econometric analysis. By far the most important determinant turned out to be the availability of part-time work. *Second* in importance is the degree to which child care is subsidised. *Third*, the tax treatment of the second earner *versus* a single earner in a household is highly relevant. *Fourth*, the length of maternity leave is also positive and highly significant. However, both too short and too long paid leave may have a discouraging effect. *Fifth*, family benefits seem to have an insignificant effect on female participation. *Finally*, increasing the women's education level would also have a significant impact.

On the basis of three key policy variables (child care subsidies, tax treatment and availability of part-time work), the OECD countries can be divided roughly into four groups (see Table 13). Scandinavian countries have high child care subsidies, favourable tax treatment and moderate incidence of part-time work. Other northern European countries have relatively low child care subsidies, average tax treatment and a particularly high incidence of part-time work. The Non-European Anglo Saxon countries have low child care subsidies, an average tax treatment and a variable incidence of part-time work. Finally, the lower per capita OECD countries and Italy have low child care subsidies, an average to favourable tax treatment and a low incidence of part-time work. A favourable combination of policies can have a strong positive impact on female labour participation, as is illustrated by policy simulations for the Netherlands and Spain. In the case of the lower-income OECD countries, the most promising policies seem to be the increase in availability of part-time work and higher subsidies for child care.

Source: OECD (2003b).

Table 13. **Policy determinants of female labour participation**

	Labour force participation rate of women aged 25-54 years old	Public expenditures on formal daycare and pre-primary education as a per cent of GDP, 1999[1, 2]		Effective tax rate of earnings at 67 per cent of average wage-2001[3, 4]			Percentage of employed women age 25-54 in part time employment
		Total	O/w formal daycare	Second-earner	Single	Ratio second-earner/ single	
Scandinavian countries							
Denmark	83.5	2.7	1.7	50	41	1.2	15.1
Finland	85.0	1.5	1.2	26	26	1.0	9.5
Iceland	88.1	1.1	0.8	42	15	2.8	31.3
Norway	83.3	1.6	0.8	30	26	1.2	30.7
Sweden	85.6	1.9	1.3	30	30	1.0	19.0
Northern European countries and Japan							
Austria	77.1	0.9	0.4	25	22	1.1	26.2
Belgium	70.7	0.5	0.1	51	34	1.5	37.1
France	78.7	1.3	0.7	26	21	1.2	23.5
Germany	78.3	0.8	0.4	50	34	1.5	34.3
Ireland	66.1	0.5	0.2	24	10	2.3	32.1
Luxembourg	65.1	. .	. .	20	19	1.0	29.2
Netherlands	73.8	0.6	0.2	33	27	1.2	54.3
Switzerland	79.3	0.3	0.1	24	19	1.3	47.4
United Kingdom	76.3	0.5	0.1	24	19	1.3	38.6
Japan	67.3	0.3	0.2	18	15	1.2	39.2
Non-European Anglo Saxon countries							
Australia	71.4	0.2	0.2	27	19	1.4	38.3
New Zealand	74.5	0.3	0.1	23	19	1.2	34.1
Canada	79.1	0.3	0.1	32	21	1.5	22.3
United States	76.4	0.5	0.1	29	22	1.3	13.0
Lower income per capita OECD countries and Italy							
Hungary	70.0	. .	. .	29	29	1.0	4.4
Poland	76.5	. .	. .	39	30	1.3	16.5
Slovak Republic	83.9	0.6	0.1	27	18	1.5	2.7
Czech Republic	81.8	0.5	0.0	40	21	1.9	4.0
Greece	61.3	. .	0.4	16	16	1.0	13.3
Italy	59.3	. .	. .	38	24	1.6	23.8
Portugal	78.1	0.5	0.2	17	13	1.3	11.1
Spain	61.2	0.4	0.1	21	13	1.6	15.7
Turkey	28.2	0.0	0.0	29	29	1.0	14.5
Korea	58.4	0.1	0.0	8	8	1.1	9.2
Mexico	45.3	0.5	0.1	–4	–4	1.0	27.0
Chile	**46.7**	**0.4**	**0.0**	**0**	**0**	**1.0**	**9.6**
Unweighted average		0.7	0.4	28	21	1.4	24.6

1. Public expenditures on formal daycare do not include tax expenditures.
2. 1998 for France, Ireland, and Spain.
3. In the case of the second earner, the family is assumed to comprise a husband earning 100 per cent of APW and two children.
4. The average tax rate includes employee's social security contributions and is netted from universal cash benefits.

Source: OECD (2003b) based on OECD (2002e); The OECD *Jobs Study: Taxation, Employment and Unemployment*. For public expenditures on childcare: OECD Education database; OECD social expenditures database; Eurostat; Staff estimates of public expenditures on formal day-care for Canada, Japan, United States. OECD Labour Market Statistics. Chile: Ministry of Finance: Internal Revenue Service and Budget Office.

full-time with 35 to 47 hours (Figure 23A). Only some 10 per cent of the women worked less than 30 hours a week – part-time by OECD standards – with the highest incidence among elderly persons (Figure 23B).

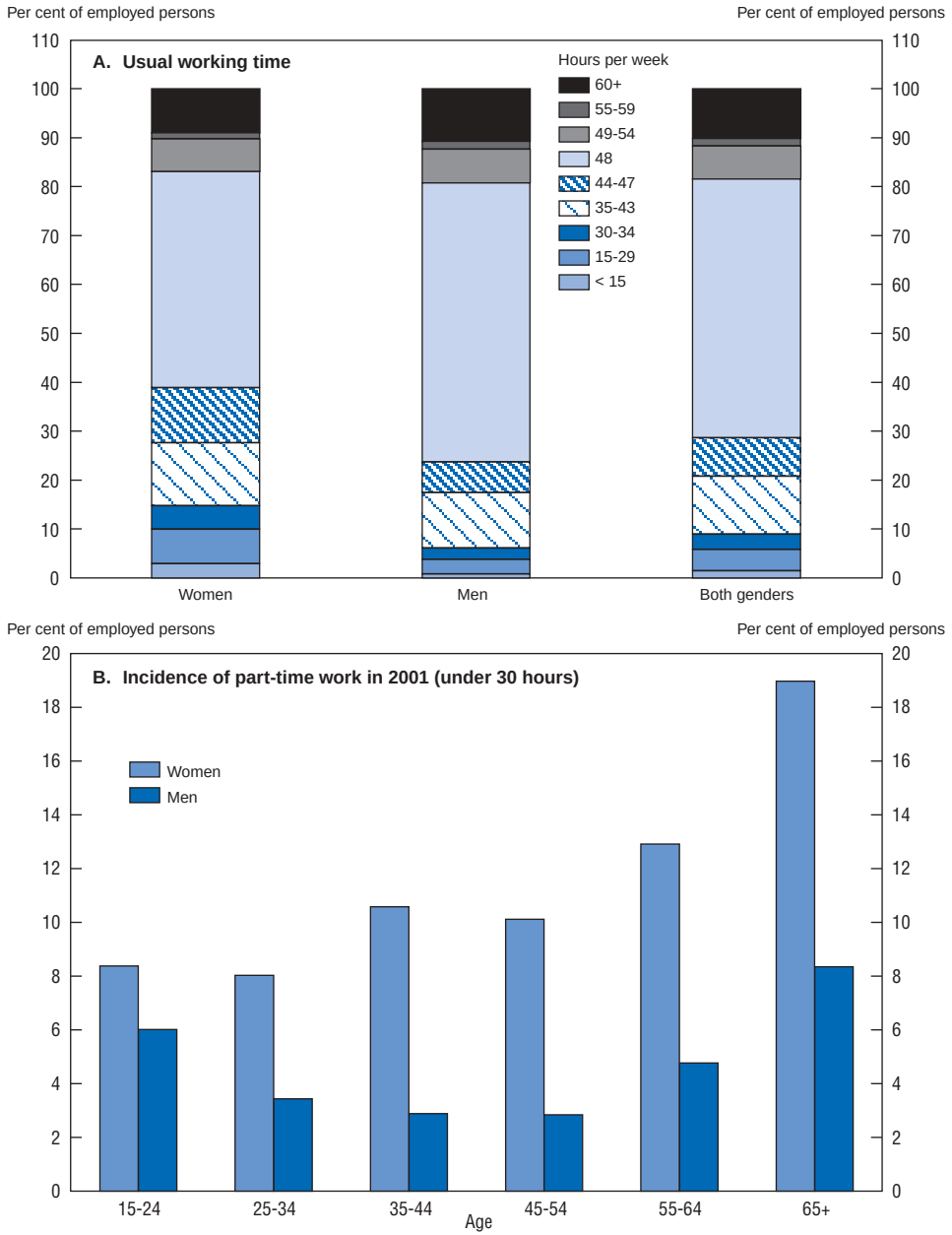
The Labour Law (Article 40bis) clarifies that part-time labour contracts are possible and that they give the worker the same legal rights as a full-time contract. Various further efforts now under discussion to make working times adaptable should also be applicable to part-time work. If the legal framework is not sufficiently nimble, there is a risk that too much of the increase in part-time work may occur in the informal sector. Leiva (2000) showed that in 1994 about two-fifths of the part-time working men and three-fifths of the women were dependent employees, among whom a little more than half had labour contracts. Only 35 to 40 per cent of all part-timers contributed to social insurance. These results underline the need for policies that can simultaneously encourage flexibility and compliance with a basic set of rules to protect the workers.

In Chile, public subsidies towards child care are relatively low and only available for pre-school (four-five years) but not for nurseries (Table 13). Instead, enterprises with more than 20 female employees must cover child-care costs (Articles 203-205). This probably tends to reduce mothers' relative wages and it may provide a disincentive to hire women in general. For the future, it would be desirable to find solutions that encourage a more equal sharing of these costs between employers, employees and the state, as well as between men and women. The tax treatment of second earners is favourable, as taxes are levied on individual instead of household incomes.

Non-standard jobs are often insecure

Although statistics are not available for the most recent years, it is evident that a variety of "non-standard" forms of employment – fixed-term contracts, specified-task contracts, sub-contracting, work without contracts and self-employment – have been widespread in Chile for a considerable time. As indicated above, employers choose non-standard forms to avoid the high severance pay and the difficulty of terminating indefinite contracts. A survey in 1998 revealed that almost one in four employees had no labour contract, thus they worked informally (CASEN 1998). Other surveys in 1998 and 1999, focusing on the formal sector (and excluding firms with under 5 employees), showed that only one-fifth of the labour contracts signed per year were indefinite, while almost half were established for specified, finite tasks and the remainder for fixed periods of time (Table 14, the two first columns). But in stock terms, over 80 per cent of formal-sector employees were on indefinite contracts because fixed-term and specified-task contracts usually had short duration. Only 6 per cent of all dependent employees with contracts had fixed-term jobs while a somewhat larger proportion had specified tasks.

Figure 23. **Usual working time and incidence of part-time work**



Source: INE (2002), *Indicadores de Empleo por Sexo y Grupos de Edad, Separata,* No. 10.

Table 14. **Labour contracts by type**
Percentage distribution of paid employees

Type	New contracts		Contracts in force	
	1998	1999	1998	1999
Indefinite	24	20	81	83
Fixed-term	32	31	7	6
Specified task	40	45	10	9
Other	5	4	2	2

Note: Excluding workers without contract.
Source: *Encuesta Laboral* 1999, Dirección del Trabajo.

The 1999 survey also showed that over 6 per cent of the workers with labour contracts of any kind had contracts with other enterprises than the ones they were working for, suggesting a high proportion by international standards. These firms include some local branches of leading international temporary-work agencies (*empresas de trabajo temporal*), but in addition to the formalised subcontracting there are probably many semi-informal subcontracting companies that often pay no social contributions, as well as self-employed workers acting individually.

The self-employed in general remain numerous by OECD standards (Table 15) while their incomes have dropped dramatically. Many of them are probably individual subcontractors working for fees (*boleta de honorarios*) or informal arrangements. The average income of the self-employed other than employers was 45 per cent higher than the average wage-earner's income in 1995, but by 2000 it was 18 per cent lower (Table 16). As a share of total employment, self-employment rose slowly from 26 per cent in the mid-1990s to 28 per cent in 1999, and it has subsequently remained almost constant at that high level. This self-employment share remains high by OECD standards even if one excludes the about 6 percentage points represented by self-employed farmers.[56]

A much-needed law to regulate subcontracting agencies is currently under preparation. Given the need for such flexible work arrangements, policy should aim to accommodate them as far as possible within the legal frameworks of the Labour Law and social insurance. This could justify permitting fixed-term contracts for longer periods than a year, along with some key steps to facilitate dismissal of workers with indefinite contracts, as discussed above.

Sharing the burden: the difficulty of financing social protection

From an OECD perspective, Chile's relatively moderate taxation would seem to encourage employment and it should facilitate a policy to promote compliance and legality in the labour market.[57] Most workers with average wages

Table 15. **Employment by job status in Chile and OECD countries, 2001**
Percentage of total employment, countries ranked by the self-employment shares

	Employees	Self-employed	Unpaid family workers
Greece	60	32	8
Turkey	51	31	19
Mexico	63	29	8
Korea	62	29	9
Chile	**70**	**28**	**2**
Portugal	73	25	2
Italy	72	24	4
Poland	72	23	5
New Zealand	80	19	1
Spain	80	18	2
Ireland	82	17	1
Czech Republic	85	15	1
Hungary	86	14	1
Australia	86	14	0
Finland	87	13	1
United Kingdom	88	11	1
Japan	84	11	5
Netherlands	89	11	1
Austria	87	11	3
Switzerland	88	10	2
Germany	89	10	1
Canada	90	10	0
Sweden	90	10	0
France	91	9	. .
Slovak Republic	92	8	0
Denmark	91	8	1
United States	93	7	0
Norway	93	7	0

Source: Labour force survey data from the OECD and *www.ine.cl*

Table 16. **Work income by job status**
Average employee income = 100

	1995	1998	2000
Employer	897	617	451
Self-employed	145	103	82
Employee[1]	100	100	100
All groups	130	111	100

Note: Average incomes of employed persons according to household budget surveys.
1. Excluding personal services.
Source: *Ingreso de Hogares y Personas*, 1995-2000.

pay little or no income tax as a result of a relatively high basic deduction. Above this limit, the tax rates for wage earners range from 5 to 40 per cent. Mandatory social insurance contributions are paid on the whole wage up to a ceiling of about four times the average wage, with a total contribution rate of around 24 per cent (13 per cent to pension funds, 7 per cent for health care, sickness and maternity care, 1 per cent for work injury insurance and 3 per cent for the new "unemployment" insurance, *seguro de cesantia*).[58]

In spite of these moderate contribution rates, the social insurance coverage of the population is relatively low by OECD standards, as is the case in most middle and low-income countries. Not only do many citizens have little social protection; this also means that social spending in the future must probably continue to include a substantial component of minimum and assistance pensions and other programmes financed by general revenues, over and above the social insurance spending that can be funded by employer and employee contributions.

Social security contribution is mandatory for employees but voluntary for the self-employed. However, the contribution density to pension funds is very low as discussed in Chapter II. About 23 per cent of employees and 92 per cent of the self-employed did not contribute in the average month. This corresponds to 44 per cent of all the employed according to labour force surveys.[59] The non-payment of contributions is widespread in all income brackets, but particularly high in the lowest income quintile.[60] Assistance pensions are paid from age 65 to persons without resources, so that the effective minimum pension is around 30 per cent of the average wage.

In principle, it would be desirable to make social insurance compulsory for all workers including the self-employed. But this would increase enforcement costs, and it may also provide an undesirable incentive for the self-employed to under-report incomes for tax purposes. However, international experience suggests that these possible disadvantages might be limited if the self-employed were required to pay contributions only for a low notional income amount, which could be calculated to finance a minimum pension within the funded system.

Unemployment benefits should be increased if affordable

If Chile can afford some increase in its social benefit spending in the near future, it should give priority to the support of unemployed workers. As mentioned already, the need to encourage the use of indefinite labour contracts makes it desirable to reduce the maximum amount of severance payments by employers, for example from eleven to five monthly wages. But such a step may be considered to justify some increase in public benefits paid to dismissed workers, perhaps both under the new insurance (*seguro de cesantía*) and under the unemployment assistance programme that is connected with the family benefit system (see Chapter V).

However, with higher spending on benefits for the unemployed, their administration will require more resources. As far as possible, the administration of both severance and unemployment assistance benefits should combine the necessary controls of availability for work with an element of job counselling and practical assistance in seeking jobs. OECD experience suggests that the more generous the benefits are, the more important will it be to apply effective controls – especially checking that applicants seek jobs in the formal sector and that they are not already working.

Most OECD countries have national employment-service agencies whose role is to coordinate "active" and "passive" labour market policies. A series of OECD policy reviews has been devoted to these policies.[61] The different social conditions in Chile will probably justify different solutions in many respects, but cooperation with OECD countries could nevertheless reduce the risk of expensive policy mistakes, including the risk of fostering benefit dependency and so creating a "poverty trap". Of particular interest, perhaps, is the recent experience of countries that have sought to achieve these goals within more decentralised employment-service networks, for example by entrusting the individual case management to private or municipal bodies on a competitive basis.[62]

Spending on active labour market programmes for the unemployed is modest. The "P*ro-empleo*" programme, which concerns about 65 000 persons annually, can support investments of importance to communities with high unemployment, and it pays subsidies to employers who recruit dismissed workers and offer them training. Although OECD experience points to the potential advantage of active measures as opposed to the mere administration of cash benefits, evaluation studies in many countries have shown mixed results. Against this background, it is probably justified in Chile to continue implementing them on a modest scale so that they can be carefully designed and targeted on the most needy.

Labour market policy also has a role in promoting training of the employed workforce at large. Apart from promoting a set of institutions that generally favour on-the-job training – including a wider use of indefinite contracts – many governments provide some specific advice and support towards enterprise training. In Chile this is done by the National Training and Employment Agency (SENCE), which manages an optional employee training scheme to which enterprises with about 800 000 workers are affiliated. Employers who choose to participate in the training scheme have the right to a tax deduction of up to 1 per cent of the wage sum. They can select workers for training and decide about its content, but if they let bi-partite bodies make such decisions they receive an additional tax deduction. While this programme plays a positive role, available information suggests – in Chile as elsewhere – that workers who are already well-educated are over-represented among participants in enterprise training, whether on or off the job. This points to the paramount importance of improving general education, as discussed in the following chapter. In Chile as in OECD countries, all young people will in the future need such initial education that prepares them well for life-long learning.

V. More equity and quality in human capital investment

An ambitious social agenda

The improvement in access and efficiency of education and health care has been one of the government's main priorities since 1990. Through these policies, the current administration aims at reducing poverty and income inequality, but also seeks to improve human capital and as such increase welfare that should provide broader foundations for growth. To improve schooling, the government started to introduce full-day public education since 1997 (to be completed by 2006). In health care, a new universal health insurance should become operational in 2004.

The financing of both reforms while maintaining macroeconomic stability has become a matter of political debate. As growth has slowed down, these reforms are partially funded by a temporary increase of the VAT rate as of October 2003. However, the government is aware that additional taxation may hamper growth. Thus, it tries to strike a balance by moderating the tax increase and stretching out the reform schedule.

The government is also trying to improve solidarity in education and health care while continuing to build on freedom of choice. In education, the government is considering how to improve the quality of public schools and reduce the segmentation of students between the public and private sectors. In health care, the policy is to establish a large solidarity fund hoping to increase incentives for private insurers to absorb more of the elderly while providing more funding to the public system at the expense of the private system.

In addition to the education and health care policies, the government also has targeted poverty alleviation. In particular since 1990, it has increased the minimum wage, family allowances, assistance pensions and social housing programmes. Moreover, in 2002 an insurance mechanism was introduced for the unemployed providing a minimum allowance during five months. Finally, the government has introduced a special programme in 2002 that aims to eradicate extreme poverty by 2006 (*Chile Solidario*). These policies have contributed to poverty reduction, but further progress in this area critically depends on the resumption of economic growth.

Poverty reduction is mostly driven by economic growth

Following a decade of economic recovery, Chile had by the late 1990s more than reversed the severe decline in living standards it suffered in the early 1970s and, again, in the mid-1980s. Real GDP per capita increased as much as 6 per cent per year during the period of 1988-97 and has continued to grow, albeit at a lower pace in recent years, and apart from a temporary setback in 1999. On average, for the five years 1998-2002, real GDP per capita increased annually by about 1.7 per cent.

Several indicators confirm that material living standards have greatly improved over the past decade. Intensive housing construction – about 120 000 new dwellings per year on average from 1993 through 2002 – combined with targeted subsidies for the poor allowed a visible reduction of the share of households living in semi-permanent homes or in dwellings without water or electricity (Table 17). Similar improvements occurred in the accession of households to motor vehicles and various types of home equipment as well as to health and education.

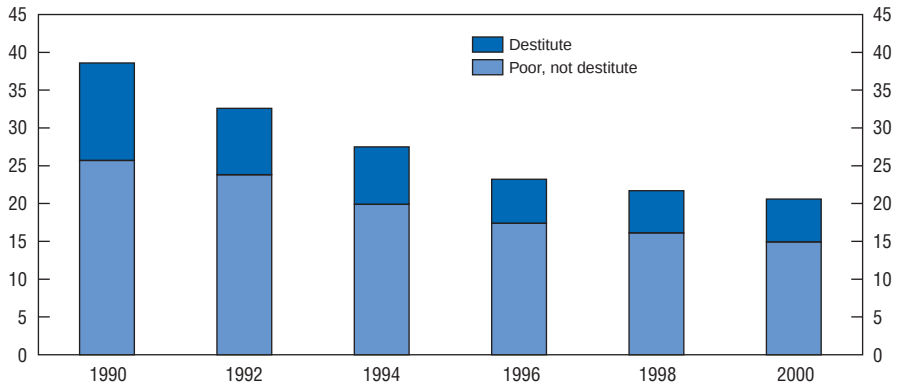
The incidence of poverty has declined substantially. As measured in constant absolute terms – based on an official poverty line linked to the price of a consumer basket – 21 per cent of the inhabitants were poor in 2000 compared with 39 per cent in 1990 (Figure 24). The most extreme or "destitute" group among the poor, whose incomes could not buy the minimum food requirements, fell to 6 per cent of the population in 2000 down from 13 per cent in 1990.[63]

Table 17. **Improvements in living standards between 1992 and 2002**
Per cent of dwellings or households

	1992	2002
Housing conditions		
Without water and/or electricity	20	9
Semi-permanent or mobile homes	9	4
Households sharing dwellings with others	11	10
Households with more than one nuclear family or single person	34	31
Various types of equipment		
Motor vehicle	21	32
Colour TV	53	87
Video recorder	18	36
HiFi etc.	30	66
Washing machine	11	79
Refrigerator	55	82
Microwave oven	4	30
Telephone, fixed	24	52
Telephone, cellular	1	51
Computer	. .	21

Source: INE, Population census 2002.

Figure 24. **Incidence of poverty**
Per cent of the population



Source: Contreras *et al.* (2003b).

The main driver of the fall in poverty in the 1990s was growth. According to Contreras (2003a), 87 per cent of the reduction in poverty between 1990 and 1996 is accounted for by growth. This result is robust for alternative levels of the poverty line. Growth did not seem to have had an impact on income inequality. In fact, inequality in earnings in Chile seems to be explained mostly by years of education. Thus, improved access and quality of education are powerful tools for reducing poverty and inequality.

Education system's performance

Main features of education

Pre-university education is organised in three phases. Eight years of obligatory primary education is followed by four years of secondary education, also compulsory from 2003 onwards. The latter is split into two years of general tuition and two years of either humanistic-scientific or technical-professional courses. Children must enrol in primary school at the age of six, although two-thirds of the four and five years old also attend the optional pre-school.[64] The present management system of education, designed in the early 1980s, is decentralised, devolving considerable decision-making to municipalities and private schools.[65] Primary and secondary education is provided by municipal schools, subsidised private schools and private fee-based schools. The first type is financed by vouchers supplied to schools by the state and managed by the municipalities (see Box 15). Municipal

schools also often receive varying amounts of additional subsidies from the municipality and national programmes. Moreover, many municipal secondary schools receive limited co-payments from parents. The second type of schools is similarly financed by vouchers plus often additional contributions from parents and is privately run. The third group is financed exclusively by fees charged to parents. Subsidised private schools differ from municipal schools in that the former *de facto* select students, even though they are not allowed to do so by law, and negotiate their own teachers' contracts while respecting minimum norms.[66] The private fee-based schools have almost complete freedom to negotiate teachers' salaries and labour conditions. After the introduction of the voucher system in 1980, many parents moved their children from municipal to subsidised private schools. By 2001, 37 per cent of all students were enrolled in the latter type of schools.

Real public expenditure on education increased by around 40 per cent between 1989 and 2001 to 4.4 per cent of GDP, after real spending and real teachers' salaries had fallen by about 30 per cent in the 1980s (Bravo, 2000). About two-thirds of this increase went to the improvement of teachers' salaries, which increased between 144 (average teacher wage) and 174 per cent (minimum teacher wage) in the 1990s. The other third was used to hire new teachers and increase working hours of existing teachers in the context of the introduction of the full school day (see below), as well as to improve the schools' equipments (*e.g.* computers and libraries). Today teachers are well paid in comparison to countries with similar income levels as well as OECD countries in general.[67] Private spending as a share of GDP also strongly increased in the 1990s to 3.3 per cent of GDP in 2000. Whereas public spending on education as a share of GDP is lower than in all OECD countries (except Ireland and Korea), private and total spending as a per cent of GDP are higher (OECD, 2002b; OECD, 2002c). Moreover, Chile has the highest proportion of private spending in total educational spending.

Large increases in coverage but low quality

Chile has achieved an almost universal coverage of its primary education (97 per cent in 2001) compared to 95 per cent in 1990, while that of secondary education increased substantially since 1990 (from 77 to 85 per cent between 1990 and 2001). Pre-school coverage reached two-thirds of the 4-5 year old children, while that of tertiary-education attained 28 per cent in 2001. Moreover, Chile stands out for its very low repetition and desertion rates compared to the rest of Latin America. The average years of schooling of the working population increased from 8 to more than 10 years between 1990 and 2000. Illiteracy also declined in the 1990s from 6.2 to 4.4 per cent of the population aged 15 and over.

While the coverage of education has increased, its quality is relatively low compared to international standards but high relative to the region, according to the OECD Programme of International Student Assessment (PISA+) international

Box 15. Vouchers for education: theory and practice

A voucher system for education is a funding arrangement under which parents receive entitlements for each school-aged child from the state, which they may "cash-in" at a specified set of schools. In turn schools redeem them for "cash" from the government. Vouchers potentially affect student achievement through three interrelated mechanisms (Hsieh and Urquiola, 2002). First, vouchers provide for *individual choice* which contributes to personal satisfaction and motivation. In particular, vouchers provide opportunities for students from low-income families who otherwise would have limited school options. These students would move from the public to the private sector. Assuming that the latter is more efficient than the former in student outcomes, this shift should improve the performance of the entire system. Second, vouchers may generate greater socio-economic polarisation of students among schools as students seek to achieve the same results as their fellow students (peers). The impact of this peer effect on performance is uncertain and depends on how it affects the performance of different groups of students. Third, vouchers could help increase efficiency (learning outcomes and costs) through competition among schools, financed by public funds, to attract and retain pupils, as their budget depends directly on enrolment and attendance.

The Chilean system differs from the typical voucher system, as the government pays the per-child subsidy directly to the school chosen by the parent, also known as an implicit voucher system (OECD, 1999c) or a "funds-follow-the-child system" (Mizala and Romaguera, 2000). Only municipal and private schools that set a limit on co-payments from parents are eligible to receive vouchers. In particular, the government pays each school a multiple of a "school subsidy unit" (USE) for each pupil effectively attending. The multiple varies according to a school's provision of education (half or full day education, level of education) and the amount of co-payments by parents, but is the same for municipal and subsidised private schools (Sapelli and Vial, 2002). The real value of the voucher (USE) increased at an annual rate of 11 per cent between 1990 and 2001.

In the 1980s there was an almost free market for education enabling the voucher system to develop quickly. There was no teachers' union, no collective bargaining, teachers were on individual contracts with private and public schools and could be fired at any time. Market rules changed in 1991 with the introduction of the "Teachers' Statute", which enforces central wage negotiation and protection against dismissal for teachers in municipal schools. Other rules were also introduced in the 1990s. From 1993 all subsidised private schools and public secondary schools were formally allowed to charge supplementary payments to the pupil's parents on top of the vouchers and other fees, such as "suggested parent contributions". From 1995 the schools' test scores (SIMCE), which previously were made available upon parents' request only, were made public.

Empirical studies on Chile and OECD countries (voucher systems or similar variants were operated by New Zealand, Scotland, Sweden and some cities in the United States) show that vouchers and school choice in general has proved

Box 15. **Vouchers for education: theory and practice** (*cont.*)

neither cure-all nor a catastrophe for the quality of education in terms of educational achievement and cost efficiency (Ladd, 2002; OECD, 2002a). In Chile subsidised non-religious private schools show marginally lower achievements than municipal schools but students in Catholic voucher schools score higher (McEwan and Carnoy, 2000; McEwan, 2002). Results in other countries also tend to show that, adjusted for the socio-economic background of pupils, subsidised private schools neither produce better test scores nor have lower costs. Another outcome in Chile and other countries is that vouchers aggravate the socio-economic stratification of schools, since private schools select students and charge extra fees which penalise students from low-income families. This effect is somewhat mitigated by the obligation to set 15 per cent of the parent's co-payments aside for scholarships. Moreover, school choice by parents seems to be more often based on the social composition of the school's students than school quality. Hsieh and Urquiola (2002) conclude that vouchers system in Chile widened the variation in educational outcomes across students. Finally, there is no strong evidence on the impact of competition on school performance. For Chile, McEwan and Carnoy's study (2000) shows that competition led to marginally better scores in Santiago but small, negative effects elsewhere. Hsieh and Urquiola (2002) estimated the net effect of the three mechanisms combined during 1981-2000 in Chile and found only a small and statistically insignificant effect of vouchers on student achievement.

comparisons of average reading, mathematics and science of 15 year olds (Table 18) (OECD, 2003c).[68] Chile's highest score among the South American countries and comparable to Mexico, in particular in science, comes at the highest cost in terms of the ratio of cumulated spending on education to GDP per capita. Moreover, Chile's outcome is far worse than expected on the basis of per capita national income or per student spending levels in OECD and six other countries (Figure 25). It should be noted that Mexico spent substantially less in absolute and relative terms than Chile while achieving a slightly higher learning outcome, but its coverage of secondary education is substantially lower (52 compared to 84 per cent, respectively). Chile has a lower standard variation in student performance than the average of the OECD countries, Argentina and Peru. Brazil's standard deviation is even lower than Chile's, but this originates mainly from the low 15-year old enrolment rate. A worrisome outcome for Chile is that it has a very low share of students in the highest score quintile, even below that of Brazil, which may reduce the potential for development of highly skilled activities. Another feature of Chile is that in contrast to OECD countries differences in performance take place between rather than within schools. In other words, in Chile there is a

Table 18. **Student performance and educational cost**

	Performance on the combined reading literacy scale	Performance on the combined mathematical literacy scale	Performance on the combined scientific literacy scale	Average performance	Cumulative expenditure on educational institutions per student	
					(USD PPP) (1999)	Ratio to GDP per capita
Japan	522	557	550	543	54 737	2.1
Korea	525	547	552	541	30 246	2.0
France	505	517	500	507	55 086	2.2
OECD average	500	500	500	500	. .	. .
United States	504	493	499	499	72 119	2.1
Hungary	480	488	496	488	21 997	1.8
Spain	493	476	491	487	41 267	2.0
Poland	479	470	483	477	18 586	1.9
Russian Federation	462	478	460	467	. .	. .
Portugal	470	454	459	461	41 166	2.5
Mexico	422	387	422	410	12 189	1.3
Chile	**410**	**384**	**415**	**403**	**17 820**	**1.9**
Argentina	418	388	396	401	18 893	1.5
Indonesia	371	367	393	377	1 164	0.4
Brazil	396	334	375	368	10 269	1.3
Peru	327	292	333	317	3 479	0.7

Source: OECD (2003c).

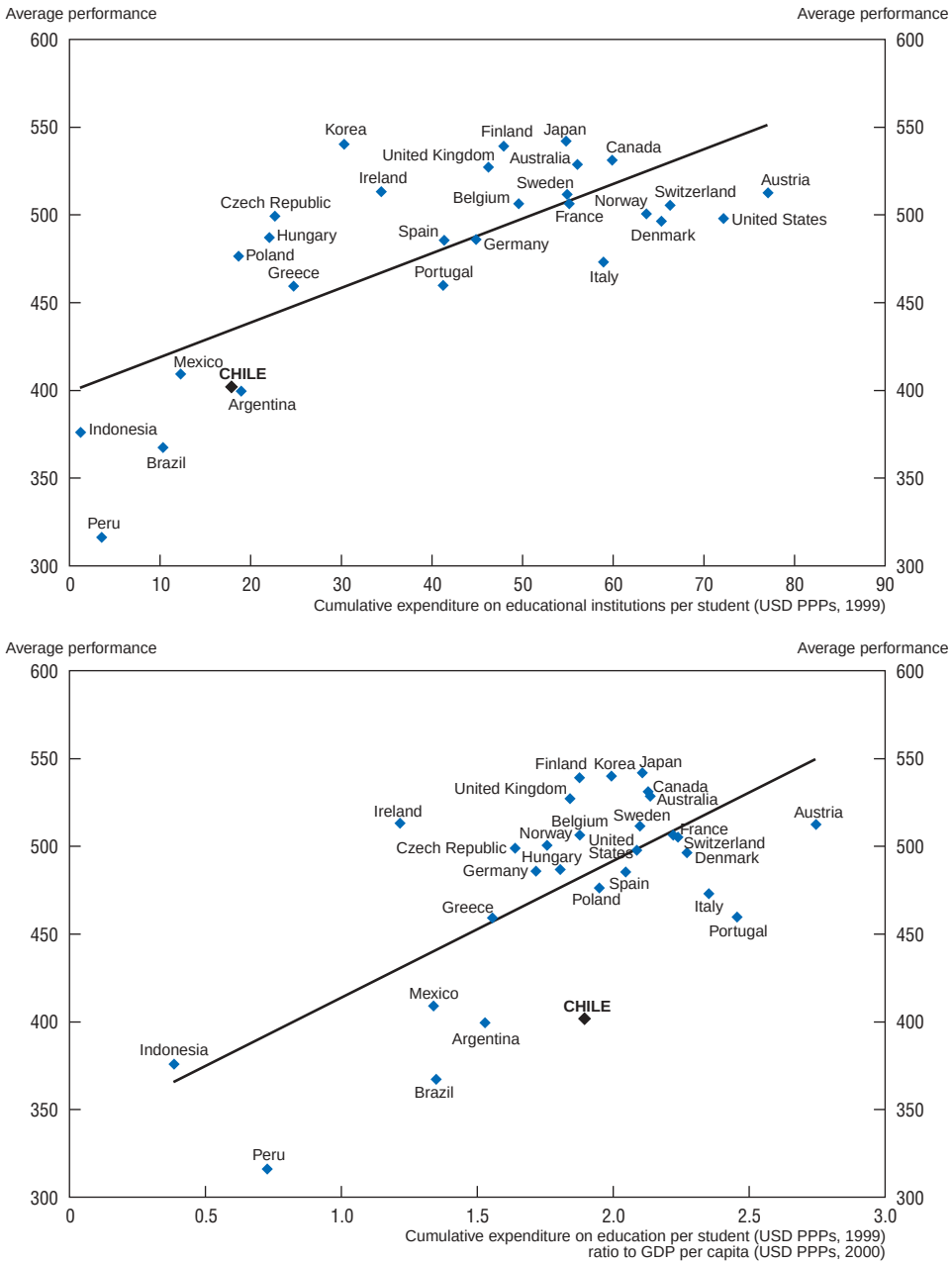
larger degree of clustering of students with particular socio-economic characteristics in schools than in other countries. It is not clear how much of this clustering depends on large regional differences.

Chile's low scores in PISA+ are in line with those from the Third International Mathematics and Science Study (TIMSS) carried out in 1999. When Chile's 8th grade math TIMSS performance is compared with that of the United States, controlling for socio-economic characteristics of student and school inputs, the two came out equal. This seems consistent with the PISA+ results of Figure 25, where the United States and Chile are about the same distance below the regression line.

The question of quantitative vs. qualitative targets

Considering that time spent in school is a key determinant of the quality of schooling, the government is shifting from half to full-day education at municipal and subsidised-private schools since 1997. These reforms require large additional funds for the construction of new class rooms (USD 1.1 billion, of which USD 640 million has already been spent) and also extra funds for teachers (a 35 per cent addition to the voucher value). This is financed out of general taxes. Originally all schools were forced to shift to full-day education by 2003. However, by end-2002, only 75 per cent of all subsided schools (66 per cent of pupils) had

Figure 25. **Educational spending per student and student performance (PISA+)**



Source: OECD (2003c).

built additional infrastructure and had shifted to full-day education. The deadline for the remaining 25 per cent has been postponed to end 2006 for municipal schools and 2009 for subsidised private schools.

The government is currently carrying out and discussing other measures to improve the quality of the educational system. The priorities are: *i*) the expansion of the pre-school coverage; *ii*) a campaign to improve writing and mathematics in the first four years of education; *iii*) the extension of the obligatory education from 8 to 12 years; *iv*) establishing a system to assess teachers' performance and evaluation, following an agreement between the government and the teachers' union; and *v*) teachers' training programmes. Other policies focus on the improvement of the management and accountability at the school level.[69] Moreover, the government intends to promote competencies of students and workers that favour Chile's integration in the global economy and adoption of new technologies. In particular, the teaching of English language and digital literacy are being developed. Finally, the government has also an "advanced human capital agenda" aiming to promote higher education (for further details, see OECD, 2003f).

Although these measures may help improve the school system, a deeper reform is likely to be needed. This requires not necessarily more but better spending. In particular, the decentralisation of management from the municipalities to the schools should be accelerated, in particular with regard of the administration of personnel. At the same time, the Ministry should reinforce its role in setting minimum quality standards for schools.[70] The dynamics of the school market could also be improved. Poorly functioning schools should be closed or the management changed if they show no improvement even when assisted by the P-900 programme (see below). The mobility of teachers should be enhanced together with better testing of their abilities.

A weakness is the large variance in the quality of teachers due to teacher education that is controlled by university departments in default of national standards. Teacher training should be improved in the areas of mathematics and language. Teachers' educational curriculum should be better matched with the new educational requirements. Moreover, the basic salary scales of teachers could be broadened. At present, a teacher with 15 years of seniority earns only 10 per cent more than a newcomer (OECD, 2002b).[71] Moreover, wages could be made more dependent on performance. In this regard, the existing National System of Performance Evaluation (SNED), applied to all subsidised schools since 1997, is a step forward to link performance to teachers' bonuses.

Building on the freedom of choice for students, the government intends to intervene with measures that would broaden access and increase equity. Since 1990, special programmes (P-900 and L*iceo para todos* that focuses on secondary schools) provide technical and material support for many of the lowest performing schools in the country. Recent research suggests that schools

participating in P-900 in the 1990s improved their performance relative to other schools (McEwan and Urquiola, 2003). Moreover, scholarships for secondary schools exist, as well as school programmes to improve children's health and nutrition. To reduce polarisation, a new law would oblige subsidised private schools to enrol at least 15 per cent poor children. Moreover, these schools would no longer be allowed to select children, except on the basis of geographical proximity or presence of brothers and/or sisters in the school.

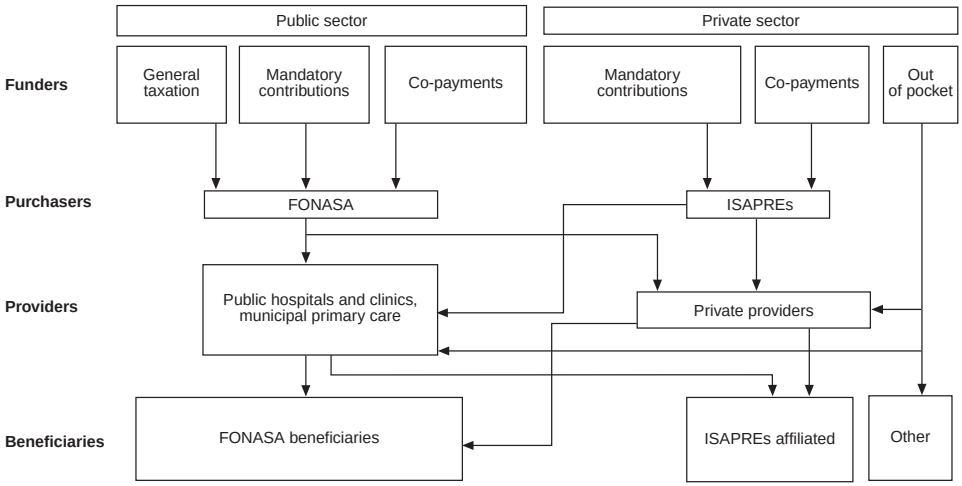
In this context, the government should also consider adjusting the value of the voucher to the characteristics of the student (with costly-to-educate children receiving larger vouchers) and the characteristics of schools (with heterogeneous schools in terms of student population getting larger vouchers than homogeneous schools). Recently this has been done for some of the poorest students through the P*ro-Retención* programme, but voucher differentiation should be extended to the entire school population. Providing incentives to schools is probably preferable to the government's proposal to impose on private schools an intake of students from poor families and prohibit selection. Although the possibility of municipalities to provide extra subsidies to their schools on top of vouchers should be viewed as positive in terms of local involvement in education, the voucher should remain the main source of funding for schools. Moreover, to reduce the risk of aggravating inequality between municipalities, with the rich ones providing more subsidies than the poor ones, municipalities could be obliged to pay part of the additional subsidy into a national fund for redistribution. It is also important to ensure that additional municipal funding is not attributed to maintain schools that lost funds due to a reduction of pupils enrolled and their corresponding vouchers. The assessment of schools could be improved by evaluating schools on the basis of value added scores (SIMCE scores corrected for socio-economic characteristics of school population) instead of gross scores, like in some OECD countries such as the Netherlands. Recently a special commission has been established by the Ministry of Education to study the feasibility of this proposal.

Improving equity and efficiency in health care

Overview of the system

The Chilean health system is a mix of a public-integrated model and a private insurance/provider model. It is a dual system created in 1981 in which both the state and the private sector participate in health care insurance and health care delivery (Figure 26 and Box 16). Both types of care are funded through a mandatory contribution of 7 per cent tax (up to a fixed cap) on wages and pensions, general taxation, co-payments, and out-of-pocket payments. Each individual can choose to pay its contribution to either one of the private insurance companies (Health Provision Institutions, ISAPREs) or the public insurance fund

Figure 26. **Health care structure**



Source: OECD.

(FONASA). The public and private funds subsequently provide insurance coverage for their affiliates for a defined package of benefits. People with income below a threshold are by definition covered by public insurance. Health care is provided by public and private clinics and hospitals. ISAPREs and FONASA give their beneficiaries free choice between the public and private providers, although co-payments are required. Health care is regulated by the Ministry of Health. The Chilean system differs from those in OECD countries, where private insurance is either the main form of financing health coverage (Switzerland and the United States),[72] or a prominent payer operating along public coverage systems (France, Australia, Ireland, the Netherlands and Germany) or has a limited role (Japan, Mexico, Nordic countries). No OECD country has a system in which individuals can choose between either public or private insurance, although in Germany individuals may opt out of public coverage and in the Netherlands about a third of the population is not eligible to public coverage.

Chile's total public and private health care spending amounted to 7.2 per cent of GDP in 2000, which is above several emerging economies in the OECD (Mexico, Korea, Poland, Hungary) but below the OECD average of 8.2 per cent (OECD, 2003d) (Figure 27). Health spending increased rapidly in the 1990s, after a drop in the 1980s. In OECD countries, relative spending also increased but, in contrast to Chile, more slowly in the 1990s compared to the preceding decade. In 2000, average spending per person on health (based on purchasing power

Box 16. The dual Chilean health system

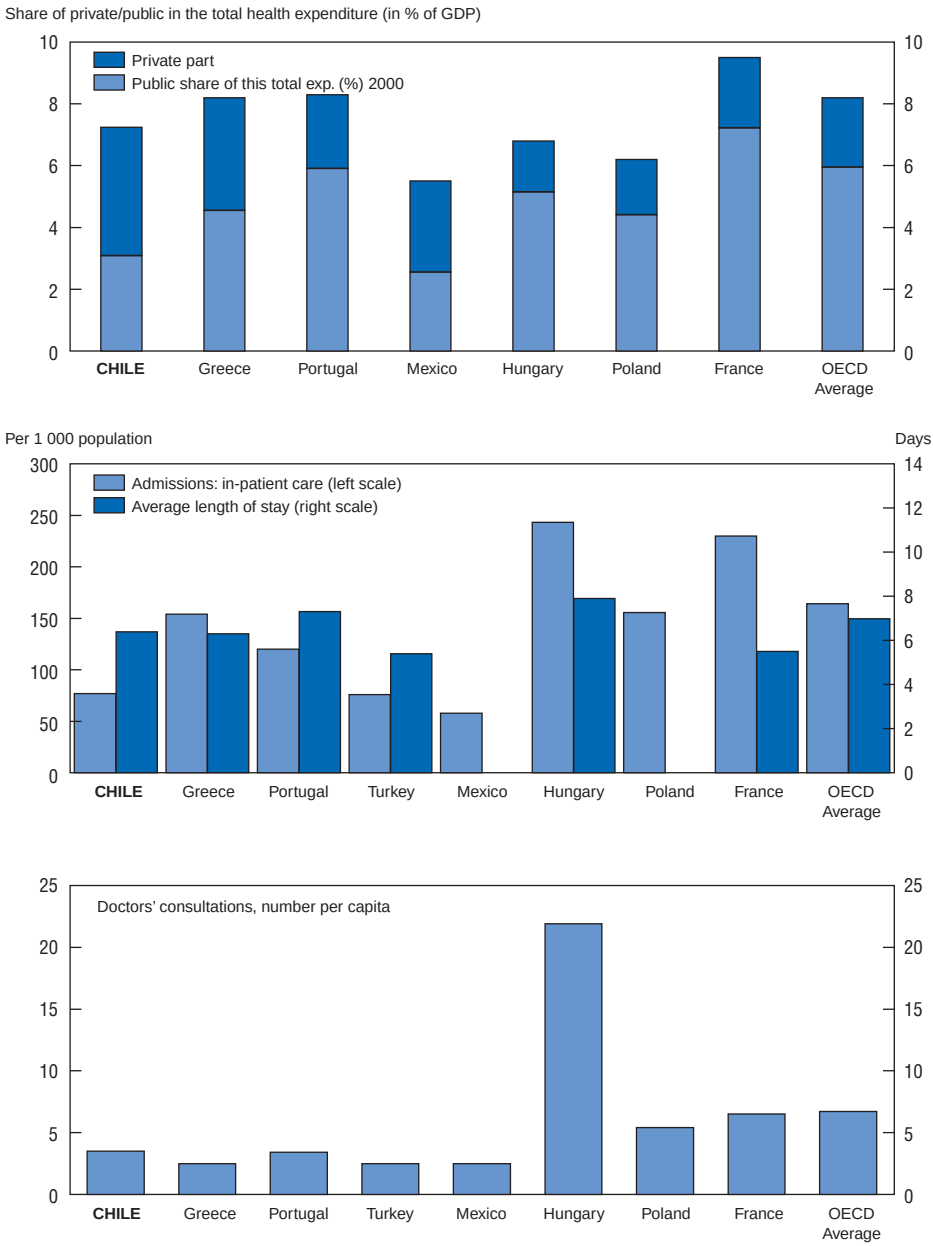
Most of the population (in particular low- and middle-income people and retirees totalling 66 per cent of the population in 2000) is covered by FONASA, which finances care for its beneficiaries delivered by mainly the National Health Services System (hospitals and clinics), the municipal system of primary care and private providers (via a "free-choice modality"). FONASA acts as a decentralised financing agency: it collects contributions and distributes funds to providers via a network of 28 local Health Services. Below a certain income threshold, beneficiaries obtain public health services free of charge. In 1999-2000, FONASA was financed for about one third by mandatory contributions, about one half out of general taxes, 8 per cent by co-payments and the rest by out-of-pocket payments. In the same years, 13 per cent of the population was covered by other public agencies (mainly army and police health services).

Affiliation to private insurance via the ISAPREs increased over time up to a peak of 26 per cent of the population in 1997, but subsequently fell to 20 per cent in 2000 (FONASA, 2002). Correspondingly, the number of ISAPREs fell from 34 in 1990 to 18 in 2003, of which 10 are "open" and 8 "closed" (*i.e.* limited to employees of specific companies only). Most ISAPREs' affiliates are young and middle-aged with middle or high incomes. ISAPREs offer many policies (around 30000 by end-2001) and are free to set the corresponding premiums, which depend on age, gender and the number of insured, the coverage of the insurance and the degree of co-payment. In contrast to FONASA, ISAPREs have the right to reject individual applications. Individuals are allowed to buy policies in excess of the 7 per cent of their income. ISAPRE's insurance policies have a stop-loss character which means that the insurer will reimburse the beneficiary only up to a certain limit, except in the case of incurable illnesses. ISAPREs are supervised by the Superintendency of ISAPREs. They contract out to private and public hospitals and primary care facilities and operate some clinics of their own. ISAPREs are almost entirely funded by the mandatory contributions. In 2000, the average contribution to ISAPREs was four times that to FONASA.

Public health providers obtain their funding mainly from FONASA (around 90 per cent), co-payments by patients, reimbursements from ISAPREs that use public services and out-of-pocket payments. FONASA's transfers are based on historical budgets (of which 70-80 per cent are wages and salaries) and on actual services provided (variable costs). Decisions on hiring, wages and investment are taken centrally by the Ministry of Health. Private providers are financed through the public and private insurances (FONASA and ISAPREs), co-payments of both insurances' affiliates and out-of-pocket payments (Titelman, 2000).

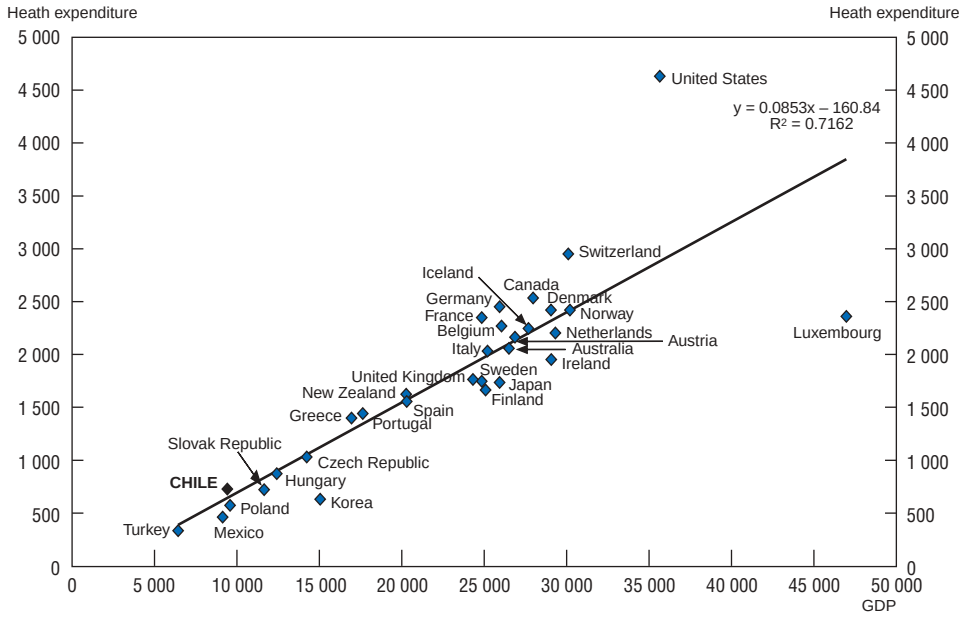
parities) was almost USD 700 (WHO, 2002), which was 60 per cent below the OECD average. In fact, there exists a significant relationship between per capita income levels and per capita spending (Figure 28). In 2000, the share of public spending in the total in Chile (40 per cent) is (jointly with Korea, Mexico and the

Figure 27. **Key features of health care, 2000**



Source: Ministry of Health and OECD, *Health Data*, 2002.

Figure 28. **GDP and health expenditure per capita, 2000**
USD PPPs



Source: Ministry of Health and OECD, *Health Data*, 2002.

United States) far below that of other OECD countries (73 per cent). In Chile, Mexico and Korea, the public share in total health spending has been increasing over time, while it has been generally dropping in the higher-public share countries. Overall there is a trend toward convergence. Another difference with OECD countries is the high share of out-of-pocket spending in the total (34 per cent in Chile compared to 19 per cent on average in OECD countries in 2000). This share fell in the 1990s in contrast to OECD countries.

Assessment of performance

The health status of the Chilean population has converged to that of the average of OECD countries.[73] For example, life expectancy in Chile was seven years below the OECD average in 1975 but today the two are similar. Infant mortality in Chile was twice the OECD average in 1975 whereas today they are almost the same. In this regard, Chile's health indicators compare very favourably to those of Mexico and Turkey. This broadly favourable record of Chile, as in other

developing countries, has been achieved largely by better socio-economic conditions of the population and strong improvement in preventive types of care provided to everyone by municipalities.

In the context of increasing living standards, more and more sophisticated kinds of health care are demanded which require large investments. Moreover, the speed of demographic change will be particularly rapid as the number of people over 60 is expected to increase from 10 per cent today to more than 20 per cent by 2015. These trends will create a strong demand pressure on health care. The high costs of more advanced care with limited mechanisms of solidarity have led to important shortcomings of the health system in terms of access, as illustrated by large differences in adult and infant mortality between regions and socio-economic groups.[74] Moreover, the current system also falls short in providing sufficient coverage for the low-income and elderly. Users of private health services complain about the large co-payments, and those of public health about long waiting lists and poor attendance. A number of reforms are needed to improve health care both in the private and public sectors. While extending coverage, maximum attention must be paid to improve the quality of spending, while containing the cost increase. Despite the ambitious national health care objectives, the government aims to limit health care spending over time to the current 7 per cent of GDP.

Specific problems such as adverse selection, high administration costs, little protection of beneficiaries, have been singled out in the provision of health services by the private insurers. Although a supervisory body was created in 1990 for ISAPREs, regulation has been insufficient to prevent market failures (Mintz, 2000). First, the lack of an *ex ante* risk adjustment arrangement has led to extreme adverse selection. To increase profitability, insurers have an incentive to enrol low-risk individuals and deter high-risk individuals. This is done by offering policies with a limit beyond which costs are not reimbursed, by adapting policies and premiums[75] to the individual risk profile, and by marketing strategies. Elderly do not receive adequate coverage by ISAPREs and either pay out of pocket or are obliged to turn to FONASA for care. Risk adjustment systems have been set up in OECD countries that rely on community rated premiums, in order to reduce incentives to select risks that originate when insurers have to apply the same premium to a bad or a good risk. These risk adjustment mechanisms, however, have not entirely prevented adverse selection (OECD, 2003d).

Second, the ISAPREs have excessive marketing and administration costs (between 8 and 50 per cent with an average of 15 per cent of total costs in 2003, *cf.* Superintendency of ISAPREs). Evidence from OECD countries suggests that moving to a more competitive environment improves efficiency in a system already characterised by multiple insurers. However, there is no evidence that countries with private insurance models can use competition to contain costs

better than countries with single-payer models. In fact, countries with single payers seem to contain costs better through regulatory measures on pricing and inputs. Third, insolvency protection is inadequate. ISAPREs are obliged to accumulate only little reserves to support losses, and affiliates are insufficiently protected against bankruptcy and liquidation (as illustrated by the ISAPRE V*ida* P*lena* which is currently being dissolved). Fourth, since there are no standards to compare policies and performance, it is difficult for consumers to choose an appropriate policy. Fifth, although various ISAPREs participate in the management of care via preferred health providers, they function on a fee-for-service basis. This provides incentives for physicians to increase the number of consultations per patient. In this regard, Chile is similar to some OECD countries such as Australia, the Netherlands and Ireland.[76]

In the public sector, the most important concerns are inefficiency and lack of control over cost. The large increase in expenditure since 1990 has not been accompanied by a sufficient improvement in the quantity and quality of services provided (Rodriguez and Tokman, 2000).[77] A large share of increased expenditure went to increase real wages.[78]

The inefficiencies are related to several factors. First, there is a high incidence of absenteeism of medical personnel in hospitals and clinics. Moreover, many physicians treat private patients in public hospitals who pay the doctor but not the hospital (Rodriguez and Tokman, 2000). Since employees and salaries are centrally managed by the Ministry of Health, individual clinics and hospitals have little scope to improve management of human resources. In particular, hospitals have a bias to admit patients whose treatment is relatively labour intensive (Jack, 2000). Second, about three quarters of transfers from FONASA and the Health Ministry to public providers continue to be spent according to historical cost, the bulk of which is wages and salaries (Titelman, 2000). The Chilean experience, likewise that of some OECD countries, shows that this mechanism rewards inefficient providers, penalises efficient ones and does not lead to the nation-wide allocation of resources on the basis of needs. Moreover, fixed budgets encourage overspending. This model has led to cost over-runs and debts of public providers and individual hospitals in Chile as well as in some OECD countries (Italy, Greece, New Zealand and Portugal). In Chile, hospitals have accumulated payment arrears amounting to 5 per cent of their total budget in 2003. Third, FONASA's refunding to private providers has grown very rapidly and is difficult to control. This is the result of the preference for private health services that beneficiaries may opt for and that FONASA refunds (in part) on a fee-for-service basis. Fourth, there are no effective mechanisms to improve quality. While public clinics and hospitals do their own quality control there is no independent rating. Finally, the patients with chronic and very high-cost illnesses are rejected by private insurances[79] and fall mostly under FONASA, thus putting pressure on its limited resources.

Health care reform proposal

The government has initiated ambitious health reforms in June 2000 which aim at improving access to care, financing and quality of services, responding better to changes in the epidemiological profile and needs of the (ageing) population, and increasing efficiency. These goals should be achieved by 2010. Currently the reforms are in Congress and are expected to be approved in late 2003-early 2004. The most important reform is the so-called Health Guarantee Regime or the Universal Access with Explicit Guarantees (AUGE) Plan. This plan aims at providing equal access to health care for the prevention, primary and hospital care of 56 most common and costly (in terms of death and disability) pathologies.[80] Equal access is defined in terms of indicators of quality, waiting time, and limited co-payments. Given their new rights under AUGE, health care users will be able to enforce the guaranteed care scheme.

Plan AUGE should come with an overhaul of the financing mechanisms of public and private care. Under the new system, each ISAPRE is free to set its own premium of the Health Guarantee Regime. However, within each ISAPRE this premium should be the same for all affiliates, independent of age and sex. The self-employed will also be obliged to pay this premium. The Chilean proposal is very much in line with experience from OECD countries where mandatory insurance and compulsory coverage are used to guarantee full population coverage. A special Fund for Solidary Compensation (*Fondo de Compensación Solidario*), managed by the new Superintendency of Health (see below), will be created to which all public and private insurances' affiliates must pay a "universal solidary premium" of around USD 70 per year out of their 7 per cent wage contribution to health care.[81] This fund will be redistributed to the private and public insurers according to the risk profile of their beneficiaries. The incremental annual cost of AUGE is estimated at 153 billion pesos, representing an 18 per cent increase in total public health spending. The Ministry of Finance foresees that two thirds of the Plan AUGE can be financed out of the current budget and mandatory contributions. About half of the remaining gap will be financed by a temporary increase in the VAT rate of one point taking effect in October 2003. The residual will be funded by efficiency enhancing measures and increased tax revenues expected from the pick-up of economic growth.

The regulatory framework of the ISAPREs will be strengthened. In addition to AUGE, risk adjustment mechanisms will also be introduced for complementary insurance. These risk adjustment mechanisms will reduce but not eliminate the incentive for ISAPREs to refuse high-risk clients.[82] Control of access, quality and marketing practices will also be improved. Moreover, ISAPREs will have to do more financial reporting and keep higher reserves to ensure services in difficult financial times. Another health reform is the introduction of a Charter of Rights of Patients, which foresees the possibility for patients to ask for a second medical opinion and improved access to information.

A final reform, referred to as the Sanitary Authority and Management Act, aims to reinforce the coordination, planning, quality control and regulation of the entire health system. For this purpose, a department for health care provision (*Subsecretaria de Redes Asistenciales*) will be created in Ministry of Health and a separate Superintendency of Health (*Superintendencia de Salud*) for control. This health care provision department will look after the improvement of primary health care provision, as well as the coordination with public and private hospitals and specialised clinics. Management of hospitals will also be made more efficient by granting them more autonomy in terms of organisation and financing. Budgets will become more prospective and performance-related. Specific measures will be taken for hospitals' modernisation and quality control, including the introduction of hospital certification. This proposal is consistent with OECD trends of purchaser/provider split in countries where both financing and delivery of care are publicly administered. The supervisory institution will absorb the Superintendency of ISAPREs and consist of two separate bodies: the "Insurance Body" that controls the implementation of AUGE by FONASA and the ISAPREs, as well the complementary insurance offered by the ISAPREs; and the "Health Provider Body" that provides accreditation of all public and private health care providers.

The Chilean health reforms draw extensively from international experiences. Several caveats, however, remain. First, the funding of plan AUGE requires a large volume of funds, while the room for increasing revenue from taxation is limited. Moreover, the final Plan's cost is relatively uncertain. In this context, it would be advisable to schedule over a longer period of time the introduction of new pathologies into the universal coverage scheme and evaluate the cost and care efficiency of those diseases that are included. Second, the risk that higher revenues appropriation will be disbursed for salaries and benefits to health workers should be avoided, in order to leave room for improving the volume and quality of care. Various relevant indicators of health care quality exist and could be developed, even though some are technically difficult to construct. For example, feed-back from patients could be used for comparative evaluation of service. Third, while it is worth searching for more competition among health care providers, it is necessary to take into account that similar attempts by OECD countries have often met with market failures such as tight supply conditions, local monopoly positions of providers, and a lack of sufficiently skilled insurance purchasers (OECD, 2003d).

Modest social spending by OECD standards

Public spending on Chile's social programmes (other than education) has recently amounted to about 12 per cent of GDP, or less than in any OECD country except Turkey, Mexico and Korea (Table 19). Although over half of this is devoted to pensions, only around 1.5 per cent of GDP concerns funded pensions in the new

Table 19. **Public social spending as per cent of GDP, 1998**

	Total	Pensions	Health care	Other
Sweden	31.0	14.0	6.6	10.4
Denmark	29.8	11.6	6.8	11.4
France	28.8	13.7	7.3	7.8
Switzerland	28.3	15.4	7.6	5.3
Germany	27.3	12.8	7.8	6.7
Norway	27.0	12.5	7.1	7.4
Austria	26.8	15.7	5.8	5.3
Finland	26.5	12.3	5.3	8.9
Italy	25.1	16.6	5.5	3.0
United Kingdom	24.7	14.2	5.6	4.9
Belgium	24.5	11.3	6.1	7.1
The Netherlands	23.9	10.7	6.0	7.2
Poland	22.8	14.3	4.2	4.4
Greece	22.7	13.7	4.7	4.3
Luxembourg	22.1	11.3	5.5	5.3
New Zealand	21.0	6.6	6.6	7.8
Spain	19.7	10.6	5.4	3.8
Czech Republic	19.4	9.5	6.5	3.4
Iceland	18.4	8.0	7.0	3.4
Portugal	18.2	9.8	5.1	3.2
Canada	18.0	6.1	6.4	5.5
Australia	17.8	6.5	6.0	5.3
Ireland	15.8	4.6	4.7	6.6
Japan	14.7	7.4	5.7	1.6
United States	14.6	7.0	5.9	1.8
Slovak Republic	13.6	8.7	. .	. .
Chile (2000)	**11.6**	**6.4**	**2.7**	**2.4**
Turkey	11.6	5.5	4.0	2.1
Mexico	8.2	4.9	1.9	1.4
Korea	5.9	2.4	2.4	1.2

Note: Education is not included.
Source: OECD: ECD-SOCX data for 1998. Chile: Ministry of Planning and Cooperation (MIDEPLAN) data for 2000.

system that was introduced in 1981 (*cf.* Chapter II). Approximately 2.5 per cent of GDP is still required for pensions paid under the old pay-as-you-go system – the "transition cost" of the pension reform – to which must be added about 1.5 per cent for military pensions and 0.5 per cent for assistance pensions.[83]

Pension spending will shift gradually from the old pay-as-you-go to the new funded system, thus reducing the burden on the Treasury. But the future need for assistance and minimum pensions is difficult to predict; it will depend on how successful the authorities are in promoting contribution discipline in the working-age population. In early 2002, assistance pensions were paid to some 370 000 persons, including over half of the disability pensioners but less than one-fifth of the old-age pensioners (Table 20).

Table 20. **Pensioners and pension amounts by type**

	Old-age, seniority and early pensions			Invalidity	Survivors	Other	Total
	Old age	Seniority or early withdrawal	Subtotal				
Thousands of persons							
New main system	103	150	253	29	114	6	401
Old main system	307	83	390	131	272	46	838
Military pensions	0	79	79	8	56	4	147
Assistance pensions	167	0	167	203	0	0	370
Total	577	311	888	372	441	55	1 756
Average pensions as percentage of the average wage							
New main system	44	67	58	57	24	19	47
Old main system	39	92	50	47	28	65	43
Military pensions	0	161	161	163	57	746	137
Assistance pensions[1]	. .	0	. .	. .	0	0	14
Average	32	97	55	33	30	108	46

Note: The figures refer to 2001 for the new main system and January-June 2002 for the other systems.
1. The minimum pension is about 30 per cent of the average wage, subject to means-testing.
Source: Calculations based on data from *www.ine.cl* and *Estadisticas mensuales de seguridad social*, January-June 2002.

Apart from pensions and health care, *housing* policy takes the most prominent place among Chile's social programmes. Three grant schemes, introduced from 1986 to 1990, support families who build or acquire homes or make sanitary improvements. This includes: *i*) rural housing grants, targeting low-income households; *ii*) general housing grants for households with slightly over average incomes (18 to 20 UF[84] or 1.1 to 1.3 times the average wage) and a certain amount of savings; and *iii*) a "progressive" housing programme (*Programa de Vivienda Progresiva*) targeting poor families that are homeless or marginalised in terms of housing. About 85 000 housing units were supported in 2001. The maximum grants in the three programmes are often 120 to 150 UF (2 to 2.5 million pesos), depending on various conditions. With expenditures of about 1 per cent of GDP, Chile's housing policies appear effective and well-targeted. As mentioned above, the 2002 Population and Housing Census showed that the proportion of households in deficient dwellings had been reduced by approximately one-half over the past decade. But the remaining number of households in such conditions is still large enough to justify a strong policy effort in the near future.

Family benefits, sickness and maternity allowances, work-accident and work-illness compensations, water subsidies, unemployment benefits and *Chile Solidario* (see below) together account for about 1 per cent of GDP. Just like the pension system, most of these programmes – except some family benefits and

Box 17. Family benefits, unemployment benefits and "Chile Solidario"

A state-controlled fund (*Sistema Unico de Prestaciones Familiares y Subsidios de Cesantía*) finances family and unemployment benefits to workers with social insurance. Poor households without social insurance can receive family benefits and *Chile Solidario* benefits from municipal administrations.

Family benefits are means-tested, but paid for as many as 3.7 million children or other eligible persons in the first half of 2002, of which 2.8 million within the main system and 900 000 as municipal assistance. Those eligible are primarily children under 18, or up to 23 if they study, but also disabled mothers and the mentally ill. Municipal family benefits can also be paid to other mothers and pregnant women.

In 2002, an insured family head earning up to 90 per cent of the average wage received a benefit of about 3 600 pesos (around USD 5) per month or 1.5 per cent of the average wage per eligible person. With incomes between 90 and 140 per cent of the average wage, the benefit was about 0.5 per cent of the average wage. The same maximum amount applies to municipal family benefits, which can be paid for up to three years in cases of extreme poverty.

Unemployment benefits are paid for up to a year to workers who lose their jobs after having contributed for a year to social insurance. They must report to municipal offices, where they are entered into unemployment registers that can serve as a basis for assignment of work for the community. The benefit amount is very low, in 2000 about 17 300 pesos (around USD 25) per month or 7 per cent of the average wage in the first three months of unemployment, then reduced in two steps. Only 49 000 workers received such benefits in any month in the first half of 2002 – less than 10 per cent of the unemployed according to labour force surveys.

To address the specific problem of persistent extreme poverty and indigence, the government has implemented since May 2002 a new programme, called *Chile Solidario* which aims to eradicate extreme poverty in the next few years. This programme carefully targets the indigent hitherto excluded from the social protection system and focuses on families rather than individuals. It also streamlines the existing assistance instruments by bundling different social services, connecting excluded groups, *e.g.* indigenous communities, reducing the number of intermediaries in the provision of social services and finally eliminating quotas of cash benefits for the poorest. Overall the programme will involve around 225 000 families. In particular, it comprises a cash benefit of 10 500 pesos (around USD 15) per month (4.3 per cent of the average wage) and a variety of different measures to promote development in poor parts of the country. Led by the Ministry of Planning and Cooperation, this new policy effort involves many branches of government and the private sector.

Chile Solidario – target workers who contribute to social insurance; thus they concern dependent employees in the formal economy and a small number of self-employed workers who contribute voluntarily. Sickness and maternity allowances and work-injury benefits compensate the loss of a wage, or a significant part of it.

Family and unemployment benefits represent substantially lower amounts (see Box 17). Family benefits are usually paid out by employers – who deduct them from their social insurance contributions – but poor families who do not adhere to social insurance can receive family benefits via municipal administrations.

Apart from the modest family benefits, Chile has practically no social safety net for poor people without social insurance – unless they are eligible for assistance pensions. To address this problem, the government began in 2002 to implement a new programme called *Chile Solidario* for households that fall outside the existing social protection system, a group then estimated to include 225 000 families. Given that extreme poverty and indigence are relatively low and well delimited to some segments of the population, such a programme can potentially be very effective. By May 2003, about 59 000 such families had been reached and 44 450 received a monthly cash benefit while some 5 000 persons were involved in local development projects.[85] This policy effort has also reportedly led to the extension of public health care, maternity care, vaccinations and education to several thousand additional households.

While modest, most social programmes discussed in this section appear well targeted on the poor. According to an official study, 73 per cent of the money spent on social benefits in 2000 went to the two poorest quintiles (the poorest 40 per cent of households), of which 45 percentage points to the bottom quintile (Table 21, Panel A). Although the cash benefits considered here contributed only 1.3 per cent of the average household's disposable income, they represented 14 per cent of incomes in the lowest quintile (Panel B). Public subsidies towards health care (not counting the insurance) and education are also highly progressive in Chile, reflecting the predominance of privately financed provisions in higher-income groups (*cf.* above). Because public education and health care spending is higher than the cash-benefit expenditures, the impact on poor households' living standards is also more substantial.

Social programmes have some impact on the overall income distribution. In 2000, public education, health care and social benefits together (other than the main pension systems) increased the bottom quintile's share of total income from 4 to 6 per cent, while reducing the top quintile's income share from 57 to 53 per cent. A more substantial reduction of Chilean income inequality will depend on the returns of human capital investment and interaction with other policies. In particular, a better functioning of the labour market with less duality would also contribute to the reduction of inequalities.

Table 21. **How social spending affected the income distribution, 2000**

Type of income or service	Quintile[1]					Total
	1	2	3	4	5	
A. Distribution of private earnings and social spending by income quintile (per cent)						
1. Private earnings	4	8	12	18	57	100
2. Social benefits	45	28	16	8	3	100
Assistance pensions	53	25	13	6	2	100
Family benefit (regular)	26	33	22	13	4	100
Family benefit (municipal)	66	24	7	2	1	100
Water subsidy	34	28	22	12	4	100
Unemployment benefit	42	26	11	8	13	100
3. Disposable income (1 + 2)	4	8	12	18	57	100
4. Subsidised health care	48	33	20	7	–7	100
5. Subsidised education	35	28	20	12	5	100
6. Total of disposable income and above services (3 + 4 + 5)	6	10	13	18	53	100

Type of income or service	Quintile[1]					Average
	1	2	3	4	5	
B. Distribution of total household income and in-kind services (per cent)						
1. Private earnings	86	96	98	99	100	99
2. Social benefits	14.0	4.0	1.7	0.6	0.1	1.3
Assistance pensions	7.8	1.9	0.7	0.2	0	0.6
Family benefit (regular)	2.3	1.5	0.7	0.3	0	0.4
Family benefit (municipal)	2.6	0.5	0.1	0.0	0	0.2
Water subsidy	0.7	0.3	0.2	0.1	0	0.1
Unemployment benefit	0.3	0.1	0	0	0	0
3. Disposable income (1 + 2)	100	100	100	100	100	100
4. Subsidised health care	21	8	3	1	0	2
5. Subsidised education	38	15	7	3	0	5
6. Total of disposable income and above services (3 + 4 + 5)	159	123	111	104	100	107

Note: Private earnings include sickness and maternity pay and pensions other than assistance pensions.
1. Quintiles of household income per capita from private sources.
Source: Ministry of Planning and Cooperation (Mideplan) (2001).

VI. Removing administrative barriers and regulating markets

Improving the business environment is a key aspect of the policy agenda for growth. Chile pioneered liberalisation policies in the 1970s and 1980s, but some reforms were designed with a perhaps excessive faith in the functioning of markets. Advances in microeconomic theory and accumulated experience in Chile and OECD have led to a better understanding of the role of economic regulation. Along these lines, the government plans to strengthen its regulatory framework and to improve competition law enforcement by creating a new, independent Antitrust Tribunal with more resources and greater independence from the government.

Although important progress has already been made, regulatory problems have emerged in key infrastructure sectors. A particular challenge concerns the electricity sector. Typically, demand for electricity tends to grow much faster than GDP and therefore a strong pick-up in activity could put pressure on the electricity system. The still high reliance on hydro-power generation also creates specific climatic risks that need to be addressed. The increasing share of imported gas in the energy-mix has reduced this dependence, but new investments in the electricity sector are required. These investments will materialise only through appropriate incentive schemes embedded in the regulatory framework.

The regulation of financial markets also needs to be reconsidered in light of further developments in banking, pension and capital markets. These sectors have undergone a process of consolidation and interconnection, which in turn call for a more unified and integrated regulatory approach. The government is also stepping up its efforts to improve the efficiency and transparency of administrative rules. The government is also using its regulatory power to deepen financial markets (see Chapter III).

The regulatory framework in Chile: a comparison with OECD countries

In order to compare the level and extent of the regulatory framework in Chile with the OECD countries, the Secretariat submitted a regulatory framework

questionnaire to the Chilean authorities.[86] The product market restrictions (PMR) can be decomposed into two main groups: *i*) inward-oriented policies; and *ii*) outward-oriented policies corresponding to barriers to trade and investment. The inward-oriented policies can in turn be decomposed either into state control and barriers to entrepreneurship or into administrative and economic regulation. The results of this self-assessment are presented in Table 22.

Overall PMR in Chile is comparable with other emerging economies in the OECD (Czech and Slovak Republics, Hungary, Poland, Korea, Mexico and Turkey) though nearly double that of the most advanced OECD members. In fact, the aggregate PMR indicator for Chile results from a certain balance between areas where liberalisation is particularly high and other areas where the legal and administrative system is more restrictive or more opaque than in most OECD countries. Chile has low or non-existent restrictions on special voting rights in enterprise capital, control of public enterprises by legislative bodies and enterprise ownership. It has also few anti-trust exemptions. In contrast, product-market restrictions are found in the areas of licence and permit systems and regulatory barriers.

The PMR indicator reveals a certain regulatory and administrative opacity that are addressed in Chile's "Pro-growth Agenda". As these reforms are a political priority, the President has urged the introduction of the administrative "silence is consent" rule, which was approved in May 2003. Other administrative measures are needed to unify access to information on licensing and notifications and set-up "one-stop shops". The barriers to enterprise creation appear to be of some significance.

Despite a very open stance to inward foreign investments, Chile still needs to improve administrative transparency at the international level. Chile did not sign any Mutual Recognition Agreement (MRA) with other countries.[87] There are no specific provisions encouraging regulators to recognise the equivalence of regulatory measures, conformity assessment performed in other countries, internationally harmonised standards and certification procedures.[88]

This assessment leads to the conclusion that the present regulatory framework needs to be improved to meet the liberal standards and principles that broadly characterise the Chilean institutional framework.

Competition institutions are being modernised

Chile's current Competition Law was adopted in 1973. The government regards the principal goal of its Competition Law as being to promote economic efficiency with the expectation that in the long-run this maximises consumers' welfare. Announcing the conclusion of its free trade agreement with Chile in 2003, the United States praised this efficiency orientation. Competition objectives in Chile are currently in line with those prevailing in the OECD. For at least the first 15 years after the adoption of the Competition Law, Chile's competition

Table 22. **Regulatory framework: a comparison of Chile with OECD countries**
Scores (0-6) vary from lowest to highest degree of regulation

	Chile	Mexico	Emerging markets[1]	EU-15	United States
Product market regulation	**2.2**	**1.9**	**2.5**	**1.6**	**1.0**
Inward-oriented policies	**2.1**	**1.7**	**2.5**	**2.1**	**1.1**
State control	**2.1**	1.7	3.0	2.4	0.9
1. Public ownership	**1.7**	1.7	3.4	2.3	0.8
Scope of public enterprise sector	**3.3**	3.5	3.9	2.9	2.0
Size of public enterprise sector	**1.5**	1.4	2.5	1.9	0.0
Special voting rights	**2.0**	2.0	4.7	3.3	2.0
Control of public enterprises by legislative bodies	**0.0**	0.0	3.4	1.6	0.0
2. Involvement in business operation	**2.7**	1.7	2.4	2.4	0.9
Use of command and control regulation[2]	**3.5**	1.8	2.5	3.2	1.1
Price controls[2]	**2.0**	1.3	1.2	1.2	0.0
Barriers to entrepreneurship	**2.1**	1.7	2.0	1.8	1.3
1. Regulatory and administrative opacity	**3.4**	2.3	2.2	1.9	2.1
Licence and permits system	**4.0**	4.0	3.0	2.9	4.0
Communication and simplification of rules and procedures	**2.9**	0.5	1.2	0.8	0.0
2. Administrative burdens on start-ups	**1.9**	1.8	2.2	2.1	0.8
Administrative burdens for corporation	**1.8**	2.1	2.7	2.3	0.5
Administrative burdens for sole proprietor firms	**3.5**	1.6	2.1	2.1	1.3
Sector specific administrative burdens[2]	**0.5**	1.6	2.1	1.9	0.5
3. Barriers to competition	**0.8**	0.5	1.3	0.9	1.2
Legal barriers	**2.1**	1.3	1.5	1.7	1.0
Antitrust exemptions[3]	**0.0**	0.0	1.1	0.6	1.3
Outward-oriented policies	**2.3**	**2.2**	**2.5**	**0.8**	**0.9**
Barriers to trade and investment	**2.3**	2.2	2.5	0.7	0.9
1. Explicit barriers	**0.8**	3.1	2.8	0.9	1.3
Ownership barriers	**0.0**	2.7	2.6	0.3	2.2
Discriminatory procedures	**2.3**	1.4	2.0	0.6	0.3
Tariffs	**1.0**	5.0	3.7	2.0	1.0
2. Other barriers	**4.1**	1.1	2.0	0.4	0.3
Regulatory barriers	**5.3**	0.3	1.7	0.2	0.0
Memorandum: Policies by functional area					
Administrative regulation	**2.5**	2.0	2.2	2.0	1.2
1. Administrative burdens of start-ups	**1.9**	1.8	2.3	2.1	0.7
2. Regulatory and administrative opacity	**3.4**	2.3	2.2	1.9	2.0
Economic regulation	**1.9**	1.5	2.5	2.0	1.0
1. Regulation of economic structure	**2.0**	1.7	2.7	2.1	1.0
2. Regulation of economic behaviour	**2.5**	1.8	3.1	2.7	1.2
3. Regulation of competition	**1.0**	0.7	1.4	1.0	0.8

N.B.: Data for Chile take into account the state of the legal framework in May 2003 and for the other countries, 1998.
1. Emerging markets: Czech Republic, Hungary, Korea, Mexico, Poland and Turkey.
2. Includes sector specific information on road freight, air transport, retail distribution and some telecom services.
3. Exemptions to public enterprises and state-mandated actions only.
Source: OECD.

institutions apparently focussed more on preserving individual firms' autonomy rather than protecting the competitive process and the welfare of consumers. However, competition institutions have clearly moved away from this approach and begun focusing more on efficiency.

Competition's Law enforcement

Enforcement proceedings can take a long time, partly because of the part-time nature of the process and partly because there can be long periods between the designation of witnesses and the taking of testimony, between the latter and the "hearing", and between the hearing and the final decision. The maximum fine is approximately USD 230 000, but fines are rare and seldom get close to this maximum. The amendments to the law will increase substantially the applicable civil fines and eliminate the criminal sanction. The amendments will also provide for fining directors, administrators, and all who have acted in furtherance of the illegal conduct, and make directors, administrators, and those who have benefited from the conduct secondarily liable for the fines imposed on their firm.

The main purpose of the proposed Competition Law amendments is to create an independent Competition Tribunal to replace all Commissions (see Box 18). The members of the Tribunal would be chosen for their competence and paid for two or three days per week and would have their own staff. This is a very important reform. It will be critical that every effort is to be made to reinforce and safeguard the Tribunal's independence in practical terms. Moreover, the competition institutions probably need more funding so that they can act more promptly. The government should also consider whether additional legislative changes are necessary to reduce Chile's vulnerability to anticompetitive mergers.

In Chile, various substantive issues in the area of competition appear to be unresolved, such as the definition of geographical and product markets, evaluation of dominance or market power, assessment of the legality of vertical restraints, and legal standards applicable to hard core cartels. This seems to be the result of two factors: the commendable evolution of Competition Law principles and the unfortunate rarity of explanations concerning the current interpretation of the law. The resulting regulatory uncertainty may have deterred investment. Reducing uncertainty regarding applicable legal standards should be a high priority for the Prosecutor's Office, which should consider seeking supplemental funding if necessary to accomplish this work.

Overall, the competition institutions have been much more impressive in their work with infrastructure monopolies than they have in traditional law enforcement against firms operating in markets that could and should be competitive. In part, this is the natural result of their focus on infrastructure monopolies. This focus may have been justified, given that Chile is very open and exposed to foreign competition in most sectors.

Box 18. Competition Policy Framework

Competition Law

Article 1 of the 1973 Competition Law bans acts or agreements "attempting to restrain free competition in business activities". This ban is a criminal provision, but civil law aspects prevail. This ban is the basis for all enforcement actions, including challenges to horizontal agreements, vertical agreements, monopolisation (abuse of dominance), mergers and unfair competition. This is inspired by the US Sherman Antitrust Act. However, neither law nor practice take US cases as guidance.

Article 1 applies not only to individuals and enterprises (regardless of ownership status), but also in some circumstances to government ministries or other agencies. The latter is an unusual extension found also in Russia and some transition countries. As such, the ban has been used against discriminatory actions by ministries and municipalities that create an "uneven playing field". In most OECD countries government entities' conduct as well as private action required by law or regulation are exempted, because it is felt that Competition Law could interfere too much with other regulations. Chile appears to have avoided this problem by limiting the application of the law to discriminatory regulations or conduct. Deciding what is discriminatory can be difficult, and the potential for interference with legitimate regulation is real. However, Chile's approach and experience in this area are very interesting and may be relevant also for OECD countries.

Article 4 states that except by legislation, the state may not grant a monopoly to private parties or authorise them to engage in conduct banned by Article 1. If national interests are at stake, the President of Chile may issue a decree allowing a private party to run a monopoly or authorising to engage in conduct covered by Article 1. In the 1970s and 1980s, this process was used on several occasions, primarily to authorise mergers, but the process has not been used in recent years and is likely to be eliminated by the proposed amendment contained in the "Pro-growth Agenda".

Competition Institutions

The 1973 law created a tripartite institutional framework. First, the Prosecutor's Office (an enforcement agency) which is headed by the National Economic Prosecutor. The Prosecutor investigates and brings enforcement cases. He is appointed and may be removed at any time by the President of Chile. The Prosecutor's Office is part of the Ministry of Economy, but by law is required to act independently. The Office was not very powerful until 1999 when it doubled in size. One government official in each region serves part-time as Regional Economic Prosecutor, but this position is to be replaced by *ad hoc* prosecutors appointed by the National Economic Prosecutor according to the amendments in the "Pro-Growth Agenda".

Box 18. **Competition Policy Framework** (*cont.*)

Second, The Preventive Commissions (*Comisiónes Preventivas*) are the most unusual element in Chile's institutional structure. Often described as consultative organs, these Commissions are charged with answering questions and determining how individuals, firms, and government entities have to deal with activities that restrict competition. They also can direct the Prosecutor's Office to conduct investigations and may issue what amounts to "cease and desist orders" against conduct found to be illegal. The Central Preventive Commission, which has jurisdiction over Santiago and matters involving several regions, meets half a day per week and includes representatives from mostly government and academia. There are 11 Regional Preventive Commissions. All commission members serve without pay.

Third, the Antitrust (or "Resolving") Commission (*Comisión Resolutiva*) is the highest body in the Chilean competition system. Its nature is that of a special court. It is not an organic part of the judiciary, but is chaired by a judge from the Supreme Court and subject to the Court's supervision. It decides cases brought by either the Prosecutor's Office or private petitioners. In addition, the Commission may open investigations and execute search warrants. It has the broadest remedial powers that may involve fines, cease and desist orders, dissolve or restructure businesses, and disqualify nominations of individuals in professional and trade associations. Commission members meet without pay half a day per week. The Commission also proposes the issuance of new laws or regulations and determines when the normal competition rules do not apply.

Horizontal agreements

During the past 30 years, the Antitrust Commission and the Central Preventive Commission handled relatively few cases and issued limited fines. As in OECD countries, it is not surprising that there have been few challenges to true hard core cartels, which under the best of circumstances are hard to investigate and even harder to prove. In particular, in a small economy, a small business elite may be able to restrict output and increase price through tacit collusion (*i.e.* without reaching an explicit oral or written agreement). The Prosecutor's Office succeeded in proving price fixing in a 1995 pharmacy case. There are also ongoing cartel cases in the areas of milk processing and gasoline (petrol) distribution.

One of the proposed amendments in the "Pro-growth Agenda" would decriminalise the law but substantially increase the fines that can be imposed on horizontal agreements. Replacing unused criminal sanctions by much more serious fines is probably a good trade. Chile could learn from international "best practice" on using economic and other circumstantial evidence to prove that

competitors have entered into an agreement. In addition, OECD experience may illustrate optimal sanctions for hard core cartels, emphasising the extent of harm cartels cause (estimated by the United States and some others at 20 per cent of the volume of affected commerce) and the need for fines to be several times the illegal gain in order to prevent firms from simply treating the fines as a cost of doing business. The competition institutions should clarify the standard applicable to hard core cartels and if the *per se* rule does not apply, consider adoption of a *per se* approach. Many countries do take an essentially *per se* approach, which has obvious enforcement benefits.

Vertical agreements

Chile has devoted much attention to vertical agreements and other practices concerning the relationship between firms at different levels of the distribution chain. The competition institutions for a long time gave essentially *per se* treatment to vertical restraints and practices, condemning them without inquiry into whether the firm had market power or whether the practices had efficiency justifications that might make them beneficial to the market as a whole even if they harm some market participants. Price discrimination was considered illegal unless discounts or other favourable terms were available to all buyers according to "objective" elements. Cost-justified volume discounts were always seen as objective. In the late 1980s, other forms of cost justification began to be accepted, but the area remains murky, and the lack of a clear legal standard in this area can be particularly harmful because it can deter firms from offering or negotiating for legitimate, pro-competitive discounts.

The economic analysis of vertical agreements and practices has evolved a great deal in the last 30 years. It is generally believed that vertical restraints or price discrimination are not harmful – and are probably efficient – if the firm imposing them does not have market power. In competition enforcement regimes with a strong efficiency orientation, therefore, proof of market power is an element of a violation, though other regimes condemn restraints they consider unjustified even in the absence of market power. Chile has increasingly shifted attention to efficiency considerations.[89]

Other areas

The competition institutions have considered a large number of monopoly cases. However, their work in this area has not been very important outside the infrastructure industry sectors. Part of the reason may be that particularly in this area, the lack of formal or informal guidelines on market definition, assessing dominance, etc. may be deterring beneficial "denunciations" by the Prosecutors' Office and the public.

Concerning mergers and acquisitions, the competition institutions have actively sought to prevent mergers from deterring the development of competition in the few but important potentially competitive elements of some infrastructure sectors, but traditionally have been less successful in determining whether mergers in other markets were likely to create a monopoly or facilitate collusion. Two unusual features of Chile's system for dealing with anticompetitive mergers are that there is no separate ban on such mergers and that Chile has no pre-merger notification system.

Chile's current Competition Law does not make any mention of unfair competition as a violation, but Article 1 is broad enough to cover it. Most of the cases have involved trademark abuses (the Trademark law bans the registration of trademarks contrary to the principles of fair competition and business ethics) and comparative advertising.

Improving competition advocacy

Clarifying the applicable legal standards and increasing predictability should be a priority, particularly since the Preventive Commissions, whose decisions have been the most explanatory, will be abolished by the currently proposed amendments. Chile's enforcement authority, the National Economic Prosecutor's Office, is taking some important steps to decrease uncertainty, such as the publication of rulings on internet. Moreover, it should consider issuing non-binding enforcement guidelines or policy statements or finding some other way to set forth its position on the elements of particular kinds of violations and to clarify the overall framework for interpretation of the law.

In addition, Competition Law and policy are not likely to make their maximum contributions to Chile's productivity unless enforcement addresses more than just infrastructure industries and becomes more proactive and aggressive in challenging all forms of conduct – mergers, monopolisation, and cartels – with substantial actual or likely anticompetitive effects. General competition advocacy (explaining the cost of monopoly and cartels) and enforcement guidelines (explaining the Office's increased focus on economic efficiency) should help reassure academics, the private sector and policy-makers that the benefits of vigorous competition enforcement in Chile will far exceed the costs. In the area of competition advocacy, the Prosecutor's Office should actively seek to identify situations where: *i*) regulatory problems cause significant anticompetitive effects; *ii*) the Office has some relevant expertise; and *iii*) a letter, report, speech, testimony, or other intervention by the Office could either support the reform efforts of others or explain why some reform is important.

Sectoral competition and regulatory issues

Infrastructure sectors

For many OECD competition authorities, activity relating to infrastructure sectors is largely a matter of competition advocacy because the sectoral regulator

has the exclusive power to make most decisions. In general, OECD countries have increasingly pursued vertical separation in this area, and there is an OECD Recommendation on the subject,[90] though there are situations in which it is not the solution. This issue has been important in Chile, where the balance of power is different because the Competition Law can sometimes be applied even to a sectoral regulator or other part of the government. In Chile, the general tariffs are set by the sectoral regulators with the participation of the Ministry of Economy's Market Development Division.

Telecoms

Chile's telecom industry has been privatised and is to a great extent owned by foreign firms. Its general telecommunications law states that providers may set the price of their services, except for access charges that are always fixed. Other prices may be fixed if the Antitrust Commission finds that competitive conditions do not exist. In practice, this means that Chile's telecom regulator sets tariffs for the dominant firm of local fixed telephony (pursuant to Antitrust Commission rulings) and for access charges. In the mobile market, only access prices can be fixed, and long distance charges are free by law.

The competition institutions have done far more in the telecom sector than making these periodic determinations of competitive conditions, however. They played a crucial role in deciding whether competition would be impaired if local telephone companies were permitted to offer long distance service. Moreover, they determined how the telecom regulator allocates spectrum in the mobile telephony market.

There is an ongoing issue concerning the determination of access charges. Currently, access charges are asymmetric: high for incumbents and low for new entrants. This system has facilitated entry and competitive rivalry, but some are concerned that it may harm efficiency. In addition, *Telefónica* went to court to avoid the payment of USD 10 million in access fees to VTR (United Global), though the Supreme Court decided against *Telefónica*. This company also sued the government for other regulatory issues. The "Pro-growth Agenda" originally contained several proposals for regulatory reform in telecom, but the proposed amendments have apparently been withdrawn and replaced by regulation increasing *ex post* transparency of the tariff setting process.

Electricity

There are currently 60 firms in the electricity services sector, 20 of which are concessionaires for generation, 4 for transmission, and 36 for distribution. Chile's electricity system is divided into four non-connected regional systems. A hydro-electric company, ENDESA (ENERSIS group), has a significant market share (over 50 per cent) in the generation capacity serving the central and main part of the country.

By law, the electricity purchased by the distribution utilities for its small customers (less than 2 MWatts) is subject to price setting. The Antitrust Commission defines which services, linked to the distribution service, are subject to this regulation. The market is regulated by Chile's National Energy Commission and the Superintendency of Electricity and Fuels, acting under a 1998 regulation that sought to increase transparency and competition. Chile's "Pro-growth Agenda" includes further pro-competitive reform in this sector.

The main regulatory problem that has emerged in this sector is the ambiguity in the electricity law concerning transmission costs. This is holding up investment in transmission infrastructure, which in turn is deterring investment in new generation facilities. In the current framework the cost of transmission is only distance related and therefore almost entirely borne by the hydro generator. This price system in general is not cost effective[91] and does not manage congestion efficiently (Ocaña, 2002). The authorities would like to introduce in the price of transmission the full cost of the availability of an efficient grid. The main purpose of the proposed amendments is to clarify how investors in transmission assets will be able to obtain a return on their investment.

The regulatory system does not cope well either with the climatic risk created by the high share of hydro-power (over 60 per cent of the generation capacities in the central system). In order to create incentives for investment, this risk should be better reflected in the price system. The regulated price of electricity is determined by marginal costs[92] under "normal" circumstances, without the full "insurance premium" associated with the value of the thermal electricity production during a severe drought. Moreover, the determination of the sequence of electricity generation in case of a drought is inversed relative to normal periods, *i.e.* demand is satisfied first by thermal producers after which the hydro generators will come in. This minimises the risk of complete dry-up of hydro-plants, but again reduces the value of the thermal electricity generation. The government has addressed this problem by creating incentives for the hydro-producer to create reserves of thermal generation capacity, a policy which will reinforce its already significant market power. The government invited the main actors in the market to agree on a reform proposal. But all the above issues have made it difficult to find a compromise between the dominant hydro producer and the thermal producers.

Water and sewer services

Private investment in water and sewerage companies only started to gain importance since 1998. In 2003, of the main 19 companies (serving 99 per cent of the clients), eleven were controlled by the private sector (covering 76 per cent of the clients). In 1997, the Antitrust Commission approved the acquisition of a water company by the group ENERSIS, the dominant player in the electricity market. In doing so, however, the Commission recommended that the conglomeration of public utility companies should be subject to closer government surveillance.

The Antitrust Commission's recommendation led to enactment in 1998 of the Sanitary Services Act, which increased transparency and sought to pave the way for the future introduction of competition where possible by restricting integration among public service companies operating in the same area. Thus, water and sewerage companies may not combine with electricity or local telephone companies in the same area if they serve more than one half of the area's population. Since the Department of Public Works grants concessions to firms on the basis of competitive bidding, there is competition for the market even though there is none within the market. The law also encourages competition by requiring water distribution and sewerage collection firms to permit water production and sewerage disposal firms to use their network and contract directly with "large consumers". The Antitrust Commission is responsible for deciding whether utility concessionaires are natural monopolies and hence subject to maximum tariffs and other rules set by the relevant agency. The Sanitary Services Superintendency fixes the maximum rates and may authorise utilities with fewer than 25 000 water connections to provide services jointly if this results in efficiencies that lead to lower rates.

Transportation

The state owns two transportation companies: Santiago Metro and a ferry service managed by an independent board. Moreover, it owns the national railway system that possesses the rail tracks and operates a number of passenger train services. The rail network has also been opened for private concessions. Transport companies are free to compete on price and service, subject to safety and other regulations with limited economic impact. The state does not subsidise transport companies except to ensure transportation to isolated areas. There is a pending case in which the Antitrust Commission is considering a complaint by a consumer organisation alleging that the Santiago subway is abusing its monopoly by charging excessive prices.

In 1979, Chile adopted an open skies policy regarding passengers and merchandise. The air transport sector has been fully privatised. A recent report indicated that 34 airlines operate in Chile, six of which are private domestic firms. Most serve cargo, mail and passengers. There are nine additional non-regular cargo airlines. The Antitrust Commission once approved the merger of Chile's two largest domestic passenger airlines, subject to a requirement that the merged firm set its own maximum tariffs. Several years later it was found that the merged firm had sought to drive a new competitor out of the market by a predatory lowering of its price on the one route on which it competed with the new entrant.

Other sectors

When the first natural gas pipeline between Chile and Argentina was created during the 1990s, the Antirust Commission played a role in ensuring that

the transportation and distribution was conducted under competitive conditions. Natural gas prices may be set freely, but the sectoral regulator may ask the Antitrust Commission to declare that competitive conditions do not exist when the regulator finds that a firms rate of return exceeds certain guidelines. If such a finding is made, the regulator may set maximum tariffs.

Chile's constitution provides that the state is the sole owner of all underground resources including oil and minerals, regardless of who owns the surface land. This ownership does not create monopoly problems, however, because a system of concessions provides mining rights to a variety of firms. There is some interest in seeing whether the concession system can be made more efficient. Chile participates directly in mining through its ownership of the national copper company, CODELCO, and the national mining company, ENAMI. There are also 20 private Chilean mining companies, half of which account for 90 per cent of the total private production.

Most state-owned ports have been privatised. The Central Preventive Commission is required by law to establish the competition rules for the operation of Chile's ports, and it has issued an order laying down rules regulating horizontal and vertical integration. For example, "important users" of a port may not have more than a 40 per cent interest in the port.

Financial markets

Banking and financial services

By end-2002, ten domestic and 15 foreign banks operate in Chile. Recently, three big department stores have also obtained a banking licence. The competition institutions have had limited dealings with this sector. The Prosecutor's Office challenged a merger of two Spanish banks that gave them 27 per cent of Chile's banking market at the national level, but the Antitrust Commission found this not to be anticompetitive. Since the Spanish banks case was decided, the Banking Superintendency has acknowledged the competition institutions' authority to address competition issues in the sector. In addition, new legislation governs the circumstances when approval by the Banking Superintendency is needed and the procedures for that process. More recently, two other large banks merged and obtained a 20 per cent share nationally, but this merger was not challenged although five-firm concentration reached 70 per cent in the national market. Separately, the competition institutions issued a general instruction requiring non-bank providers of consumer credit to use the system for disclosing interests rates, etc. that the Superintendency imposed on banks.

There is a potentially important debate going on in Chile now about whether the banking and financial services markets are competitive. The Banking Superintendency points out that it has relaxed entry requirements while keeping rules that safeguard the banking system. And while some in the Prosecutor's Office

express concern about increased concentration in banking, this does not appear to be a great concern in the Commission. Indeed, the Chilean banking system compares well with other countries in the region in terms of both cost and price efficiency (see Chapter III). On the other hand, other government officials do express concern that the industry is not competitive. Despite Superintendency action to facilitate entry, there is a perception that entry is difficult and foreign entry is generally through acquisition rather than the creation of a new firm. Moreover, discussion of these issues in Chile has focused on national concentration levels for all banking services; it is not clear whether attention has been devoted to considering whether and to what extent bank mergers and other practices should be analysed in particular product and geographic markets. Some Chilean officials express concern over the fact that there is only one credit card network in Chile.

Pension funds

The private pension market is characterised by large scale economies, asymmetric information, product homogeneity and low price elasticity of demand. These features have induced a strong market consolidation. The number of pension funds (AFPs) declined from 21 in 1993 to 7 in 2002 and presently the two largest funds account for 55 per cent of the assets. This marked concentration, investment constraints and minimum performance regulations have forced AFPs to adopt the same investment strategies ("herd effect") and therefore offer similar rates of return and homogenous products. The few number of pension funds' managers also does not favour market liquidity.

Due to the little financial literacy of costumers and lack of transparency in the pension funds' operations (for example on how commission fees are set), the demand does not react well to price variations. Costumer choices are heavily influenced by marketing strategies (advertising and promotional campaigns). Responding to these short term incentives, workers are induced to switch often between AFPs, which in turn raises administrative costs. AFP's commercial expenditures increased from 12.5 to 29.5 per cent of total costs between 1989 and 1998. The estimated elasticity of consumers' demand to commercial expenditures is almost 20 times higher than the pure price-elasticity (Mastrangelo, 1999).

This lack of price competition amongst pension funds may be reflected in the high commission fees, a feature that is not unusual in Latin America (see Table 23). Commissions in Chile are very high (25 per cent of the contributions) compared to some OECD countries like Canada, Germany and Japan (2-2.5 per cent) (Lora and Pagés, 2000). However, this comparison is not straightforward because of differences in fee's structures. Most OECD countries impose charges on the assets or returns rather than on the contributions. Other OECD countries charge the withdrawal and have segmentations of fees according to consumers' characteristics (Whitehouse, 2001).

Table 23. **Pension funds commission in Latin America**

	Net deposit in the individual account (% of salary)	Commission (% of salary)	Commission/net deposit (%)
Argentina	2.7	2.3	83.2
Bolivia	10.0	2.2	22.1
Chile	**10.0**	**2.4**	**24.4**
Colombia	10.0	3.5	35.0
Dominican Republic	3.5	1.5	42.9
El Salvador	9.5	3.0	31.4
Mexico	10.7	4.5	42.2
Peru	8.0	3.7	46.6
Uruguay	12.3	2.7	22.3

Source: International Association of Supervisors of Pension Funds (AIOS, 2002).

Despite the methodological controversies, there is consensus among specialists and officials regarding the need to lower administrative costs of pension funds. To achieve this objective, the government recently passed a regulation that limits the switching from one fund to another. This measure has led to a fall in administrative costs, which however has not been passed on to prices. Therefore, such restrictive regulations do not seem very effective. Instead of implementing switching restrictions for workers, loyalty programmes based on long term fees reductions could be encouraged. These policies should be disclosed in a simple and transparent way.

Probably, another effective way to reduce commissions would be to open the market to other financial institutions and increasing in transparency and accountability of AFP managers. The entry of non-specialised financial institutions would increase economies of scope and reduce commercial expenditures, providing that the regulation prevents the abuse of market power. Personal pension plans sold by banks or insurance companies in the OECD are generally less expensive.

In most OECD countries, like Switzerland, Australia, Denmark and the Netherlands, the existence of group plans usually reduces administrative costs. Bargaining mechanisms and group plans should therefore be encouraged. Moreover, in some countries in Latin America and OECD the collection of contributions and record keeping services is processed by a centralised social security agency. This has ensured economies of scale and lower administrative costs, while reducing market entry barriers.

As discussed above, recent corruption scandals involving a big pension fund raised the issue of how to improve co-ordination and information among the different regulatory bodies involved with financial markets. There are three

different regulatory bodies in Chile: the pension fund supervisory authority, the banking supervision authority and, the capital market and insurance authority. Since the largest banks hold most of the pension funds and the pension funds hold substantial equity in the stock market, some form of co-ordinated regulatory action should be put in place. It is worth noting that in some OECD countries, all the financial sectors' regulatory agencies are integrated.

VII. Squaring policies with international competitiveness

The Chilean economy is highly dependent on international demand. Exports of goods and non-factor services, accounting for roughly 30 per cent of GDP, are a major source of growth. But small emerging economies like Chile face tough international competition. A much debated question in this context has been whether the persistent Chilean specialisation in primary commodities is a handicap for sustained growth. Dependence on a narrow range of commodities has exposed the Chilean economy to large fluctuations in the terms of trade and international demand. These have not been easy to accommodate.

The economic literature does not provide conclusive evidence as to the relationship between the type of specialisation and growth. Sachs and Warner (1997) argued that economies with a high ratio of natural resources in exports tend to grow quickly after initial exploitation but converge to a low growth rate in the long run. They also show that the big booms driven by natural resources may negatively affect growth when the economy is trapped in the "Dutch disease". The appreciation of the real exchange rate associated with such booms creates large rents and discourages investment in the manufacturing sector. Since productivity rates are typically higher in the manufacturing sector than in the rest of the economy, aggregate productivity will decline and so will potential growth. Some authors have also argued that a strong dependence on natural resources simultaneously affects growth and income distribution in a negative way.[93]

These arguments require some qualifications. The comparative advantages of Chile in natural resources may have slowed down the development of manufacturing. However, mining, agriculture or fisheries are not necessarily low productivity sectors, especially in emerging market economies in a phase of strong catching-up. There is scope in traditional sectors for making intensive use of new technologies, as has occurred in Chile. Accordingly, an increasing body of evidence shows that it is not so much what you produce, but how you produce that matters (World Bank, 2001). Notably by combining the use of information and communication technologies (ICT) with other production factors such as knowledge and education, an economy can improve productivity growth even when

specialised in traditional sectors. Policy-makers can help foster overall productivity growth by diffusing information and communication technologies (ICT) and promoting its use. This is also one of the main conclusions of the OECD Growth Project (OECD, 2001b).

Chile has achieved substantial productivity increases in the traditional sectors, but reaching the international production frontier[94] also means that future gains may become more limited. Relative to other goods, international demand for primary commodities grows more slowly. This may constrain future export growth, despite the potential for trade opened by the recently signed free-trade agreements. The challenge now is to build from this base and develop a wider, more dense and innovative economic and export structure. This includes not only manufacturing, but also a wide range of services.

Against this background, government policies discussed in the previous chapters and their linkages play an important role in international competitiveness. Stable prices and sound public finances, higher financial intermediation, better functioning labour markets, human capital investment, incentives to enterprise creation, increasing competition and a better regulatory framework will all favour a more competitive economy. Most importantly, the fact that the government has moved on all these fronts creates room for strong synergies. The OECD consensus is that such policy coherence is indeed a key ingredient to achieve the full benefit from the reforms.

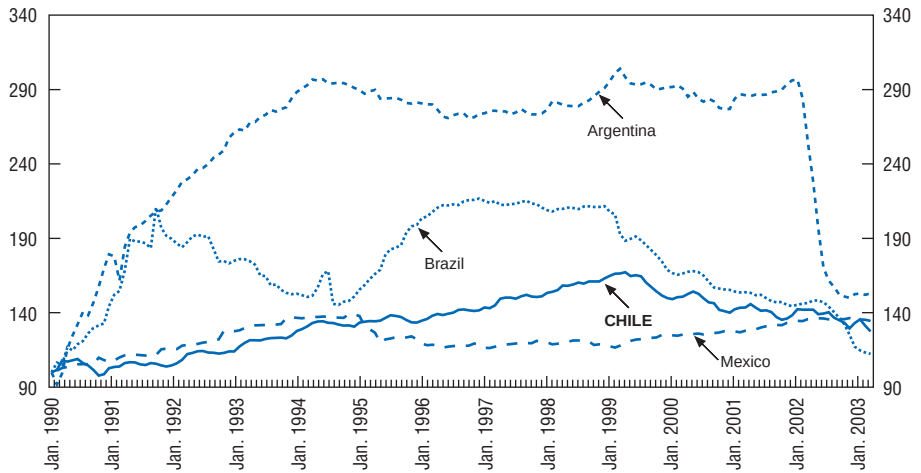
The impact of the real exchange rate on relative prices

The real exchange rate is the most important link between macroeconomic policy and international competitiveness. An increase over time of the real exchange rate is an accepted feature of the process of development when induced by the higher productivity growth in the tradable sector, through the Balassa-Samuelson effect. A persistent deviation from this structural trend creates a real exchange rate misalignment and an unsustainable external position, as both long-term and recent evidence from Latin American countries has shown.

The real exchange rate reflects the relative price between tradables and non-tradables.[95] An appreciation of the real exchange rate corresponds to an increase of the relative price of non-tradable sector.[96] An exchange rate that makes imports relatively cheap and decreases the prices in domestic currency of exported goods, lowers the incentives to invest and work in the exportable sectors even if national producers are competitive in absolute terms relative to foreign producers.

In this context, the sound macroeconomic framework in Chile has had an important role in maintaining international competitiveness and the right incentives to export. Figure 29 compares the evolution in relative prices in Chile with other Latin America countries. In Argentina and Brazil, in particular, there were

Figure 29. **Relative prices of non-tradables to tradables**[1]
January 1990 = 100



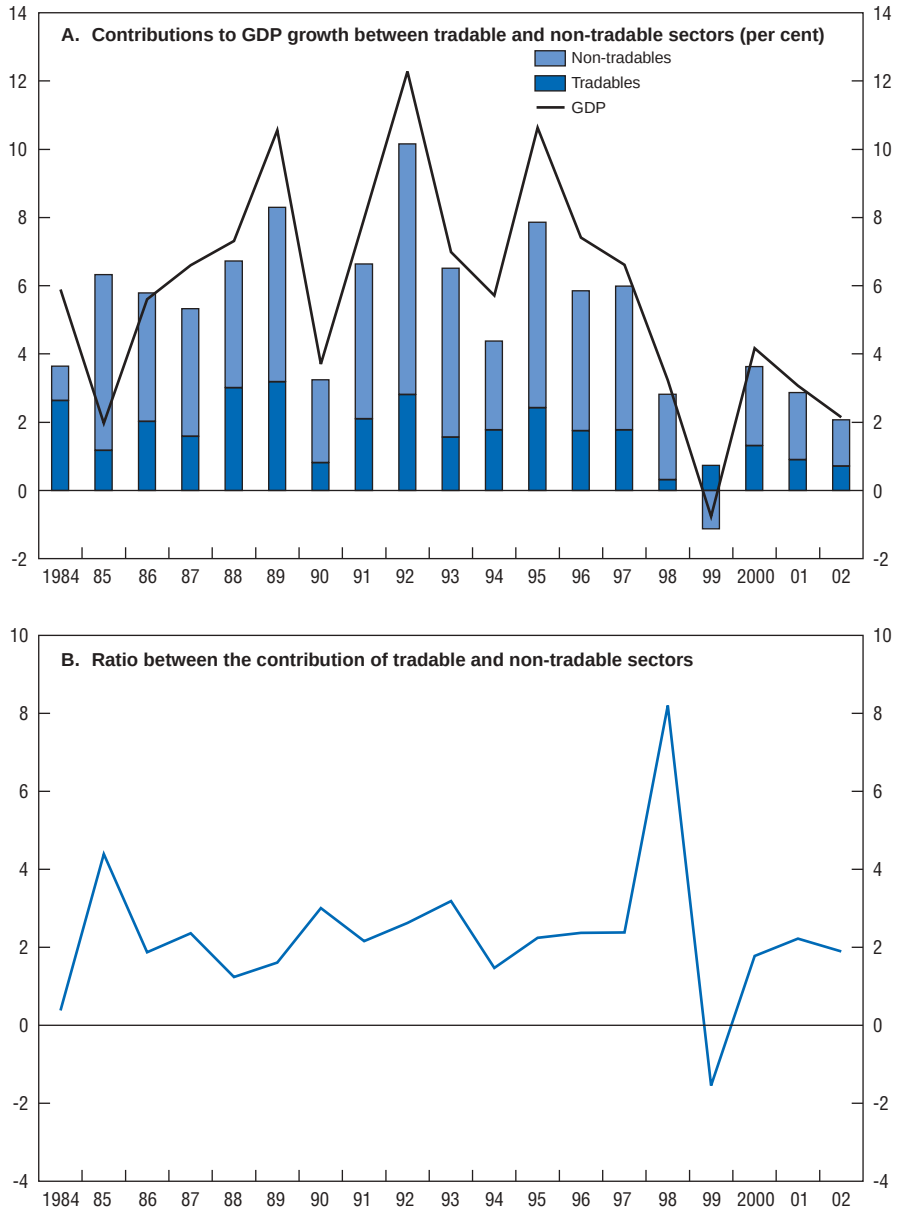
1. PPI for tradables and the index for the non-tradable items of the CPI for non-tradables.
Source: Baldi and Mulder (2003).

large swings in relative prices associated with abrupt changes in exchange rate regimes.[97] These movements also occurred in Chile but with much smaller amplitude due to the co-ordination and credibility of macroeconomic policies. This allowed for a more stable and orderly adjustment in the real economy.

The movements of relative prices drive the allocation of resources across sectors. Figure 30 shows a decomposition of GDP growth rate between tradable and non-tradable sectors since 1984. It is remarkable that the contribution to growth by these two broad sectors have been by and large stable. The only exception was the large external imbalance of 1998 that was corrected in 1999 by tightening monetary policy. Whether the Central Bank overreacted in that year thereby cooling down growth expectations in an excessive way is still a matter of debate in Chile. The point is that growth almost exclusively led by domestic demand cannot be sustained. Emerging market economies face tighter constraints that developed ones in this regard.

To sum-up, the stock of credibility of macroeconomic policies in Chile is a key asset for competitiveness. One can argue that the best "industrial policy" is to get the relative prices right. The present macroeconomic policy framework allows for maintaining the present competitive exchange rate regime and a stable price level, with no need for capital account restrictions. This is not only key to stability, but to the development of the tradable sector.

Figure 30. **Tradable and non-tradable sectors**



Source: Central Bank of Chile and OECD.

Specialisation in traditional exports has not been a serious obstacle to growth…

With a favourable relative price trend, Chile has maintained an export drive and succeeded in penetrating world markets in some new product niches. The examples of wine, salmon and fresh fruits are well known.[98] However, the scope of the exportable sector in Chile remains limited and concentrated, with a structure of specialisation basically unchanged for the last 30 years (Table 24). The main revealed comparative advantages in 2001, like in 1970, derive from mineral resources (non-ferrous metals and ores). These still account for roughly 40 per cent of exports in 2002. An important change though has been the emerging comparative advantage in agricultural products. Despite this trend, Chile displays one of the lowest intensities of intra-industry trade, compared to Latin American countries and OECD (Figure 31).

This view should be nuanced by observing that the concentration of revealed comparative advantages has steadily decreased between 1970 and 1999 (Table 25), though it has remained stable since then. The concentration of economic activity across broad economic sectors has also been decreasing over time in line with the increase of GDP per capita, as shown in Figure 32. This apparently robust stylised fact across low and middle-income countries is documented by Imbs and Wacziarg (2003).[99] According to the cross-country evidence, Chile may be actually reaching an income per capita threshold (around USD 8 000 to 9 000 PPP) where the process of diversification comes to a halt and gradually the economy once again becomes more concentrated across broad sectors (an U-shaped relation).

A concern often raised in Chile is the lack of "value-added" products. This concern is also misplaced. In Chile, resource rents are attributed to the extraction companies and as such are part of their value-added. Under these conditions, copper mining has been one of the most profitable activities in Chile.[100] Besides, looking at processes rather than products, it is noticeable that Chile has been able to increase both technology intensity and the level of productivity, so as to reach the world production frontier in some of these traditional sectors.

Nonetheless, there is an obvious problem related to the strong dependence on copper exports and the exposure to international price and demand shocks. In this regard, Chile does not rank particularly well on usual vulnerability indexes based on export diversification/concentration.[101] Caballero (2002) argues that this external vulnerability is essentially a financial problem because the potential magnitude of the external shocks exceeds what could be predicted under a developed and well functioning domestic financial market. In other words, the Chilean economy would be under-insured against excessive external shocks. This problem could be addressed by the issuance of a financial instrument, contingent on Chile's main external shocks, which would guarantee the availability

Table 24. **Structure of the Chilean specialisation**

Code	Title	RCA[1]						Export share	
		1970	1980	1990	1995	2000	2001		Cumulative
CC	Non-ferrous metals	67.25	42.57	35.11	26.09	27.94	24.60	25.4	25.4
HB	Non-ferrous ores	6.37	13.46	9.12	13.83	13.94	11.87	12.1	37.5
JB	Other edible agricultural prod.	–3.12	5.63	13.78	9.34	8.16	9.82	10.5	48.0
KC	Meat	–0.76	1.25	4.59	4.68	6.54	7.27	8.4	56.4
JC	Non-edible agricultural prod.	–1.44	5.92	6.08	5.84	4.24	4.80	5.3	61.7
EC	Paper	2.02	4.73	3.00	5.78	4.62	4.20	6.6	68.3
KH	Beverages	0.12	0.09	0.54	1.43	3.34	3.71	4.0	72.3
KE	Preserved fruits	–0.30	–0.32	0.84	2.21	1.34	1.48	2.0	74.3
NV	N.e.s. products	–0.82	–0.27	–0.10	–0.71	0.72	1.15	2.8	77.1
EA	Wood articles	–0.07	0.06	0.19	0.43	0.80	1.13	1.6	78.7
KD	Preserved meat/fish	0.47	0.46	1.26	0.82	1.02	1.08	1.2	79.9
HA	Iron ores	9.72	5.17	2.25	1.18	1.10	1.02	1.0	80.9
GA	Basic inorganic chemicals	–0.60	0.01	–0.03	0.32	0.70	0.75	1.9	82.8
HC	Unprocessed minerals n.e.s.	0.97	0.91	0.42	0.30	0.28	0.58	0.8	83.6
KG	Animal food	1.15	4.36	4.84	3.79	0.84	0.57	1.7	85.3
GC	Basic organic chemicals	–2.08	–1.43	–1.00	–0.46	0.39	0.52	2.2	87.5
NB	Non-monetary gold	0.00	0.00	0.00	0.76	0.47	0.34	0.3	87.9
FV	Ships	–2.61	–0.54	–0.36	–0.10	–0.06	0.10	0.1	88.0
KA	Cereal products	–0.04	0.21	0.38	0.26	0.03	0.07	0.3	88.3
KI	Manufactured tobaccos	–0.01	–0.27	–0.22	–0.22	–0.01	0.03	0.1	88.4

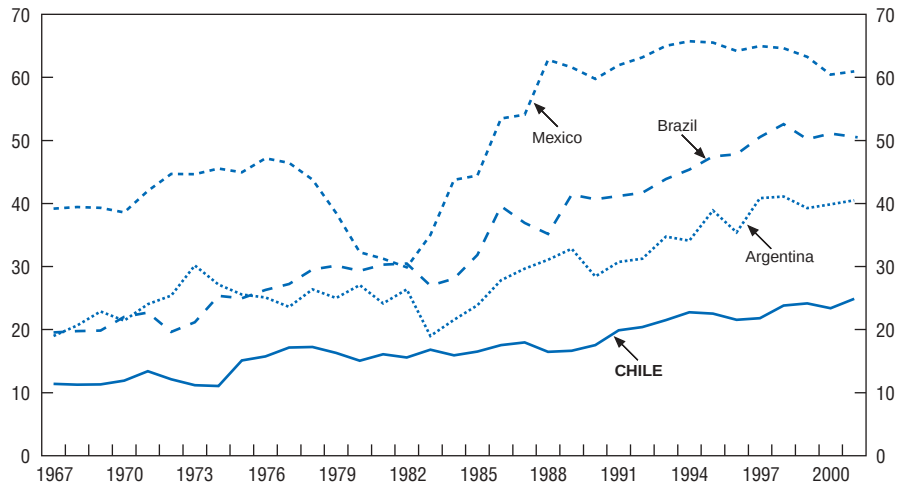
Table 24. **Structure of the Chilean specialisation** (*cont.*)

Code	Title	RCA[1]						Import share	
		1970	1980	1990	1995	2000	2001		Cumulative
IB	Crude oil	–2.80	–14.03	–6.78	–6.46	–11.39	–10.75	10.8	10.8
FW	Aeronautics	–1.96	–1.55	–3.42	–2.15	–3.75	–5.25	5.5	16.3
FT	Cars and cycles	–1.71	–6.45	–4.04	–6.66	–4.49	–3.50	3.8	20.1
GH	Plastic articles	–1.49	–1.25	–3.20	–3.48	–3.23	–3.39	4.2	24.4
FG	Specialized machines	–6.59	–3.05	–5.29	–3.88	–2.71	–3.16	3.3	27.6
FU	Commercial vehicles	–5.44	–5.87	–4.07	–6.15	–3.88	–3.01	3.4	31.0
FN	Telecommunication equipment	–2.20	–1.49	–2.86	–1.98	–3.54	–3.01	3.1	34.1
FC	Engines	–5.29	–2.70	–6.06	–2.57	–2.32	–2.79	3.0	37.1
FO	Computer equipment	–1.19	–1.30	–1.68	–2.20	–3.17	–2.75	2.8	39.9
FF	Construction equipment	–4.06	–2.95	–5.12	–3.86	–2.73	–2.59	2.7	42.6
IC	Natural gas	–0.18	0.05	–0.21	–0.37	–2.05	–2.58	2.8	45.5
FB	Miscellaneous hardware	–3.04	–1.99	–3.53	–2.49	–2.08	–2.26	2.9	48.4
FR	Electrical apparatus	–3.32	–1.75	–3.04	–2.23	–2.04	–2.15	2.4	50.8
EE	Miscellaneous manuf. articles	–0.86	–1.84	–1.94	–2.14	–2.14	–1.94	2.1	52.9
GE	Toiletries	–1.31	–1.09	–1.24	–1.30	–1.54	–1.69	2.2	55.1
CA	Iron and steel	–2.11	–0.80	–1.65	–2.06	–1.39	–1.68	1.9	57.0
DA	Yarns fabrics	–1.28	–2.41	–2.63	–2.53	–1.84	–1.62	2.2	59.2
GF	Pharmaceuticals	–1.40	–0.60	–0.75	–0.97	–1.23	–1.51	1.8	60.9
FI	Precision instruments	–2.09	–1.10	–1.77	–1.31	–1.25	–1.49	1.5	62.5
DE	Leather	–0.14	–0.68	0.00	–1.24	–1.37	–1.40	1.6	64.1

1. RCA: Revealed comparative advantage indicator [Xi/Sum(Xi) – Mi/Sum(Mi)] × 100.

Source: CEPII, CHELEM database and OECD.

Figure 31. **Evolution of intra-industry trade: a comparison**



Source: CEPII, CHELEM database.

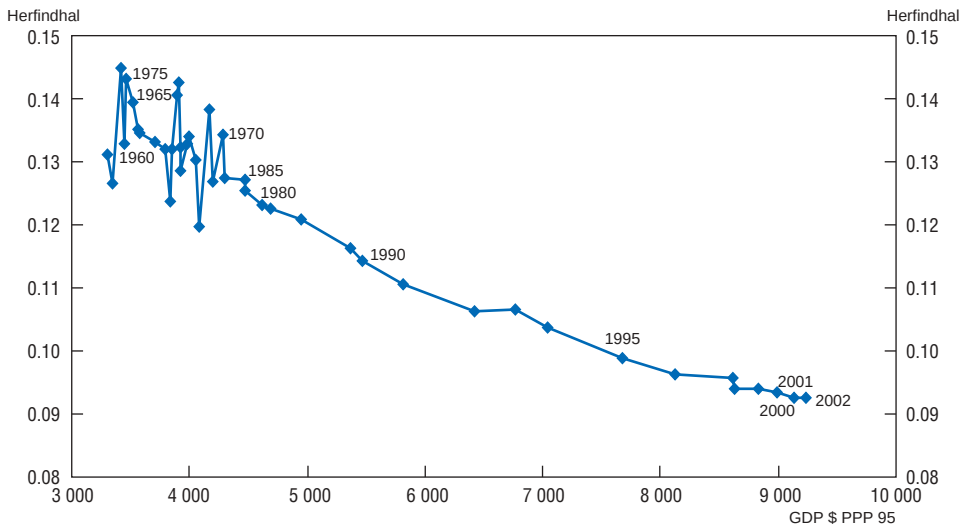
Table 25. **Concentration of RCAs:[1] a cross-country comparison**
Herfindhal index, in per cent

	1970	1975	1980	1985	1990	1995	1999	2000	2001
Chile	**49.18**	**29.33**	**25.26**	**19.74**	**18.73**	**13.12**	**11.67**	**14.20**	**12.24**
Argentina	16.37	18.72	10.05	14.03	7.42	5.60	5.79	5.91	5.63
Korea	9.30	9.01	8.93	5.81	4.75	3.45	3.53	4.69	4.80
Ireland	4.96	5.15	4.06	2.75	2.66	2.04	3.66	4.55	4.26
Taiwan	3.66	3.59	3.75	3.73	3.72	4.34	3.64	3.25	3.29
Brazil	20.02	16.45	21.41	18.46	8.27	3.97	3.54	3.32	3.15
Mexico	7.96	4.15	24.90	23.61	5.81	2.87	2.33	3.09	2.58
USA	2.50	6.63	9.01	3.37	2.58	1.44	1.83	1.97	1.92
EU	5.37	11.32	10.36	5.35	2.26	1.42	1.10	1.51	1.43

1. RCA: Revealed comparative advantage.
Source: CEPII, CHELEM *database*.

of financing during a crisis. In this way, the effects of external shock would not be amplified by the financial sector.[102] Such a proposal conforms to the recommendations discussed in Chapter III, *i.e.* Chile could only benefit from the deepening of financial markets and further financial integration in the world economy.

Figure 32. **Concentration of real GDP across sectors**



Source: Central Bank of Chile, CEPII, CHELEM database.

… but policies could create a favourable environment for the development of product variety

While a traditional specialisation may not be a problem *per se*, in a more forward-looking perspective, Chile could benefit from the development of product variety and intra-industry trade. Indeed, the trade relations amongst OECD countries have been characterised by an increasing share of intra-firm and intra-industry trade. This reflects the internationalisation of production and the fact that a highly segmented production process at the world level has allowed both for a standardisation of product components and a formidable creation of product variety for intermediate and final consumers. High intensity of intra-industry trade implies a strong correlation of exports and imports, which may dampen the impact of international downturns in trade on GDP (OECD, 2002d). A higher share of differentiated goods in trade turnover also softens the impact of large variations in the price of international commodities. A positive differential between the growth rate in the economy and the rest-of-world can also induce trade imbalances that would be automatically compensated with a higher share of intra-industry trade.[103]

A growing body of literature and empirical evidence points to the positive effect of product variety on productivity growth.[104] In short, factor input variety helps to prevent diminishing marginal returns, while product variety sustains

learning-by-doing effects and innovation related to the creation of new products adding to the stock of knowledge.[105]

Using exports as a driver for long-term growth depends on the dynamics of international demand. Figure 33 displays the share in world trade of those goods corresponding to the top-20 revealed comparative advantages in Chile in 1970 and 2000, as well as in other emerging markets. An increased share shows that a given product basket is better matched to evolving international demand. For South-American countries, including Chile, both the 1970 and 2000 baskets show a declining share in world trade. This was also the case for Mexico's 1970 basket. However, Mexico later on succeeded in shifting its specialisation towards products with an increasing international demand, as illustrated by the ascending and then stable share of the 2000 basket. In other words, Mexico's changing specialisation, *ceteris paribus*, has offered the opportunity to generate greater export revenue. A similar shift occurred in Ireland and Korea.

The development of industry stagnated

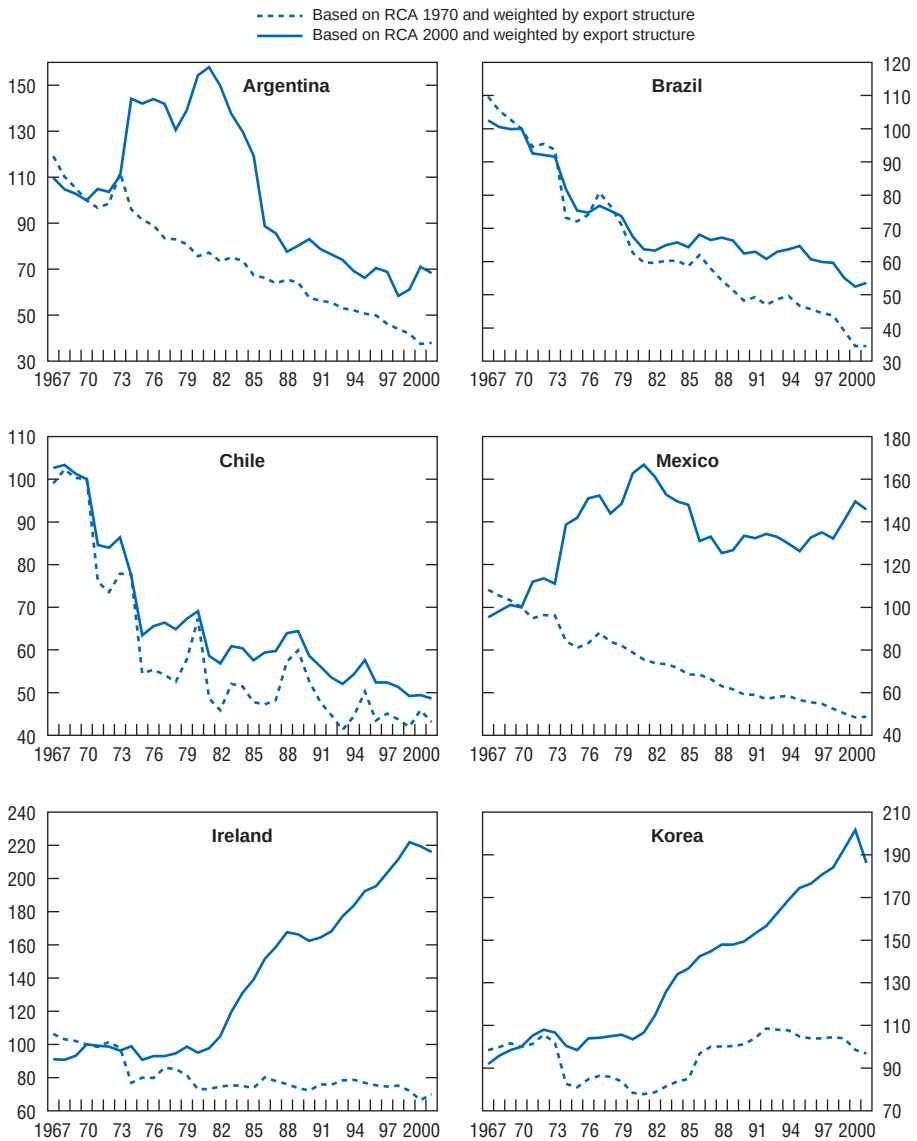
Agriculture and mining are less conducive to the development of new products than industry or some service sectors. For example, while there is a very large number of wine varieties and qualities, grape variety is naturally much more limited. In the first years of the economic boom, Chile saw a rapid expansion of industry and business services, in particular finance and distribution, with a high pace of employment creation and output (Table 26). In industry, the highest expansion was in sectors such as agro-food, textiles, wood and wood products (*cf.* details in Annex Table A.5). But this expansion slowed down during the 1990s, when manufacturing lost employment and industrial output growth decelerated. In counterpart, during the second-half of the 1990s most jobs were created in social and personal services.

The relative decline of industry is a normal feature of economic development in general, although it could be noted that, apart form some specific segments, the industrial sector never reached full maturity in Chile. The industry's decline during the 1990s was certainly exacerbated by adverse developments in regional markets, which are the main outlet for the Chilean manufactures. More recently (2000-02), industry seems to be reviving in employment creation, but not yet in output terms. A potentially positive supportive element is the substantial increase in labour productivity in the 1990s.

The potential positive impact of free-trade agreements

Trade protection and the tariff escalation phenomenon, in particular in OECD countries, are an obstacle for the emergence of processed goods. Chile continues to export a substantial amount of ores rather than metals or processed metal products. The same applies to agricultural goods, which are exported as

Figure 33. **Evolution of world export markets based on country RCAs**[1]
1970 = 100



Note: Average share in world trade of products corresponding to the top-20 comparative advantages in 1970 and 2000 for each country. This average was weighted by the structure of exports of each country, for the two chosen years.

1. RCA: Revealed comparative advantage indicator [Xi/Sum(Xi)-Mi/Sum(Mi)].

Source: CEPII, CHELEM database.

Table 26. **Evolution of employment, output and labour productivity across sectors**

	1989/1986	1997/1989	2000/1997	2002/2000	2002 levels
Change in employment					
Total	600 572	929 265	25 161	79 992	5 387 086
Agriculture	86 928	–80 849	–16 004	–29 663	706 488
Mining	17 660	–5 347	–19 154	–986	71 668
Manufacturing	217 540	137 651	–102 137	9 955	767 729
Public utilities	753	10 493	–5 998	1 191	31 551
Construction	127 747	157 326	–62 306	37 927	427 033
Wholesale and retail trade	111 545	203 798	41 607	43 242	1 038 968
Transport	70 799	100 168	16 427	24 199	447 876
Financial services	38 005	175 000	43 585	12 870	420 756
Personal and social services	–70 406	231 025	129 142	–18 743	1 475 018
Employment annual growth rate in% (1)					
Total	5.1	2.4	0.2	0.8	
Agriculture	3.7	–1.3	–0.7	–2.0	
Mining	6.9	–0.7	–7.5	–0.7	
Manufacturing	12.7	2.2	–4.1	0.7	
Public utilities	1.0	4.3	–5.8	1.9	
Construction	20.9	5.5	–4.8	4.8	
Wholesale and retail trade	5.5	3.0	1.4	2.1	
Transport	9.1	3.6	1.3	2.8	
Financial services	7.8	8.5	3.8	1.6	
Personal and social services	–2.0	2.3	3.1	–0.6	
Value added annual growth rate in% (2)					
GDP	8.1	7.6	2.2	2.6	
Agriculture	9.2	4.8	3.2	4.7	
Fishing	8.5	11.4	3.8	7.8	
Agriculture and fishing	9.1	6.0	3.3	5.5	
Mining	5.0	6.9	7.4	2.9	
Manufacturing	8.3	5.5	0.4	1.6	
Public utilities	0.9	8.0	2.0	2.6	
Construction	9.6	8.4	–3.1	2.5	
Wholesale and retail trade	10.6	9.3	0.9	2.2	
Transport	10.8	10.0	5.5	4.9	
Financial services	10.2	8.2	3.1	2.4	
Real estate	1.3	2.8	2.9	2.3	
Financial services	5.6	5.9	3.0	2.3	
Personal services	3.2	4.5	2.8	2.3	
Public administration	–0.5	1.6	1.5	1.8	
Social services	2.0	3.7	2.4	2.2	
Productivity (2) – (1)					
Total	3.1	5.2	2.0	1.9	
Agriculture	5.3	7.3	4.1	7.5	
Mining	–1.9	7.7	14.9	3.5	
Manufacturing	–4.4	3.3	4.5	1.0	
Public utilities	–0.1	3.6	7.9	0.7	
Construction	–11.3	2.9	1.7	–2.2	
Wholesale and retail trade	5.1	6.3	–0.6	0.1	
Transport	1.7	6.4	4.2	2.1	
Financial services	–2.2	–2.7	–0.8	0.8	
Personal and social services	4.0	1.3	–0.6	2.8	

Table 26. **Evolution of employment, output and labour productivity across sectors** (*cont.*)

	1986	1989	1997	2000	2002
Memoradum items:					
Total employment, thousands	3 753	4 353	5 283	5 307	5 387
GDP constant prices 1986, bn pesos	14 621	18 490	33 301	35 537	37 414

Source: Central Bank of Chile, INE.

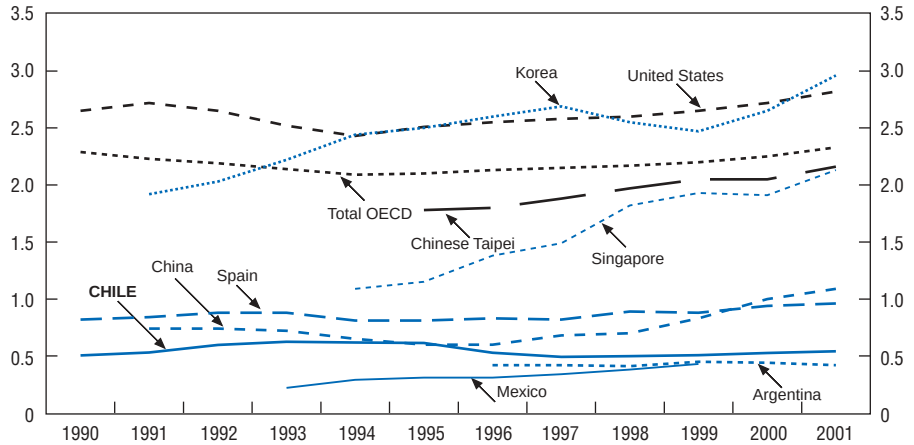
raw-materials rather than as processed food, a notable exception being wine production. The recently signed free-trade agreements with the United States and EC lowered trade barriers and improved access to large markets and as such should create export opportunities for processed products. However, this link is not automatic. At an early stage of the trade liberalisation process, the forces of comparative advantages could even reinforce the traditional specialisation patterns. To fully exploit this new window of opportunities an adequate combination of policies is necessary.

The policy links

Chile has gradually moved to develop processed goods and technologically sophisticated processes on the basis of its traditional comparative advantages. This strategy is fundamentally correct, but needs to be supported by the appropriate policies that have been discussed in the previous chapters. The government will need to focus better on policy coherence. The development of financial intermediation and risk capital is needed to support the emergence of new and more innovative firms. A better functioning labour market is key to the development of industry and service activities that are particularly sensitive to labour market rigidities.[106] Measures to increase female labour participation would support the development of light industries and services. Investment in human capital, in particular education, will increase the stock of skilled labour needed to develop products with higher technological content. It is also important to continue improving the microeconomic environment, in terms of administrative conditions and regulation of product markets. Barriers to enterprise creation should be identified and removed to foster entrepreneurship.

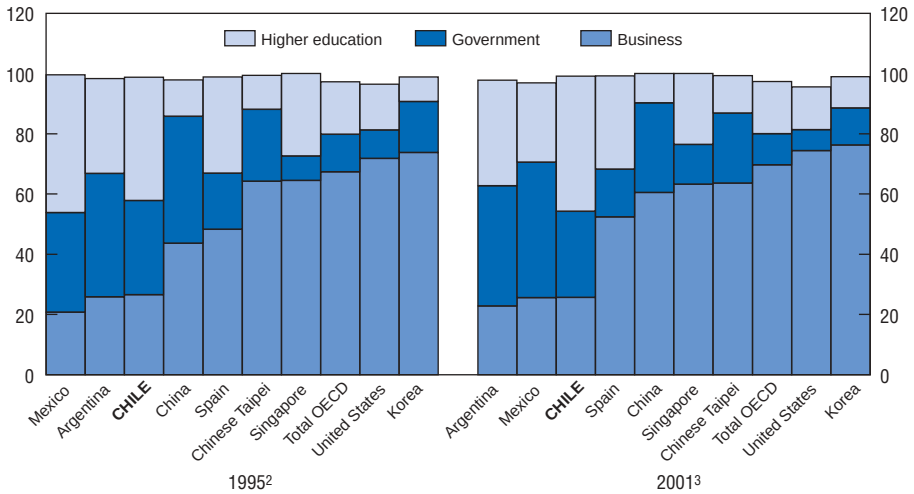
As discussed above, the use and diffusion of new technologies is fundamental. Chile has made a substantial effort in the diffusion of internet and *e*-government. Nevertheless, Chile is still characterised by a particular low level of R&D intensity. Although it is similar to other countries in Latin America and some lower income OECD countries, it is well below the OECD average (Figure 34). Perhaps more worrying is that the private sector only contributes to a small share of R&D efforts (Figure 35).[107] In terms of scientific and technological output, Chile

Figure 34. **R&D intensity: a comparison**
Gross domestic expenditure on R&D as a percentage of GDP



Source: OECD, *Main Science and Technology Indicators*, May 2003.

Figure 35. **Gross domestic expenditure on R&D performed by sector**[1]
As a percentage of total



1. R&D spending by higher education institutions, government and business do not add up to 100%, as it leaves out the residual of R&D spending by private non-profit organisations.
2. Argentina: 1996; Chinese Taipei: 1998.
3. Mexico: 1999.

Source: OECD, *Main Science and Technology Indicators*, May 2003.

produces more scientific papers per capita than Argentina and Brazil, but fewer patents than Argentina (Chile produces 0.3 patents per million inhabitants, compared to 36 for the OECD average). By giving a better protection and greater control of Intellectual Property Rights (IPRs), the free trade agreement with the United States could create incentives for the development of innovation in Chile, for example in software and *e*-commerce.

Evolving towards a more innovative economic base would require a better targeted technology policy and continuing the successful public-private partnerships to attract foreign investment partners,[108] as it occurred successfully in the wine and the salmon industries (see Box 19). Another potentially important area for policy initiative is the development of innovation clusters around the mining sector (Box 20). It is important to develop a culture of innovation and stimulate the use of new technologies.

Finally, several service industries have a strong potential to develop international trade and new products. The natural endowments, stability and relatively safe environment of Chile provide a strong potential for the development of tourism. The climate variety, for example, allows for the development of product variety in tourism. The well-developed telecom sector has provided a favourable environment for several multinational companies to establish their call centres and support services in Chile. The service logistics for the exports of fresh fruits are well developed and such know-how could be further sold abroad. Finally, Chile could also become a financial platform given its sound banking system, and this development would unfold simultaneously with the deepening of capital markets.

Box 19. Upgrading Chile's national innovation system

While Chile offers relatively good framework conditions for innovation, in terms of macroeconomic stability and attractiveness for FDI, its national innovation system (NIS)* continues to be underdeveloped. It is characterised by an insufficient level of investment in research and innovation, especially in the business sector. Moreover, there are weak linkages between public and private research, which contribute to a vicious circle keeping both at too low a level. Nevertheless, Chile has been so far more successful than most other countries in the region in pursuing a catch-up strategy aimed primarily at adding value to the traditional natural resource-based export products sectors through the use of new technologies and organisational innovation, especially in the agro-food sector. There exist already islands of world-class innovation-based activities, based on product sophistication and differentiation. If sustained over time and gradually scaled-up, recent government and private initiatives to encourage and diffuse these good practices hold the promise of inducing the necessary structural changes to put the Chilean NIS on a more dynamic development path.

The Chilean government does not offer tax incentives to R&D but supports research and technological development mainly through CORFO and the National Commission for Scientific and Technological Research (CONICYT). CORFO manages the National Fund of Technological and Productive Development (FONTEC) and the Development Innovation Fund (FDI). CONICYT spends most of its budget on two funding programmes: *i*) the National Fund for Scientific and Technological Development (FONDECYT), which supports roughly 1 000 basic research projects for up to three years; and *ii*) the Fund for Fostering Scientific and Technological Development (FONDEF), which spends a roughly equal amount on projects with potential economic impact in priority areas such as mining, forestry, and agriculture. The Ministry of Agriculture also manages the Agrarian Innovation Foundation (FIA). In recent years private intermediaries, such as "*Fundación Chile*" have played an increasingly important role in promoting technological upgrading and innovation in industry. The current reorientation of science and technology policy, with a greater emphasis on measures that strengthen linkages between the Chilean scientific community, industry and public-sector users of research findings, is a necessary initial step in a strategy to increase the responsiveness of the science system to economic opportunities and social needs, and to encourage the business sector to seek a better match between technological and market opportunities.

The experience of OECD countries that have managed successfully a transition from a natural resource-based to a knowledge-based economy show that escaping the "low equilibrium trap" in R&D requires a constant upgrading of framework conditions (*e.g.* competition, IPRs) that affect incentives to innovate and private returns on innovation. But it demonstrates also that upgrading a NIS involves:

i) Ensuring political and budgetary commitment to sustained and balanced public investment in knowledge, including human resource development.

Box 19. **Upgrading Chile's national innovation system** (*cont.*)

ii) Avoiding expensive generic financial incentives, but looking for leverage points at the interface between public and private research and between education and in-house training.

iii) Avoiding high-tech myopia and a "picking the winners" approach, but rather promoting high spillover and non-import intensive innovation activities, including "knowledge-intensive services", through instruments that stimulate but not crowd out private initiative, such as public-private partnerships.

iv) Complementing national resources and magnifying efficiency in their use through intensified international linkages and cooperation.

v) Building on existing innovation networks, but keeping incentive schemes open and attractive to outsiders.

vi) Coordinating national and regional initiatives, *e.g.* cluster programmes complemented by nation-wide research and technological networks.

* A NIS is defined as market and non-market institutions within a country which individually and jointly influence the direction and the speed of innovation and technology diffusion, and provide the framework within which the government elaborates and implements policies to influence the innovation. Such systems are characterised by distinctive attributes (specific patterns of scientific, technological and industrial specialisation, specific organisation of institutions and policy priorities) and different structures of interactions (*e.g.* between the enterprise sector and the science system; collaboration between firms) that are embedded in different institutional settings (networks, clusters). Actors in a NIS are firms, public and private research organisations, other public or private intermediary institutions, and government. They are influenced by a variety of factors: the macroeconomic environment, the financial system and corporate governance, legal and regulatory frameworks, the level of education and skills, the degree of personnel mobility, labour relations, prevailing management practices, etc.

Box 20. Is there a potential to develop a mining cluster in Chile?

The competitive strength of the cluster model has been tested in the manufacturing and service sectors. In particular, there is evidence that the level of productivity within the same sector is higher in clustered firms than in those that are not clustered. Average earnings and export rates also tend to be higher. In some OECD countries, these clusters are by no means marginal. In Italy, they account for around 32 per cent of total employment and 45 per cent of manufacturing jobs. Some clusters are commonplace throughout Europe and in the United States (OECD 2001d). Depending on their linkages with the rest of the economy, they often emerge as catalyst of development (Hirschman, 1958). Some clusters have also a role as centres of organisational learning. Their mix of competition and co-operation creates exchange of tacit knowledge and openness to innovation. Cluster forms of governance are well-suited for knowledge-based activities and high technology activities.

Although quantitative studies have not been developed for mining, this sector could meet the conditions for the creation of a cluster. Indeed, mining employs highly skilled workers, makes use of information and communication technologies and does significant R&D spending. In particular, environmental concerns, lower quality deposits and higher input costs have forced mining companies to develop and apply new technologies to increase productivity. In resource intensive regions and countries, *e.g.* in Canada and Australia, concentration of assets in higher education institutions, university based science parks and specialised research entities have been crucial in enhancing enterprise productivity within the mining cluster and ensuring its success. In Sudbury (Ontario) the nickel cluster has been able to harvest benefits linked with local expertise (Ontario geological survey), the capability to raise funds for exploration (Toronto stock exchange) and the availability of skills (provided by several education institutions[1]). In Kalgoorlie (Western Australia) the critical role has been played by the University which increasingly appears as a talent magnet and is expected to become a driving factor for entrepreneurship and training.[2]

In Chile, the region of Antofagasta has traditionally developed a strong mining activity with the exploitation of numerous metal ores, mainly copper, nitrate, saltpetre, gold and iron. The mining sector accounts for two-thirds of the regional GDP not only dominates the local economy, but also generates high indirect employment and induces income multiplier effects as the regional input/output matrix shows (Culverwell, 2000, 2002). Numerous activities are linked with mining and tend to cluster around the major mining sites (*Chuquicamata*, *Minera Escondida*, *El Abra*, *Zaldivar*). Two clusters should be considered: the first is composed of large specialised suppliers (gas, water, electricity, explosives, transport by trucks, chemical products). The second is composed of SMEs in complementary sectors such as services to companies, commerce and hotels. Local suppliers absorb around 7 per cent of the total spending in intermediate inputs and services by the largest mining companies, *i.e. circa* USD 105 million per year.

Box 20. **Is there a potential to develop a mining cluster in Chile?** (*cont.*)

So far, Chilean policies have mainly focussed on creating incentives for better linking small sub-contactors to procuring firms. Most attention is given to backward rather than to downward linkages. Extraction of copper is highly profitable and substantially more than post-manufacturing activities in part because trade distortion reduced the profitability of the latter – *e.g.* Japanese import of copper ore are tariff free which is not the case for refined or processed copper. Given the focus on upstream activities, regional authorities with the help of CORFO launched in 1995 a programme to develop suppliers, where subsidies were provided to large firms that took steps to train and coordinate local suppliers. To assist in diversifying the customer base, different agencies and business representatives have also worked together to upgrade the qualifications of small suppliers, which resulted in Programme to Evaluate and Qualify Suppliers to the Mining Industry. Physical infrastructures have been strengthened and a new port (*Mejillones*) will start activity in 2004. Finally, tax exemption for training has been initiated and there are talks about the creation of a science park.

The building of a comprehensive strategy to fully capture the benefits of clustering in the mining sector is however still in an early stage. Under the 2000-03 government plan, the *Intendente* (chief executive of the Regional Government) has established a Technical Committee to create a Cluster Management System. This Committee has undertaken broad consultations with public and private sector parties in the region to outline a development strategy. So far the articulation of this strategy remains unclear and it is not backed by a vision combining mining with other potential engine for growth such as fish farming or tourism. Nor does it try to address the issue of the technological heterogeneity of the cluster.

Given that mining companies are expected to invest USD 4-5 billion in the next five years in the region, there is a pressing need for a coherent approach to maximise the spill-overs of the mining cluster. In that context policy initiatives need to prioritise knowledge diffusion, R&D and inter-firm collaboration as well as help establish a good balance between innovation and cost reduction efforts. It is crucial to promote soft infrastructure (association, forum for exchange, cluster animation) and service delivery. Beyond training development, useful initiatives include establishing skill centres, creating incubators, linking higher education institutions and community colleges to mining suppliers and supporting entrepreneurship and start-ups. Concerning resources, a potential problem is that most of the mining revenues leave the region. As Chile is a rather centralised country, most public investment initiatives are basically decided by the central government. Some revenue decentralisation combined with strict efficiency criteria could provide the resources for some of the aforementioned policy initiatives based on the specific interests of the region. In particular, this could concern investments in higher education.

1. See for example the MIRARCO case (Canada), where the Laurentian University's role is crucial in building a knowledge based and highly competitive community around the mining activities.
2. In South Australia 40 geoscientists have teamed up to provide an innovation service in the region, thus strengthening the mining clusters.

Notes

1. Chile also signed free trade agreements with the Central American Common Market, EFTA, Mercosur, Canada and Mexico. By October 2003, the free-trade agreement with Korea was in the process of ratification.
2. For a discussion of the *encaje*, see Ffrench-Davis (2002).
3. With changes of Presidents in Chile, usually a very large number (over 5 000) of high and medium level civil servants are replaced.
4. Judging from the Deininger and Squire Data Set (World Bank), Gini coefficients are typically in the range of 0.25 to 0.35 in European countries, between 0.34 and 0.38 in the United States, Japan and several developing countries, and between 0.4 and 0.5 in many medium-income economies in Asia and Latin America. But such international comparisons must be taken with caution. In Chile, in contrast to some countries, the coefficient has been found to be lower when calculated for households rather than (as is most common) for per capita incomes. Moreover, these calculations do not include the in-kind transfers, which in Chile account for a sizeable part of the total resources of the lowest quintile (see Chapter V).
5. For a discussion see UNDP (1998).
6. There is evidence of a close link between the social origin and entrepreneurship. Most small and medium size firms are created by entrepreneurs from middle and lower-middle classes (IADB, 2002, p. 12).
7. About 50 per cent of Chile's population live in the two central regions of S*antiago* and V*alparaiso*, but the rest of the country is marked by long distances and many differences in economic and social conditions. Per capita incomes are relatively high in S*antiago* and V*alparaiso* and, also, in the four resource-rich regions that constitute the extreme North and the extreme South (see Annex Table A.4). These six relatively rich regions also stand out with relatively high service-sector employment. By contrast, incomes are substantially below average in all the other seven regions. Most of them display relatively high employment shares in agriculture, but some, including the populous B*iobio*, are among the most industrialised. The least industrialised region is A*raucania*, which also stands out with a strong representation of Chile's main indigenous ethnic group: the *mapuche*.
8. By chronological order: the Asian crisis in late 1997, the Russian crisis in 1998 and the Brazilian crisis in January 1999. The 2002 crisis in Argentina virtually did not produce any financial contagion in Chile.
9. Some analysts consider 1987 as the starting year of the "boom period", as only in that year the pre-1982-84 crisis level of GDP was re-attained.

10. See the note "*Acta Resultados del Comité Consultivo del* PIB P*otencial*", Budget Office, Ministry of Finance, August 2003.
11. See Ffrench-Davis, 2002, p. 7 and Ministry of Finance (2002).
12. The order of magnitude of this adjustment is given by the shift from a budget deficit close to 6 per cent of GDP in 1974 to a surplus of 2.5 per cent in 1980.
13. The average annual growth rates of GDP used for the projections are from Bennett and Schmidt-Hebbel (2001): 5.5 per cent between 2000 and 2010, 5 per cent between 2010 and 2020, and 4.5 per cent between 2020 and 2030.
14. See also Ruiz-Tagle and Castro (2001) for a discussion of the fiscal impact of the pension reform and possible future risks.
15. Noteworthy, this indicator is computed as the number of contributors in a specific month. It does not necessarily imply that only 56 per cent of the workers are covered. Indeed, it may happen that a given worker only contributes some months of the year and thus is still accumulating pension rights. In other words, the indicator combines both truly uncovered workers and workers with a low contribution density.
16. This deficit is related to the bonds issued to recapitalise banks after the financial crisis of 1982-84, see Chapter III.
17. It is worth noting that most of the investments in mining made by foreign companies are under the foreign investment contract (DL-600, see Chapter III). This bilateral contract guarantees the stability of the legal environment, including taxes, for foreign investors. In any event, this increase would only have a marginal impact, since it would only apply to new investment.
18. See Garcia (2003).
19. See Central Bank of Chile, M*onetary* P*olicy* R*eport*, January 2003.
20. For a discussion of the retail bank interest rate pass-through in Chile, see Espinosa and Rebucci (2003).
21. Indeed, the government has currently eliminated all controls of short term inflows. In the context of its free trade agreement with the United States, Chile agreed that in the future these controls could only be used temporarily and in a very selective way.
22. Between 1982 and 1985, the government rescued 21 financial institutions. These included B*anco de Santiago* and B*anco de Chile* (35 per cent of the entire loan portfolio). From this group, 14 banks were liquidated and the rest were either rehabilitated or privatised. The bank rehabilitation process took place by replacing non-performing assets by the issuance of long-term debt that was bought by the Central Bank.
23. These concern the Articles 35bis, 51 and 66, introducing changes in the rules for mergers, acquisitions and equity structures in the banking sector.
24. See Budnevich, Franken and Paredes (2001).
25. See for example OECD (2001a) for a discussion of the negative impact of the lack of protection of creditors' rights for the development of the credit market in Brazil. Leahy *et al.* (2001) analyse for OECD countries the link between financial development and financial framework variables, such as investor and creditor protection. La Porta *et al.* (1998) compare the effectiveness of different legal traditions on the protection and enforcement of creditor's rights.
26. See for example, OECD (1999b).
27. Based on OECD ground work, it was found that in Chile most lending decisions are centralised. Foreign-owned banks and branches also proceed in a similar way, with lending decisions above a certain threshold (typically USD 5 million) being taken abroad.

28. The Small Entrepreneur Guarantee Fund (FOGAPE) supports these lending activities. In 2002, this Fund auctioned USD 230 million over 16 banking entities. Through this mechanism around 28 000 credit operations were registered with a maturity from three to six years.
29. The interest rate ceiling differs by type, maturity and size of the credit. By mid-2003, it was around 6 and 10 per cent, for short and medium-term (more than 90 days) credits above 5 000 UF (or USD 125 000), respectively. For small loans, the rates were typically higher, reaching 40 per cent for medium-term credits below USD 5 000. For indexed credits (expressed in UF), the ceilings were between 8-8.5 per cent.
30. An example of this tradition is the Brazilian 1988 Constitution which sets the maximum real interest to 12 per cent (Article 192).
31. See B*anque* M*agazine*, No. 647, May 2003.
32. See for example Morandé (1996), Corsetti and Schmidt-Hebbel (1997), Schmidt-Hebbel (1999), Reisen (2000).
33. See for example, Uthoff (2001) and Holzman (1997).
34. The lack of a strict control over CORFO's cash flows allowed an operator of a private sector investment fund to use illegally around USD 100 million (around one third of the daily turnover) of endorsable certificate of deposits (CDs) to operate in the short-term market. After the scandal was publicly revealed, uncertainty concerning the redemption of the CDs, which had been traded and endorsed several times since the beginning of the fraud, caused a run out in this market also affecting banks that owned fund management companies. The Central Bank had to intervene by injecting liquidity in the system. In the follow-up of this crisis, several key managers in the financial market had to resign, including the Governor of the Central Bank. As an aside, the fact that the system for custody and transaction of CDs operates with paper documents and is not centralised facilitated the fraud. This could be avoided by the dematerialisation of the CD market.
35. Results based on Larraín, Labán and Chumacero (2000).
36. See Larraín *et al. op. cit.* See also Forbes (2003) for a discussion on the impact of short-term capital controls on lending to small and medium-size companies.
37. The most recent development of the *encaje* was given by the Chile-United States Free Trade Agreement. Article 10.8 of the Agreement provides that each Party should permit all transfers relating to an investment to be made freely and without any delay out of its territory. However, the special annex (10-C) leaves some options for Chile to restrict payments and transfers up to one year.
38. The comparison of tax systems across countries is made difficult due to the many exception rules and multiple tax treaties. For a discussion, see Yoo (2003).
39. The methodology here is based on Golub (2003). See also Hardin and Holmes (1997) for a similar approach.
40. Noteworthy, only screening and notification requirements for FDI *per se* were included in the computation of restriction measures. In particular, the *encaje* that is currently set to zero was not considered a restriction *per se*. Currently, foreigners wishing to transfer more than USD 10 000 to Chile must report to the Central Bank, but no exchange controls are currently in force and investors are always free to transfer capital. This notification requirement has nothing to do with foreign direct investment *per se*, and therefore was also not considered as a restriction. In scoring for other countries, such foreign exchange reporting requirements were not considered either.

41. This OECD instrument calls for treatment of foreign investors by host country governments no less favourable than that applied to domestic enterprises and promotes voluntary standards of responsible business conduct under the framework of the OECD Guidelines for Multinational Enterprises.

42. See Labán and Larraín (1997).

43. See for example Buchheister (2001).

44. The new law allows up to 12 hours of work per day instead of the present 10, while keeping the five or six-day working week. It would also allow up to nine consecutive working days, provided that one work-free day is guaranteed for every three working days.

45. See E*ncuesta* L*aboral* 1999. Collective bargaining was found to occur in 63 per cent of enterprises with 200 or more employees and in, respectively, 42, 18 and 8 per cent of those with 50-199, 10-49 and 5-9 employees. Among the bargaining enterprises, 56 per cent had reached collective agreements in the sense of the Labour Law (*contratos colectivos*) with some or all of their employees, while 55 per cent had agreements of a less regulated type (*convenios colectivos*) requiring no particular procedures, *cf.* Article 314). Different types of agreements often coexisted in the same enterprise.

46. A special youth minimum wage exists in Chile which is 20 per cent below the general minimum wage. However, as it only applies to the age category of 15 to 18 years old, its effects on youth employment is limited.

47. By way of comparison, most OECD countries leave some room for dismissal based on lack of skills and/or disability, but they frequently seek to reduce the number of such dismissals by requiring employers to consider alternative job assignments. When many workers are dismissed at the same time, several countries including France, Germany and Italy stipulate that their selection should take account of both productivity and social factors. Some provisions of this nature could also merit consideration in Chile as a way to make it acceptable to re-introduce "lack of skills" and disability as potential causes of dismissal.

48. When dismissals are motivated by Articles 159 and 160, the written notification may be produced up to three working days *after* dismissal.

49. The standard penalty is a 30 per cent increase of the severance benefit (Article 168, Point a), applicable when an employer wrongly invokes Article 161. If the employer gives no reason or if he wrongly invokes Article 160 (*e.g.* accusing the worker of misconduct etc., which, if justified, would dispense the employer from paying severance benefit), the dismissal is considered to have occurred for economic reasons and the severance benefit is increased by 50 to 100 per cent.

50. However, barring exceptional cases, these rules do not entitle courts to order reinstatement of the dismissed worker as they do in many OECD countries. Reinstatement can be ordered if a worker representative is dismissed during collective bargaining, or otherwise as an anti-union measure. The law does not oblige enterprises to keep workers on payroll during the disputes, though some employers may find it prudent to do so in order to reduce the risk of further legal costs.

51. The President announced in his 21 May 2003 speech that the number of labour courts will be increased. To enhance legal security, their procedures are to be modernised according to the principle of "oral, more rapid, agile and free-of-charge justice".

52. The AFC is owned by the pension funds and supervised by the Superintendency of Pension Funds.

53. The Solidarity Fund intervenes if the worker's individual account is insufficient to cover the minimum wage for five months. It then covers the difference between this guaranteed benefit and the balance on the individual account. This guarantee replaces previous income at a rate of 50 per cent in first month, tapering off to 30 per cent in the fifth month. Benefits are subject to ceiling and floor levels, so that these replacement ratios apply to incomes within a range of about 50 to 100 per cent of the average wage.
54. This new scheme leads to a labour-cost increase of 3 per cent for temporary jobs. It also increases the labour cost of indefinite contracts, mainly as a result of the introduction of benefits after voluntary quits.
55. For example, in April 2002, the official unemployment rate according to INE was 8.8 per cent, while a survey for the metropolitan area of Santiago carried out by the University of Chile indicated a rate of 13.3 per cent. The 2002 Census indicated for the same month a rate of 14.7 per cent.
56. Labour force survey data show little change in the self-employment structure up to mid-2002. Most of the persons concerned, around 20 per cent of total employment, are non-agricultural self-employed workers without employees, self-employed farmers accounting for 6 and employers for 3 percentage points. *Cf. www.ine.cl*
57. Edwards and Edwards (2000) estimated that the lower social insurance contribution resulting from the 1981 pension reform reduced the unemployment rate by 1 to 1.5 percentage points.
58. Higher contribution rates apply in several optional private health-care funds, and also in the old pay-as-you-go pension system to which some older workers are still affiliated. Employers pay for the work-injury insurance and part of the severance insurance, the rest being deducted from workers' wages.
59. These contribution statistics, which do not cover the military, refer to employment according to the Labour Force Survey in 2001.
60. The CASEN survey in 2000, using somewhat different methods and definitions, found that 37 per cent of the employed did not contribute in a month. The proportion ranged from 28 per cent in the highest income quintile to 56 per cent in the bottom quintile.
61. OECD (1996a-c, 1997, 1998 and 2003a); Martin and Grubb (2001).
62. *See* OECD (2001c) and Struyven and Steurs (2002).
63. These absolute lines of poverty and destitution are quite low relative to the present average incomes. In 2000, the urban poverty line (40 562 pesos per person per month) corresponded to 27 per cent of the national average household income per capita or 16 per cent of the average wage. In rural areas it was lower (27 349 pesos). As defined by MIDEPLAN, the destitution limit follows the price of a specified food basket, which is higher in urban than in rural areas; the poverty threshold is twice the destitution limit in urban areas but only 175 per cent of it in rural areas. All incomes include monetary transfers, estimated rent value of dwellings and own production for consumption.
64. Pre-school education is offered by a variety of public (National Board of Kindergarten, Integra and municipalities) and private (subsidised and non-subsidised) institutions.
65. The Ministry of Education has retained a supervisory role in terms of curricular design, school hours and dates, student evaluation and promotion. The Ministry also plays an important role in compensatory programmes.
66. These norms refer to minimum teacher wages and compensation per hour of lecture, holidays, training, and performance bonuses.

67. Initial and intermediate wages of teachers in Chile are substantially higher than those of colleagues in countries with similar income levels such as Argentina, Mexico and the Czech Republic. Moreover, when teachers' salaries are compared to GDP per capita, Chilean teachers are better off than their peers in most developed countries: a starting salary in Chile is 1.7 times the per capita income compared to 0.97 for the average of OECD countries, 0.86 for Argentina and 1.19 for Mexico (Ministry of Education, 2003).
68. The PISA+ is a multi-country effort to assess how far students approaching the end of compulsory education have acquired some of the knowledge and skills that are essential for full participation in society. For example, reading literacy requires students to perform a range of tasks from retrieving specific information to demonstrating a broad understanding, interpreting text and reflecting on its content and features. The 2000 PISA in OECD countries was extended to eleven non-member countries in 2002, also referred to as the PISA+, see *www.pisa.oecd.org/*
69. This includes strengthening the school performance system (SIMCE), the establishment of school boards representing parents and increased accountability of directors, who will not be anymore appointed for life.
70. Currently the Ministry of Education is elaborating quality standards of school management, as well as systems of auto- and external evaluations.
71. Nevertheless, a teacher can currently increase his or her income by about 60 per cent through bonuses depending on additional training, taking on management tasks, and individual and school performances.
72. In Switzerland, insurance is mandatory hence coverage is 100 per cent, while in the United States, coverage is voluntary and includes about 35 per cent of the population.
73. Population health indicators are quite imperfect measures of health system performance, because their main influences (*e.g.* social-economic conditions) are not directly within the control of the health system.
74. Infant mortality can be more than 20 times higher in poor relative to rich municipalities. Infant mortality is more than four times higher in cases the mother has no education relative to mothers with more than 13 years of education. Life expectancy in the richest regions is more than 12 years higher compared to the poorest regions (Ministry of Health, 2002).
75. Premiums paid by affiliates of 60 years and more are between 2 and 5 times those paid by men between 18 and 34 years (Bitrán and Almarza, 1997).
76. In Ireland and Australia, insurers seek to negotiate prices with providers, but have no control over utilisation. In the Netherlands, they mostly operate as indemnity insurers with almost no relation with providers.
77. They show that while between 1990 and 1999 public expenditure almost doubled, the volume of services increased by a meagre 22 per cent.
78. These wage increases were however not accompanied by productivity improvements. On the contrary, labour productivity fell by 6 per cent during 1992-99. This finding also holds for several OECD countries, even though the empirical evidence of falling productivity is contested by many due to the difficulty of measuring health care output.
79. An ISAPRE affiliate that develops a chronic or catastrophic disease is covered by a special insurance – Additional Coverage of Catastrophic Diseases –, introduced in 2000, that reimburses costs in the range of 60 to 126 UF. However, there is no limit on supplementary payments, although these can be paid over 30 consecutive months by instalments.
80. These pathologies include, amongst other, cardiovascular diseases, various types of cancer, traumas and urgencies, maternal care, chronic and mental health problems. The content of the "guaranteed health regime" will be reviewed every three years.

81. If a person's 7 per cent contribution is less than the universal solidary premium of USD 70, the government will supply the difference to the public or private fund to which he or she is affiliated.

82. Some OECD countries, such as the United States, have addressed the adverse selection problem by creating separate insurance pools for high-cost patients (OECD, 2003d). These schemes are subsidised by the government and have reduced insurance premiums for high-risk individuals and encouraged them to buy insurance in the market. Nonetheless, it is important to note that in the United States these individuals are not eligible for public insurance coverage.

83. These estimates were based on the sources cited for Table 20.

84. Several social benefits depend on the *Unidad de Fomento* (UF).

85. The Minister of Planning and Cooperation gave these figures in a speech in April 2003 (*www.mideplan.cl*).

86. The answers were reviewed (see Annex IV), and the qualitative information was then transformed into quantitative indicators according to the methodology developed in Nicoletti *et al.* (2000). The basic set of indicators derived from the questionnaire is aggregated, after a factor analysis, into several dimensions and finally into an indicator that summarises the level of product market regulation in the country. After Romania, Chile is the second non-member country of the OECD to have answered this questionnaire.

87. On this specific point, the Chilean authorities expressed doubts on the effectiveness of these agreements to increase transparency: although MRAs may be good instruments in theory, they are expensive to negotiate and manage in practice.

88. Note that Chile's WTO membership implies its recognition of technical, sanitary and phyto-sanitary regulatory obstacles to trade.

89. See for example the Antitrust Commission's 2001 decision in a case against Toyota, which fixed minimum resale prices for original replacement parts. The Commission said that resale price maintenance can have efficiency justifications and that there was vigorous competition in the automobile market. This case shows Chile may have gone further in this direction than most OECD countries (see OECD, 2003e).

90. See Recommendation of the OECD Council concerning Structural Separation in Regulated Industries, Reference C(2001)78, 26 April 2001, available at: *www.oecd.org/competition*

91. Ocaña (2002) quotes the following example: consider two simultaneous transactions for the same amount of energy. In one transaction energy is generated in Location A and delivered in Location B. In the other transaction energy goes from Location B to A. Clearly the two transactions cancel out and no transmission services would be needed. However, if the transmission tariff is transaction based, it will be charged twice.

92. This is the cost of production of the marginal producer. The calculation is based on the projected short-term marginal costs of satisfying the demand for energy over the next 48 and 24 months in the central and northern grids, respectively.

93. See Gylfason and Zoega (2002).

94. This corresponds to the productivity level of the world's most efficient producer.

95. The common definition of the real exchange rate is (in logarithms) $q = e + p - p^*$, with e, p and p^* being the nominal exchange rate, and the domestic and foreign *total economy* price levels respectively. This equation can be decomposed in two parts: $q = q_e + \alpha\,[(p_t - p_n) - (p_t^* - p_n^*)]$ with α being the share of the nontradable sector in GDP. $q_e = e + p_t - p_t^*$ is the real exchange rate in the tradable sector, and $[(p_t - p_n) - (p_t^* - p_n^*)]$

the difference between the tradable and nontradable price differentials of two countries. Assuming the law of one price in the tradable sector and a "given" foreign price differential between tradables and nontradables, the real exchange rate becomes $q = p_t - p_n$.

96. This effect is often accompanied by an overshooting mainly related to a demand-side push. Following an exchange rate movement appreciation, terms of trade improve and real income increases. Usually, the supply of the non-tradeable sectors is more rigid and this pushes their prices up. For a discussion see Baldi and Mulder (2003).

97. Fixed exchange rate regimes were adopted between 1995 and 1999 in Brazil and between 1991 and 2002 in Argentina.

98. See Brooks and Lucatelli (2003).

99. The quoted paper uses the Gini coefficient. However, as the Gini coefficient can be very sensitive to the skewed distribution of sectors, the Herfindhal concentration index was preferred here. The index was computed across 14 broad sectors available in the Chilean national accounts. The level of the indicator is rather sensitive to the level of disegregation, but the time trend towards diversification is a relatively robust result.

100. Noticeably, Chile does not produce and export copper cables. This is because profit margins are very small in this industry due to strong international competition. Moreover, low international transportation costs do not provide an incentive to develop a domestic cable industry. Therefore, instead of facing though competition in this market, Chilean producers prefer to focus on the more profitable exploitation of raw copper.

101. See for example, the "composite vulnerability index" proposed by Patkins and Mazzi (1999). According to this indicator, Chile ranks #68 within a sample of 111 countries (with #1 being the highest vulnerability). Argentina, Brazil and Mexico rank #109, #110 and #111, respectively.

102. According to Caballero (2002), the cost of such an instrument would not be excessive. Assuming an interest rate spread shock of 600 basis points, the financing of a shortfall of USD 5 billion a year would cost USD 300 million per crisis year. The insurance premium to cover for such a risk would normally be below USD 100 million per year.

103. This argument was put forward in a seminal paper by Krugman (1989).

104. For an empirical test on the impact of product variety on productivity see Funke and Ruhwedel (2001) and Addison (2002). Lederman and Maloney (2002) find that the combination of the negative correlation between export concentration and intra-industry trade and a positive correlation between export concentration and volatility of the real effective exchange rate induce a negative impact of export concentration on economic growth.

105. See Romer (1990), Young (1993) and Aghion and Howitt (1998).

106. Typically, the agricultural sector makes a large use of temporary work and flexible labour arrangements. The mining sector employs a relatively small share of the labour force.

107. This is reflected in the allocation of researchers in total employment (650 per million). Most researchers work in universities (about 70 per cent) and in public labs (nearly 20 per cent).

108. For a discussion on the role of FDI in technology adoption and international competitiveness in South-America, see Goldstein (2003).

Glossary of acronyms

AFP	*Administradoras de Fondos de Pensiones* Pension Fund Administrators
CASEN	*Caracterización Socioeconómica Nacional* National Socio-Economic Survey
CEPAL (ECLAC)	*Comisión Económica para América Latina y el Caribe* Economic Commission for Latin America and the Caribbean
CIEPLAN	*Corporación de Investigaciones Económicas para Latinoamérica* Economic Research Corporation for Latin America
CODELCO	*Corporación Nacional del Cobre* Chilean Copper Corporation
CORFO	*Corporación de Fomento de la Producción* Chilean Economic Development Agency
CPC	*Confederación de la Producción y del Comercio* Production and Commerce Confederation
CUT	*Central Unica de Trabajadores* Unified Trade Union
ENAMI	*Empresa Nacional de Minería* National Mining Company
ENAP	*Empresa Nacional del Petroleo* State Oil and Gas Producing Enterprise
FONASA	*Fondo Nacional de Salud* National Health Fund
INE	*Instituto Nacional de Estadísticas* National Statistical Agency
ISAPRE	*Instituto de Salud Previsional* Health Provision Institution
MIDEPLAN	*Ministerio de Planificación y Cooperación* Ministry for Planning and Cooperation
PROCHILE	*Dirección de Promoción de Exportaciones* Export Promotion Bureau
SENCE	*Servicio Nacional de Capacitacion y Empleo* National Training and Employment Agency
SII	*Servicio de Impuestos Internos* Internal Revenue Service
SOFOFA	*Sociedad de Fomento Fabril* Federation of Chilean Industry
SVS	*Superintendencia de Valores y Seguros* Superintendency of Securities and Insurance
UF	*Unidad de Fomento* Inflation indexation unit

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Annex I

The Chilean pension system: a comparative perspective

Historical background

Chile introduced its social insurance scheme legislation in 1924 to regulate occupational pension funds for public servants and some categories of private workers. The system was originally organised on a pre-funding basis and financed by employees' and employers' contributions. However, funds' mismanagement, political intervention and expansion of benefits led to an erosion of the reserves and the pay-as-you-go system (hereafter, PAYG) was gradually implemented as the main financing mechanism. The Argentinean and Brazilian experience were in this respect quite similar, as the public PAYG system emerged as a historical consequence of the earlier pension funds' failure.

The coverage of the Chilean pension scheme expanded gradually until mid-1970s, when it reached almost 80 per cent of the labour force (Cheyre, 1991). The complexity and fragmentation of the system also increased, as different regimes were operating under heterogeneous and stratified rules. In 1979, there were 32 different social security institutions and over 100 pension programmes with distinct contribution rates, benefit formulae, eligibility conditions and pension readjustment criteria. This system presented serious drawbacks: distinct rules tend to reduce transparency and produce unfair cross-subsidies between workers; the operation of numerous institutions reduces economies of scale and scope increasing administrative costs and inefficiency.

Moreover, the PAYG system was unbalanced and benefits were not protected against inflation. From 1960 to 1980 the ratio between contributors and beneficiaries decreased from 10.8 to 2.2. In 1980, government had to transfer budget resources to cover 40 per cent of the pension expenditures. Between 1962 and 1980, the real value of the average old-age pension decreased 43 per cent. By 1980, 70 per cent of retirees were receiving minimum pensions (SAFP, 2002; pp. 34-39).

The pension reform

The Chilean pension reform was a well planned long term process. During the second half of the 1970s, the government accumulated budget surpluses in order to finance the transition costs (see Chapter II). In 1979, a deep parametric reform in the old PAYG was introduced aiming to reduce pension liabilities. All the fragmented pension institutions, excluding the militaries' scheme, were merged into the Institute of Social Security Normalisation (INP). The rules were unified and the retirement age was set at 65 for men and 60 for women without a transition rule, affecting the current generation of civil servants and several categories of private workers that could retire without age limit.

In 1981, the Chilean government replaced the traditional public defined-benefit PAYG system with a fully funded privately managed defined-contribution scheme. This innovative experience was a crucial piece of a reform package targeted to strengthen fiscal accounts, deal with the impact of the population ageing, develop financial and capital markets, increase national savings and efficiency in the labour market and stimulate economic growth. During the 1990s, the Chilean pension reform became a paradigm and inspired many reforms in Latin American,[1] eastern European and central Asian countries.[2]

This Chilean reform was impressive compared to the Latin American and OECD experience. For example, the institutional unification or homogenisation of rules for all workers is still a key issue in the current pension reform debate in Austria, Brazil and France. Colombia, Mexico and Peru introduced a mandatory fully funded pension only for private sector workers, while public servants are still covered by a more generous regime. Argentinean pension reform has not affected some provinces that were not integrated into the new system.

In Chile, the old PAYG system was closed for new entrants and is gradually phasing out. The new fully funded scheme was made mandatory for new workers and optional for the current ones. Employees who switched to new system received a 12 per cent increase in their net salaries and a recognition bond equivalent to accrued rights accumulated under the old regime.[3] Self-employees are not obliged to contribute. Only the military were not included in the reform, keeping a more generous specific PAYG scheme.

By comparison, Argentina, Costa Rica and Uruguay adopted mixed arrangements combining basic PAYG provision with mandatory complementary capitalisation scheme. In Colombia and Peru, the old PAYG and the new funded scheme are running in parallel and workers may choose to which one they will be affiliated. Transition economies, such as Bulgaria, Croatia, Estonia, Hungary, Macedonia and Romania have also introduced mandatory funded schemes but maintained a sizable public defined benefit PAYG pillar for income distribution purposes. Similarly, in all OECD countries there is a PAYG tier providing either earnings-related pensions (*e.g.* France, Germany and the United States), contributory flat benefit (Ireland and the United Kingdom) or a non-contributory flat pension (Denmark and the Netherlands). These basic schemes are complemented by personal and/or occupational private pension plans operating on a voluntary and/or mandatory basis.

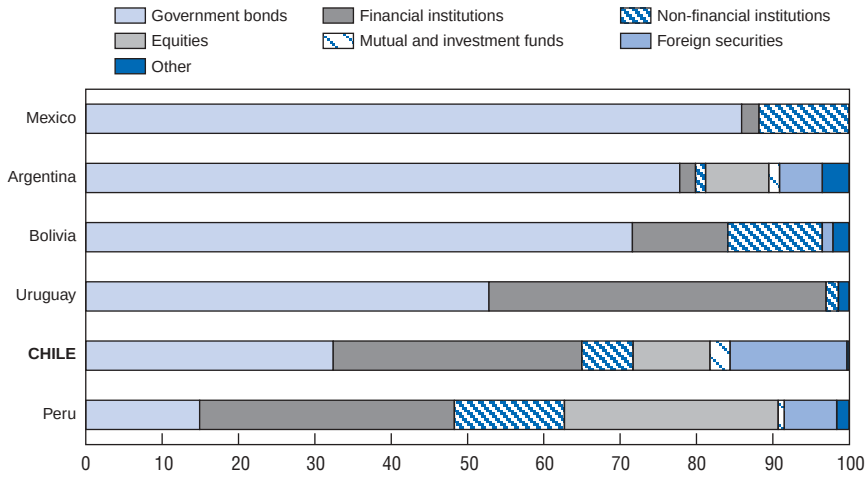
Regulation of pension funds

The Chilean regulations set minimum capital and entry requirements in the pension fund market. The pension funds (AFPs) must be specialised institutions, separated from other financial institutions. The asset portfolio is also restricted by setting maximum asset allocation limits by type of financial instrument. Moreover, AFPs have to perform a minimum return according to an estimated benchmark based on the market average return of the last 36 months. This regulation has created a "herd effect" within the pension market (see Chapter VI).

Given that strict asset portfolio restrictions may decrease diversification, increase risks and reduce returns, Chile has adopted a more liberal approach for regulation. Initially, AFPs were only allowed to hold government and corporate bonds, fixed deposits and mortgage-backed securities. Progressively, equities were introduced in 1985, mutual investment funds in 1990 and international investments in 1992.

As a result, the Chilean pensions' portfolio is more diversified and less dependent on government bonds compared to other Latin American countries. In Argentina, Bolivia and Mexico, more than 70 per cent of the assets are invested in government bonds, while in Chile this proportion is around 32 per cent (Figure A.1). The high dependency on government bonds may expose the pension funds to political risks. This happened in Argentina, where

Figure A.1. **Financial portfolio of Latin American pension funds**
In per cent, June 2002



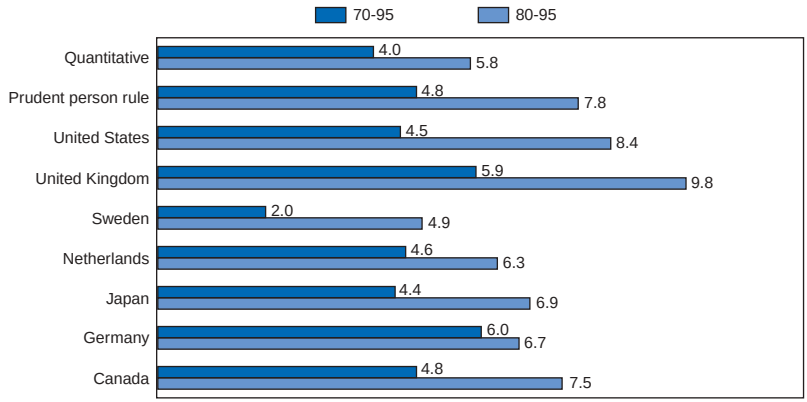
Source: International Pension Funds Supervisors Organisation – AIOS (2002).

80 per cent of the pension funds' portfolio was invested in government bonds. Following the crisis and default in 2002, original tradable public bonds were swapped into "guaranteed loans" without a secondary market and at substantially lower predefined rates of return. As these new instruments are non-tradable, it is currently quite difficult to evaluate the balance sheets of the Argentinean pension funds.

Some OECD countries typically impose few restrictions on pension funds' asset portfolio (namely in Australia, Belgium, Ireland, Luxembourg, the Netherlands, New Zealand, Spain, the United Kingdom and the United States). Pension fund managers are "just" required to invest prudentially. Some other countries, such as Austria, Canada, Denmark and Iceland impose limits to invest in equities, investment funds, loans and real estate. Germany, Hungary, Mexico, Poland, Portugal and Sweden have more quantitative restrictions on asset allocation. Nonetheless, all these regulations are relatively more flexible compared to the quantitative approach used in Latin America. The tighter investment regulations in Latin America can be justified because the system is compulsory and there are government guarantees involved. However, these quantitative regulations affect pension funds' returns, therefore, reducing benefits.

The main argument against quantitative restrictions is related to the lack of flexibility to adapt investment strategies to structural changes in the economy. Moreover, there is a disincentive for competition among fund managers, since they pursue quantitative goals rather than maximising returns. According to the EU Commission, quantitative portfolio regulations may lead to suboptimal returns and risk taking. Accordingly, a recent resolution of the European Parliament sets "the prudent person rule" as the underlying principle for capital investment (EP-PE_TC2-COD(2000)0260). There is evidence in OECD countries that pension funds regulated by "prudent person rule" have achieved higher real annual returns than those under restrictions on asset portfolio allocations (Figure A.2).

Figure A.2. **Estimated annual real returns on pension fund's portfolios**
In per cent



Source: Davis and Steil (2000).

Notes

1. Argentina (1993), Bolivia (1996), Colombia (1993), Dominican Republic (2001), El Salvador (1998), Mexico (1996), Nicaragua (2000), Peru (1992) and Uruguay (1995).
2. Bulgaria (2002), Croatia (2003), Hungary (1998), Kazakhstan (1998), Latvia (2001), Macedonia (2002), Poland (1999) and Romania (2003).
3. The value of the recognition bond is equivalent to the capital needed to provide a pension equal to 80 per cent of the wage received before the reform, considering 35 years of contribution and 65/60 retirement wage, multiplied by the proportion of the employee's labour life under the old regime.

Annex II

Chronology of financial liberalisation reforms

Description

1974	Decreto de Ley (DL, *Law Decree*) 600: liberalisation of foreign direct investment. DL 326, Article 14: non financial institutions gain access to foreign loans.
1975	DL 326, Article 15: access to commercial credit liberalised.
1976	Chile abandons *Pacto Andino* (trade union agreement between South American countries).
1977	DL 326, Article 14 is applied to banks and financial institutions, under severe monthly restrictions.
1978	Partial relaxation of borrowing restrictions on the financial sector (Article 14).
1979	Capital requirement imposed for credits less than 66 months to maturity. Peg of the exchange rate at 39 pesos for USD. Subsequent relaxation of restrictions (Article 14); elimination of foreign credit quotas.
1980	Further relaxation of restrictions (Article 14); foreign capital inflows requirements and restrictions to short-term capitals remain. Upper limit for investments of domestic banks and financial institutions on foreign securities and bonds is increased.
1981	Domestic banks are allowed to open branches offshore.
1982	Exchange rate devaluation (June); later, floating exchange rate. Short-term credits requirements are reduced (from 20 to 5 per cent). Banks are allowed to take positions in foreign currency. Interest is paid over long-term capital requirements (more than 4 years but less than 66 months to maturity). Exchange controls are restored (September), and the free float regime is replaced by a crawling-peg; international travel quotas are imposed.
1983	The banking sector is rescued and the external debt payments are suspended for 90 days (January). Differentiated exchange rates for the USD are imposed.
1985	Differentiated exchange rates are eliminated. Several external debt conversion mechanisms are implemented.
1986	General Banking Act is substantially reformed.
1989	Central Bank is declared independent from the Government.

1990 The Central Bank authorises informal exchange market activities.
ADRs are allowed for domestic corporations, as a way to spur investment in foreign markets. A minimum is set at USD 50 million.

1991 Domestic banks are allowed to invest offshore, up to 25 per cent of their foreign currency deposits. Also, credits to other Latin American countries are authorised, under ALADI (free trade and co-operation agreement between Latin American countries).
A short-term unremunerated reserve requirement (*encaje*) is set at 20 per cent.
Authorisation for exporters to maintain up to 5 per cent of their returns.

1992 Pension funds administrators (AFP) are authorised to invest up to 3 per cent of the fund in international securities.
All restrictions on repatriations of capital and profits are eliminated.
E*ncaje* is extended to foreign currency deposits and set at 30 per cent.
Authorisation for export returns is raised to 10 per cent.

1993 DL-600: Minimum waiting period for capital repatriation is reduced from 3 to 1 year.

1994 Export returns authorisation is raised to 15 per cent in April, then 25 per cent in September.
Restrictions on ADR investments are reduced.
AFP authorisation to invest in international securities rises from 3 to 4 per cent of the fund.

1995 Subordinated Debt Law: Banks and financial institutions which were rescued in 1983 (and since then maintained debts with the Central Bank of Chile) regularised their debts.

1996 Law 18.657 allows creation of foreign capital investment funds and risk capital funds.

1997 New revision of the General Banking Act.

1998 E*ncaje* is set at 0 per cent.

1999 Law 19.601 allows open offerings of foreign stocks and bonds in the domestic market.
Law 19.623 allows the creation of securitisation firms and stock deposits.

2000 Law de OPAS (Law number 19.705) regulates public stock auctions and establishes corporate governance regimes.

2001 All exchange rate restrictions are eliminated.
Elimination of remaining authorisation requirement for some capital transactions.
Elimination of non-remunerated reserve requirements (*encaje*) as a policy instrument. Elimination of the minimum rating and maturity for bond issues. Elimination of remaining restrictions on ADR issues.
Capital Market reform (mark-I) seeks more flexibility in the insurance and mutual funds market. Some taxes are eliminated to provide incentive for long-term capital markets, such as taxes on capital gains and on interest income of institutional foreign investments. Also, investments decisions of mutual funds and insurance companies gain flexibility.
Minor modifications in the General Banking Act, to improve competitiveness and regulation of the sector.

2002-03 Capital Market reform (mark-II) in progress.

Annex III

The FDI restrictiveness indicator

There are several issues involved in computing the restriction scores. A classification of various types of restrictions and a system of weighting are needed. These tasks are greatly complicated by the disparate nature of restrictions across countries and the inconsistent reporting of these restrictions. Sometimes it is difficult to determine the exact nature and incidence of a particular restriction without detailed knowledge of a country's productive structure and regulatory environment. In the case of Chile, however, the task was eased by the fact that there are hardly any restrictions.

The methodology here is based on Golub (2003). See also Hardin and Holmes (1997) for a similar approach. FDI restrictions are measured on a 0-1 scale, with 0 being completely open and 1 completely closed. Three main types of restrictions are considered: *i*) Limitations on foreign equity holdings; *ii*) Screening and notification requirements; and *iii*) Other restrictions, including those on management, operations and movement of personnel between countries.

The indicator is constructed so that the maximum is 1. If foreign equity is banned, then the other criteria become irrelevant, so that the index is at its maximum value. It is theoretically possible that the component restriction scores could sum to up to 1.1 even if foreign equity is not banned, if all were at their upper limit, and in such cases, the index is capped at a maximum value of 1.0. In practice, however, this rarely occurs. The only instances in which the score reached its maximum 1.0 were bans on foreign acquisitions and public monopoly. Equity restrictions receive the greatest weight in the indicator due to their obvious centrality. FDI restrictions can be either across-the-board, applying to all sectors, or sector-specific. The limitations on foreign equity levels are usually specified on an industry-by-industry basis, whereas notification and authorisation requirements are usually across-the-board.

This study focuses on discriminatory barriers against foreign investment rather than all barriers to entry and operation that apply to both domestic and foreign firms. There are some grey areas, however. In particular, in the case of public monopoly, foreign investment is necessarily excluded and such instances were considered tantamount to a ban on FDI with a restriction score of 1.0. The computations are based on statutory barriers and mostly ignore tacit institutional or behavioural barriers to FDI as they are nearly impossible to quantify. There are no indications of any such covert barriers in Chile in any case.

For each country the calculations are based on 9 sectors and 11 sub-sectors. The sectors are as follows, with sub-sectors in parentheses:

1. Professional Services (Legal, Accounting, Engineering, Architectural).
2. Telecommunications (Fixed, Mobile).
3. Transport (Air, Maritime, Road transport).

4. Finance (Banking, Insurance).
5. Distribution.
6. Construction.
7. Hotels and Restaurants.
8. Electricity.
9. Manufacturing.

The bulk of these industries are in the service sector, reflecting the fact that the preponderance of restrictions world-wide are now in services, as corroborated in Golub (2003). The sectoral scores were aggregated into a national total with a combination of trade and FDI weights. Some sensitive sectors such as mass media were not included in this study, but they do not account for a large part of economic activity or foreign investment. The calculations for Chile are based on a response to a questionnaire by the OECD and filled out by the Foreign Investment Committee of the Chilean government. Sources for the OECD countries can be found in Golub (2003).

Annex IV

Questionnaire used to construct the indicator of economic regulation

This annex contains the answers provided by the Chilean Ministry of Economy to the OECD questionnaire on product market restrictions and regulation. The answers reflect the state of the Chilean legislation by May 2003.

Questions	Answers
Data used to construct the indicators of administrative regulation	
Is the "silence is consent" rule (*i.e.* that licenses are issued automatically if the competent licensing office has not acted by the end of the statutory response period) used at all?	Yes, approved in May 2003.
Are there single contact points for getting information on licenses and notifications?	No.
Are there single contact points for issuing or accepting licenses and notifications (one-stop shops)?	No.
Is there a complete count of the number of permits and licenses required by the national government (all ministries and agencies)?	No.
Is there an explicit programme to reduce the administrative burdens imposed by government on enterprises and/or citizens?	The Ministry of Economy is implementing a project which will permit firms and citizens to realise the most common procedures through the internet.
Is there a programme underway to review and reduce the number of licenses and permits required by the national government?	No.
Are there systematic procedures for making regulations known and accessible to affected parties?	Yes, they are all on the internet sites of the regulatory authorities.
Is there a general policy requiring – plain language – drafting of regulation?	No.
Do affected parties have the right to appeal against adverse enforcement decisions in individual cases?	Yes.
Is there communication at international level?	Yes, as required by Chilean trade agreements, especially the WTO. Changes in regulation have to be reported when they may affect the trade in services, which has not been the case so far.

Questions	Answers
Are there any inquiry points where affected or interested foreign parties can get information on the operation and enforcement of regulations?	Yes, the Foreign Investment Committee.
Does government policy impose specific requirements in relation to transparency and access to or freedom of information?	There is a legal obligation to make publicly available all inputs for the authority's decisions (*ex post* transparency). Moreover, there is a policy to promote transparency during regulatory processes. There are new provisions about transparency and participation in pricing processes in the telecommunication sector. Moreover, a new electricity law currently in Parliament includes provisions on these subjects. Regulation on the water sector includes transparency and participation in the basic elaboration process for the tariff study as well as *ex post* transparency for the entire process.
Is registration in any transport register required in order to establish a new business in the road freight sector?	No.
In order to operate a national road freight business do you need to obtain a license (other than a driving license) or permit from the government or a regulatory agency?	No.
In order to operate a national road freight business do you need to notify any level of government or a regulatory agency and wait for approval before you can start operation?	No.
In order to operate a national road freight business (other than for transporting dangerous goods or goods for which sanitary assurances are required) do you need to notify any level of government or a regulatory agency?	No.
Road freight: Are criteria other than technical and financial fitness and compliance with public safety requirements considered in decisions on entry of new operators?	Yes.
Road freight: Do these entry regulations apply if a firm wants to transport only for its own account?	No.
Retail distribution: Procedures needed to start up a commercial activity: registration in commercial register: food.	Sanitary authorisation.
Retail distribution: Procedures needed to start up a commercial activity: registration in commercial register: clothing.	No.
Retail distribution: Procedures needed to start up a commercial activity: notification to authorities: food.	
Retail distribution: Procedures needed to start up a commercial activity: notification to authorities: clothing.	No.
Retail distribution: Procedures needed to start up a commercial activity: licenses or permits to engage in commercial activity: food.	Sanitary authorisation.

Questions	Answers
Retail distribution: Procedures needed to start up a commercial activity: licenses or permits to engage in commercial activity: clothing.	No.
Retail distribution: Procedures needed to start up a commercial activity: licences or permits for outlet sitting (in addition to compliance with general urban planning provisions): food.	Sanitary authorisation.
Retail distribution: Procedures needed to start up a commercial activity: licences or permits for outlet sitting (in addition to compliance with general urban planning provisions): clothing.	No.
Retail distribution: Procedures needed to start up a commercial activity: compliance with regulation especially designed for large outlets: food.	Yes, sanitary regulations.
Retail distribution: Procedures needed to start up a commercial activity: compliance with regulation especially designed for large outlets: clothing.	No.
Enterprise creation: Maximum number of procedures (pre and post creation) needed for sole proprietor firms.	To create a legal entity: 3 procedures. To create an enterprise: 8 procedures.
Enterprise creation: Maximum number of government services to be contacted for sole proprietor firms.	Three institutions.
Enterprise creation: delays (maximum weeks) before response by administration: for sole proprietor firms.	4 weeks (source World Bank, 2003).
Enterprise creation: direct and indirect cost (minimum €) of administrative procedures: for sole proprietor firms.	500 €.
Enterprise creation: Maximum number of procedures (pre and post creation): for corporations.	To create a legal entity: 3 procedures. To create an enterprise: 8 procedures.
Enterprise creation: Maximum number of government services to be contacted: for corporations.	3 institutions.
Enterprise creation: delays (maximum weeks) before response by administration: for corporations.	4 weeks (source World Bank, 2003).
Enterprise creation: direct and indirect cost (minimum €) of administrative procedures: for corporations.	500 €.

Other questions	Answers
Are there any legal or constitutional constraints to the sale of the stakes held by the State in publicly – controlled firms?	Yes, state firms created by law which stocks are not shares cannot be sold. For water enterprises, Laws 18 777, 18 885 and 19 549 establish a 35 per cent minimum state share.
Are there any statutory or other legal limits to the number or proportion of shares that can be acquired by foreign investors in these firms?	No.
Do national, state or provincial governments have special voting rights (*e.g.* golden shares) in any firms within the business sector?	No.

Other questions	Answers
Road freight: Are there any regulations setting conditions for driving periods and rests?	Yes, guidelines of the Ministry of Labour.
Road freight: Do regulations prevent or constrain: Backhauling?	Yes.
Road freight: Do regulations prevent or constrain: Private carriage?	No.
Road freight: Do regulations prevent or constrain: Contract carriage?	No.
Road freight: Do regulations prevent or constrain: Intermodal operations?	No.
Road freight: Within the last five years, have laws or regulations removed restrictions on: Own-account shipments?	No.
Retail distribution: Are shop opening hours regulated?	No.
Retail distribution: At which level of government regulations are applied: National/state/local	National.
Retail distribution: Did the regulation of opening hours become more flexible in the last 5 years?	No.
Air travel: Are carriers operating on domestic routes subject to universal service requirements (*e.g.* obligation to serve specified customers or areas)?	No.
Railways: Are companies operating the infrastructure or providing railway services subject to universal service requirements (*e.g.* obligation to serve specified customers or areas)?	No.
Air Travel: Information about regulation of air travel fares: Air transport routes: Domestic.	Yes.
Air Travel: Information about regulation of air travel fares: Air transport routes: International: All routes.	Yes.
Air Travel: Information about regulation of air travel fares: Air transport routes: International (busiest route): Connecting countries included in regional agreements.	In air travel, the dominant firm must inform the competition authority about its fares.
Air Travel: Information about regulation of air travel fares Air transport routes: International (busiest route): Connecting other countries.	Yes.
Road freight: Are retail prices of road freight services in any way regulated by the government?	No.
Road freight: Does the government provide pricing guidelines to road freight companies?	No.
Road freight: Are professional bodies or representatives of trade and commercial interests involved in specifying or enforcing pricing guidelines or regulations?	No.
Retail distribution: Are the retail prices of certain products subject to price controls?	No.
Retail distribution: Are the retail prices of certain staples (*e.g.* milk and bread) subject to price controls?	No.

Other questions	Answers
Retail distribution: Are the retail prices of Gasoline subject to price controls?	Prices are totally free, but in 1991 an Oil Price Stabilisation Fund was created, which aims to smooth international price fluctuations.
Retail distribution: Are the retail prices of Tobacco subject to price controls?	No.
Retail distribution: Are the retail prices of Alcohol subject to price controls?	No.
Retail distribution: Are the retail prices of Pharmaceuticals subject to price controls?	No.
Retail distribution: Are the retail prices of Other (please specify) subject to price controls?	*Electricity*: For consumers with demand below 2 MW, the prices of electricity (node price) and distribution are set by the National Energy Commission (CNE). The node price is a marginal price and is established every six months. The distribution price is based on the long run marginal cost of a hypothetical efficient firm and is set every four years. The final customers subject to price regulation pay a mix of the node and distribution prices. *Water*: Provision of water and sewerage services is subject to price regulation. The regulatory agency establishes maximum fixed and variable prices, based on the long run marginal cost of a hypothetical efficient firm and indexed against increases in the production costs of that firm.
Basic voice telephony/trunk: Retail prices: Basis for regulation.	Every five years, the regulatory authorities (Ministry of Transportation and Telecommunications and the Ministry of the Economy) set maximum prices for service access and the other telecom services that the competition agency (Resolutory Commission) considers monopolistic. Prices are based on the long run marginal cost of a hypothetical efficient firm and indexed against increases in the production costs of that firm.
Basic voice telephony/international: Retail prices: Basis for regulation.	No.
Mobile cellular telephony/analogue: Retail prices: Basis for regulation.	The interconnection charge is subject to price regulation; this regulated price is based on the long run marginal cost of a hypothetical efficient firm and indexed against increases in the production costs of that firm. Tariffs are set every five years.
Mobile cellular telephony/digital: Retail prices: Basis for regulation.	The interconnection charge is subject to price regulation; this regulated price is based on the long run marginal cost of a hypothetical efficient firm and indexed against increases in the production costs of that firm. New tariffs are set every five years.

Other questions	Answers
Is there an explicit recognition of national treatment principle?	No, the constitution forbids discrimination.
When business practices are perceived to restrict competition and hence prevent effective access of foreign firms (foreign owned or controlled) to such markets, can the latter have redress: through competition agencies?	Yes.
When business practices are perceived to restrict competition and hence prevent effective access of foreign firms (foreign owned or controlled) to such markets, can the latter have redress: through trade policy bodies?	No.
When business practices are perceived to restrict competition and hence prevent effective access of foreign firms (foreign owned or controlled) to such markets, can the latter have redress: through regulatory authorities involved?	Yes.
When business practices are perceived to restrict competition and hence prevent effective access of foreign firms (foreign owned or controlled) to such markets, can the latter have redress: through private rights of action?	Yes.
Are appeal procedures available to foreign parties?	Yes.
Are there any specific provisions which require that regulations, prior to entry into force, be published or otherwise communicated to the public in a manner accessible at the international level?	Yes, proposed laws are available to the public on the Congress' website.
Has your country engaged in Mutual Recognition Agreements (MRAs) in any sector(s) with any other country (countries)?	No.
Are there any specific provisions which require or encourage regulators to consider recognising the equivalence of regulatory measures or the result of conformity assessment performed in other countries, wherever possible and appropriate?	No. Nevertheless the Ministry of the Economy has adopted a proactive role and encourages the National Committee for Technical Barriers to Trade to consider recognising the equivalence of regulatory measures.
Are there any specific provisions which require or encourage regulators to use internationally harmonised standards and certification procedures wherever possible and appropriate?	No, although the Ministry of the Economy is working on a project of regulation in that sense.
Are there any inquiry points where affected or interested foreign parties can get information on the operation and enforcement of regulations?	Yes, the Foreign Investment Committee.
Is there a requirement that unnecessary trade restrictiveness be avoided?	
Data used to construct the indicators of economic regulation	
Are there any statutory or other legal limits to the number or proportion of shares that can be acquired by foreign investors in state-participated firms?	No.

Other questions	Answers
Special government rights can be exercised in the case of acquisition of equity by foreign investors?	No.
Does the general competition law apply to publicly-controlled firms?	Yes.
Is there rule or principle providing for exclusion or exemption from liability under the general competition law for conduct that is required or authorised by other government authority (in addition to exclusions that might apply to complete sectors)?	No.
Publicly-controlled firms: Exclusion or exemption from competition law: Cartel and other horizontal.	No.
Publicly-controlled firms: Exclusion or exemption from competition law: Vertical and abuse of dominance – monopolisation.	No.
Publicly-controlled firms: Exclusion or exemption from competition law: Merger.	No.
On which of the following grounds may an otherwise illegal merger be permitted? Employment.	No, a merger is not an anticompetitive conduct per se in the Chilean legislation.
On which of the following grounds may an otherwise illegal merger be permitted? Regional development.	No.
On which of the following grounds may an otherwise illegal merger be permitted? Industrial policy.	No.
On which of the following grounds may an otherwise illegal merger be permitted? National security.	No.
On which of the following grounds may an otherwise illegal merger be permitted? Public interest.	No.
Application and interpretation of the general competition law – May the conduct be found lawful, despite harm to competition, on the grounds of other policy considerations? Horizontal agreements: price fixing.	No.
Application and interpretation of the general competition law – May the conduct be found lawful, despite harm to competition, on the grounds of other policy considerations? Horizontal agreements: market division.	No.
Application and interpretation of the general competition law – May the conduct be found lawful, despite harm to competition, on the grounds of other policy considerations? Horizontal agreements: boycott.	No.
Application and interpretation of the general competition law – May the conduct be found lawful, despite harm to competition, on the grounds of other policy considerations? Horizontal agreements: other.	No.

ISIC Rev. (2) classification	National, state or provincial government holds equity stakes in business companies	National state or provincial laws or other regulations restrict in at least some markets the number of competitors allowed to operate a business
	Answer	Answer
Data used to construct the indicators of economic regulation		
314 Tobacco manufactures	No.	No.
353 Petroleum refineries	ENAP (E*mpresa* N*acional de* P*etroleo*) is a *de facto* public monopoly but there is no legal constraint for competition.	No.
37 Basic metal industries	One of the main copper producers, Codelco (one third of total copper production), is a public company.	No.
38 Manufacture of fabricated metal products, machinery and equipment	No.	No.
4101 Electricity	The state has an indirect participation in the electricity sector through Codelco, which owns two-thirds of Electroandina (a generation company). It represents about 10 per cent of the national installed capacity.	In the distribution sector, firms must operate under a concessions system. Yet, these "concessions" do not limit the number of competitors in the concession area. Transmission companies may apply for a concession to facilitate use and access to third party properties.
4102 Gas manufacture and distribution	ENAP is the only producer of bottled gas but there is no legal constraint for competition. There is competition in distribution.	In the production sector, there is no legal constraint to competition. In the transmission and distribution sectors, firms must operate under a concessions system. Yet, these "concessions" do not limit the number of competitors in the concession area.
42 Water works and supply	Out of 46 water companies, ten are private and supply about 77 per cent of the consumers. Only four of these ten companies (about eight per cent of the clients) are totally private, without any state participation.	Firms must operate under concessions system and the concessions are exclusive.
61 Wholesale trade	No.	No.
63 Restaurant and hotels	No.	No.
7111 Railways	Although railways are a public monopoly EFE (E*mpresa de los* F*errocarriles del* E*stado*), it can form partnerships with the private sector to carry out railway projects or subcontract the management of some activities or routes.	The services provided by the private sector are subject to a concession system.

ISIC Rev. (2) classification	National, state or provincial government holds equity stakes in business companies	National state or provincial laws or other regulations restrict in at least some markets the number of competitors allowed to operate a business
	Answer	Answer
7112 Urban, suburban and interurban highway passenger transport	The Santiago subway (METRO) is a public company.	The Santiago subway is a legal monopoly. In urban bus transport, some routes are under concession while the others are private and not regulated.
7113 Other passenger land transport	No.	No.
7114 Road freight	No.	No.
7116 Supporting services to land transport	All these services are managed by the state except when they are attributed to the highways under concession.	
712 Water transport	Yes.	Firms must operate under a concession system and these are exclusive.
7116 Supporting services to water transport	Yes.	Distribution and transport are not separated activities.
7131 Air transport carriers	No.	No.
7132 Supporting services to air transport	At airports, terminal activities are managed by private companies; whereas other areas (such as take-off and landing runways and traffic control) are managed by the state.	The air terminal companies operate under a concession system and the concession is exclusive.
72 Communication	One of the most important TV channels is a public company (TVN).	In basic voice and cellular telephony services there is no legal monopoly. In broadcasting services, the number of competitors is determined by the availability of frequencies.
81 Financial institutions	Out of a total of 27 banks, the third largest (12.5 per cent market share) is public (*Banco del Estado*).	No.
82 Insurance	No.	No.
832 Business services	No.	No.
9331 Medical, dental and other health services	No.	No.
9412 Motion picture distribution and projection	No.	No.

Other data	Answer
Share of state-controlled enterprises in per cent GDP (2001 or last recent year)	10 (estimate)
Privatisation proceeds (million USD, 1997-2001)	USD 1.5 billion
Average tariff (per cent)	6 per cent

Annex V

An overview of the regulatory framework in Chile

This annex recapitulates the main characteristics of the regulatory framework and reforms in Chile, as well as the impacts of these reforms. This material was prepared by the Chilean Ministry of Economy in reply to an OECD questionnaire.

Table V.1. **Regulatory reform in Chile by sector**

	Previous situation/evidence for deregulation	Recent and outstanding reforms	Type of price regulation	Regulation of entry/exit	Other regulations which may affect competition
Electric Power	This sector was deregulated in the early 1980s. The privatisation of the state-owned companies started in 1983. Presently the state has only an indirect participation in this sector through *Codelco*, which owns two-thirds of a generation company.	There is a new law under discussion in parliament, which aims to improve price regulation in the transmission sector and widen the unregulated market of end-users.	For consumers with demand below 2 MW, the prices of electricity (node price) and distribution are set by the authority (CNE).	Free entry is the rule. In the distribution sector, firms must operate under a concession system. Yet, these "concessions" do not limit the number of competitors in the concession area. Transmission companies may apply for a concession to facilitate use and access to third party properties.	
Natural Gas (transmission and distribution only)	Until 1997, the gas market was very small and limited to the far South (Magallanes Region).	Chile signed a gas interconnection agreement with Argentina in 1995. Gas imports from that country started in 1997. Note that the Chilean market has always been deregulated.	Prices of transmission and distribution are totally free (except in the far south, where a specific status prevails due to historical reasons).	Although entry is free, firms must operate under a concession system. Yet, these "concessions" do not limit the number of competitors. There are no legal restrictions for vertical integration or concentration.	

Table V.1. **Regulatory reform in Chile by sector** (*cont.*)

	Previous situation/evidence for deregulation	Recent and outstanding reforms	Type of price regulation	Regulation of entry/exit	Other regulations which may affect competition
Rail freight	The current Law of Railways dates from 1931 and has granted responsibility to the Ministry of Transport, although there is no department in charge of that sector. Until 1994 EFE was the only freight operator in the south, when FEPASA was created. The infrastructure is still owned and administered by EFE. In the north two private unregulated companies exist: FERRONOR and FCAB.	FERRONOR, previously owned by EFE, was transferred to CORFO in 1990 and was privatised in 1997. In 1994 FEPASA was created. In the same year, 51 per cent of FEPASA was sold by public tender. Today, the State owns only 23 per cent. The contract of access of FEPASA to the tracks of EFE establishes that any other user can use the ways under those same economic conditions. This contract is valid until 2014. After FEPASA, TRANSAP also got access to the tracks until 2014.	Does not exist. EFE fixes prices on the basis of the utilisation of its tracks in order to cover direct maintenance expenses.	It is established by EFE through norms and standardised contracts. No state regulation exists.	Road freight transport is subject to more stringent technical regulations. This may increase costs and favour rail transport. For example, the transport by truck of sulphuric acid is prohibited on certain sections of highways. Instead it is done by train.
Road transport (trucking)	This sector was totally deregulated in the mid 1970s.	None.	None.	The transport companies operate under free competition; the State establishes only technical regulations.	

Table V.1. **Regulatory reform in Chile by sector** (*cont.*)

	Previous situation/evidence for deregulation	Recent and outstanding reforms	Type of price regulation	Regulation of entry/exit	Other regulations which may affect competition
Air transport	Until 1979 Chile had traditional regulation in air transport. State-owned LAN Chile had the exclusivity of national and international routes. Any authorisation to another airline had to be previously consulted with LAN Chile. As a result, competition between airlines was minimal. All tariffs were fixed by the authority on the basis of the IATA proposals. In 1979 the civil aviation law eliminated attributions for the authority to grant aero commercial permits and to regulate competition between the airlines. Routes were opened to national and foreign airlines. The aero commercial authority (JAC) can restrict operations of foreign airlines only on the basis of reciprocity. In the 1980s, Chile started a negotiated open sky policy which very few countries accepted. Since 1990 an increasing number of open sky agreements has been signed. In 1989 LAN Chile was privatised. Presently it is owned by Chileans.	Since the 1979 law of civil aviation, there have been only minor modifications up to 1983. Although its text has been reviewed several times, no substantive changes have been made.	The tariffs of air transport are free, requiring only prior registry at the aero-commercial authority.	No aero-commercial permits exist. A Chilean airline should be constituted and have commercial presence in Chile. Capital, though, can be foreign. The only requirement is the fulfilment of safety standards. The cabotage is open to foreign airlines subject to reciprocity. Foreign airlines can operate freely to and from Chile, also under condition of reciprocity. They can also be restricted in their operations if they operate on routes that another country keeps reserved for Chilean companies.	There are no Chilean regulations that can affect competition. Many of the foreign airlines that operate to Chile confront restrictions, but they are only applied in reciprocity to the restrictions that its country imposes to Chilean airlines.

Table V.1. **Regulatory reform in Chile by sector** (*cont.*)

	Previous situation/evidence for deregulation	Recent and outstanding reforms	Type of price regulation	Regulation of entry/exit	Other regulations which may affect competition
Highways	In the early 1990s, there was a shortage of road capacity, with high growth of traffic (particularly of freight transport on the main highways), heavy congestion in the urban areas and rising road accident rates. But the state did not have the resources to carry out the investment required.	The concessions Law of the Ministry of Public Works establishes a legal framework for the provision of concessions in highways, airport and railways, through concessions contracts signed after a competitive bidding process. Under a concession contract, private companies agree to the construction, maintenance and management of a national property, being paid for by the user.	The tolls or rates are the outcome of a bidding process.	Concessions are usually granted for a period between 20 and 30 years.	
Ports	In 1981, a new law ended the state monopoly of E*mporchi*, allowing the private sector to offer harbour services. Warehousing was done by E*mporchi* or private companies. Loading services were totally private. The efficiency in the harbour services increased but the problem of underinvestment remained unsolved.	In November 1997, state-owned ports were decentralised under a new law in order to promote efficiency. Ten new autonomous companies were created to replace EMPORCHI. This 1997 law also aimed to increase the participation of the private sector, allowing concessions of the port terminals. Each concessionaire is committed to an investment plan.	Since 1990, E*mporchi* establishes freely its tariffs. For private companies, price freedom has always existed.	The concession of terminals is granted for a period of 20-30 years and is then auctioned once again. The 1997 deregulation establishes that port terminals are administrated under a multi operator format, forcing the terminal administrator to sublease his facilities.	

Table V.1. **Regulatory reform in Chile by sector** (*cont.*)

	Previous situation/evidence for deregulation	Recent and outstanding reforms	Type of price regulation	Regulation of entry/exit	Other regulations which may affect competition
Telecommunications	In 1982 the general law of telecommunications was dictated and opened all market segments of telecommunications to competition; any person or company may have access to concessions and permission to provide telecom services. In 1987/88, the public phone companies (local and long distance) were fully transferred to the private sector.	n.a.	Prices or rates are free, except for services provided in non competitive conditions. That is the case of the local telephone utility and the services provided through interconnections (access charges, mainly). Rates are fixed on the basis of incremental costs of the respective service, considering a theoretical efficient firm that only offers the services subject to price fixing.	The entrance is free, without restrictions and only the public utilities have service continuity obligation.	No.

Table V.1. **Regulatory reform in Chile by sector** (*cont.*)

	Previous situation/evidence for deregulation	Recent and outstanding reforms	Type of price regulation	Regulation of entry/exit	Other regulations which may affect competition
Professional services: Notaries	This sector has not been deregulated. The law that regulates these services dates from 1875 and has undergone little changes in the past 20 years The President can appoint the notaries, from three candidates proposed by the Judicial Power, according to rigorous requirements. Maximum prices are fixed every year by Presidential decree. For poor people, some notaries are assigned on a monthly basis which provide services free of charge. Notaries are supervised by their territorial Court of Appeal, and in last instance by the Supreme Court. Notaries and their functions are regulated on the Organic Code of Courts. In the aspects not regulated by law, "Auto Acordados" are dictated, which are judicial resolutions of general application.		Maximum prices are fixed every year by the President, following a proposal of the Supreme Court. Prices are determined according to the size of population and number of notaries in a zone, work load and keeping of any Public Registers of real estate, water rights and mining rights.	Any Chilean lawyer fulfilling the general requirements to apply to any public position, may become a notary through public examination carried out by the relevant Court, which proposes a short-list of three candidates who will be considered by the President. The designation is indefinite, but notaries can be removed due to misconduct, qualified by the Court of Justice.	

Table V.2. **The impact (actual and potential) of regulatory reform**

Electric power	
Industry structure and competition	The national electricity industry consists of 26 generation, five transmission and 36 distribution companies. The electricity market is divided into four electric systems, of which the central system is most important (70 per cent of the total generation capacity). In the central system, Endesa owns about 50 per cent of this capacity.
Industry profits	By law, the regulated tariff of the distribution service allows an industry profit between 6 and 14 per cent.
Impact on output, prices and relative prices	The liberalisation of the generation market increased competition and promoted the introduction of new technologies like CCGT. This led to a sharp fall in average regulated prices[1] between 1990 and 2002 in the northern electric system (for example in Antofagasta prices dropped from 87.7 to about 34.1 million/KW), but less so in the central system (for example in Santiago prices fell 16 per cent). Between 1993 and 2002, capacity increased in the central system from 3 890 to 6 730 MW and in the northern system from 784 to 3 634 MW.
Impact on service quality, reliability and universal service	From 1993 and 2001, the rural electrification grew from 56.6 to 79.5 per cent. In the same period, the consumption per capita grew from 1 534 to 2 713 kW per capita.
Impact on sectoral wage and employment	Not available.
Efficiency and productivity costs	In generation, efficiency increased with the entry of new technologies (*e.g.* CCGT and petcoke). In distribution, the main company (Chilectra) improved considerably its efficiency. From 1993 to 2001, the number of clients per worker increased from 549 to 1 785 and the energy losses fell from 10.6 to 5.4 per cent.
Future reforms needed	See above.

1. Average regulated price can be considered as a proxy of the long term price in the free market, since the law requires that the difference between the regulated and average price paid by unregulated customers in the six month period prior to date of node price calculation should not exceed 10 per cent. If regulated prices do not meet this requirement, they have to be adjusted so to reduce this difference to below 10 per cent.

Source: OECD.

Table V.2. **The impact (actual and potential) of regulatory reform** (*cont.*)

Natural gas	
Industry structure and competition	Distribution is split into geographically delimited markets. Although these markets are made up of monopolies o duopolies, these companies compete on the basis of alternative fuels. In transmission, there is a monopoly in all zones.
Industry profits	The market is developing with high profits and even larger investment.
Impact on output, prices and relative prices	Distribution is a growing market. Since 1997, the monthly growth rate of new clients has been very high. Prices are tied to alternative fuels in the different market sectors (LPG, diesel and fuel oils).
Impact on service quality, reliability and universal service	With the switch of small and old city gas companies to natural gas, service quality has improved significantly. Service coverage has expanded, but preferably to high income sectors.
Impact on sectoral wage and employment	Wages and employment increased in the gas sector because of the need for more qualified for new technologies.
Efficiency and productivity costs	Not available.
Future reforms needed	Transmission regulation is loose and needs to be improved. Distribution regulation should be revised to prevent monopolistic behaviour in the future when the market becomes mature and fuel substitution becomes harder for the clients.
Rail freight	
Industry structure and competition	In the south section, two users exist, FEPASA and TRANSAP, but entrance is permitted on the basis of fulfilment of certain norms established by EFE.
Industry profits	Since its creation, FEPASA made profits for first time in 2002 amounting to pesos 300 billion. No data are available to compare EFE's results when it operated the freight itself, because the accounting rules at the time did not consider the transfer of services among the different units of the business. The losses were one third greater when FEPASA did not exist.
Impact on output, prices and relative prices	From 1994 and 2001(before and after privatisation), traffic increased from 1 178 to 1 402 thousand ton km and employment fell from 6 323 in 1993 to 3 000 persons. Prices are higher, although no direct evidence is available on this.
Impact on service quality, reliability and universal service	Price subsidies had a negative impact on the quality of service. Today some clients require the fulfilment of ISO 9000. In general, the required standards are higher for freight than for passenger transport. Before privatisation there was uncertainty about the arrival of shipments. Today the time limits of delivery are respected.
Impact on sectoral wage and employment	Employment fell (see previous section). No data on salaries.
Efficiency and productivity costs	No data available.
Future reforms needed	

Table V.2. **The impact (actual and potential) of regulatory reform** (*cont.*)

Air transport	
Industry structure and competition	From the 1979 reform onwards, in which LAN Chile lost the exclusivity of internal and international routes, private investment in the industry started. The main private company that emerged was Ladeco, that covered 50 per cent of the internal air traffic and operated international services to 13 countries. Between 1980 and 1995, LAN Chile and Ladeco competed in internal and international routes. In 1995 LAN Chile was allowed to buy Ladeco. The merger concentrated 78 per cent of the internal traffic. At the moment LAN Chile covers 89 per cent of internal traffic. LAN Chile has 50 airplanes, it flies to 16 countries, and it has sales of USD 1 500 million a year.
Industry profits	Since 1994, LAN Chile has not made losses.
Impact on output, prices and relative prices	Information not available.
Impact on service quality, reliability and universal service	Information not available.
Impact on sectoral wage and employment	Information not available.
Efficiency and productivity costs	Information not available.
Future reforms needed	No further regulatory reforms in air transport are envisaged.
Ports	
Industry structure and competition	A competitive environment has emerged between the ten state-owned ports (of which four have terminals administrated by private sector) and the 25 private ports. About 40 per cent of trade is conducted through public ports.
Industry profits	
Impact on output, prices and relative prices	
Impact on service quality, reliability and universal service	Between 1990-99, USD 231 million was invested essentially in the modernisation of the three key public ports (San Antonio, San Vicente and Valparaiso) and the construction of a new port in Puntas Arenas.
Impact on sectoral wage and employment	
Efficiency and productivity costs	Currently, the average performance of the 10 state-owned ports is 120 ton/hr-vessel; and is expected to increase to 231 ton/hr-vessel with the future investments.
Future reforms needed	
Telecommunications	
Industry structure and competition	There are several providers in each market segment: local, long national and international distance, mobile phone, cable TV, internet connection, data transmission, etc. There is competition among them in a same geographical zone. Nevertheless, in the local phone system, there is a dominant provider (75 per cent market share) and its tariffs are regulated.

Table V.2. **The impact (actual and potential) of regulatory reform** (*cont.*)

Industry profits	Profits have fallen since competition was allowed.
Impact on output, prices and relative prices	The penetration of the services grew quickly and their prices declined significantly. Today rates of long distance national and international communications are below those of most developed countries.
Impact on service quality, reliability and universal service	The quality and reliability of service have improved in most cases. The universal service principle was replaced by the principle of universal access, which increased the provision of public telephones in rural areas to about 80 per cent of rural population today.
Impact on sectoral wage and employment	Employment and salaries grew until 2000, after which both stagnated due to the world-wide economic crisis.

Annex VI
Statistical annex

Table A.1. **GDP by expenditure**
Billion pesos

	1996	1997	1998	1999	2000	2001	2002
Current prices							
Final consumption	23 211.1	25 832.5	27 900.7	28 531.8	30 832.3	33 167.9	34 688.6
Final consumption of households and private non-profit institutions	19 785.0	21 972.0	23 703.6	23 927.9	25 811.9	27 735.3	28 903.7
Final consumption of general government	3 426.1	3 860.5	4 197.1	4 603.8	5 020.4	5 432.6	5 784.9
Gross capital formation	8 553.6	9 626.0	9 827.4	7 762.9	8 813.5	9 478.7	10 025.1
Gross fixed capital formation	8 240.7	9 414.2	9 545.7	7 740.1	8 369.4	9 211.7	9 657.8
Change in stocks	312.9	211.8	281.7	22.8	444.1	267.0	367.3
Net exports	–527.4	–735.9	–1 193.3	843.9	747.6	697.0	1 048.8
Export	8 520.5	9 404.2	9 608.6	10 992.3	12 858.0	14 525.8	15 619.7
Import	9 047.9	10 140.1	10 801.9	10 148.4	12 110.3	13 828.8	14 570.9
Total domestic demand	31 764.7	35 458.5	37 728.1	36 294.7	39 645.8	42 646.6	44 713.7
GDP	31 237.3	34 722.6	36 534.9	37 138.5	40 393.5	43 343.6	45 762.5
At 1996 prices							
Final consumption	23 211.1	24 712.8	25 779.5	25 669.6	26 591.3	27 320.4	27 809.8
Final consumption of households and private non-profit institutions	19 785.0	21 089.1	22 074.2	21 864.0	22 674.4	23 281.7	23 674.0
Final consumption of general government	3 426.1	3 623.8	3 705.3	3 805.6	3 916.9	4 038.7	4 135.8
Gross capital formation	8 553.6	9 353.9	9 555.7	7 632.5	8 619.3	8 642.4	8 840.2
Gross fixed capital formation	8 240.7	9 109.9	9 280.7	7 588.2	8 175.6	8 381.7	8 500.8
Change in stocks	312.9	244.0	275.0	44.3	443.8	260.7	339.4
Net exports	–527.4	–766.0	–958.6	812.9	326.1	663.3	761.8
Export	8 520.5	9 474.8	9 970.4	10 700.4	11 282.7	11 968.0	12 124.8
Import	9 047.9	10 240.9	10 929.0	9 887.5	10 956.6	11 304.8	11 363.0
Total domestic demand	31 764.7	34 066.7	35 335.2	33 302.1	35 210.6	35 962.8	36 650.0
GDP	31 237.3	33 300.7	34 376.6	34 115.0	35 536.7	36 626.1	37 411.8

Source: Central Bank of Chile.

Table A.2. **Balance of payments**
Million of USD

	1996	1997	1998	1999	2000	2001	2002
I. Current account	**–3 082.6**	**–3 660.2**	**–3 918.4**	**99.5**	**–766.3**	**–1 192.2**	**–553.1**
A. Goods	–1 071.9	–1 427.6	–2 040.2	2 427.2	2 118.9	2 054.4	2 513.2
Exports	16 626.8	17 870.2	16 322.8	17 162.3	19 210.2	18 465.8	18 339.9
Imports	–17 698.7	–19 297.8	–18 363.1	–14 735.0	–17 091.4	–16 411.4	–15 826.7
B. Services	–0.6	–135.8	–451.8	–737.2	–647.8	–918.0	–956.9
Credit	3 588.0	3 891.8	3 952.0	3 869.0	4 077.9	4 105.4	3 960.2
Debit	–3 588.6	–4 027.6	–4 403.8	–4 606.2	–4 725.7	–5 023.4	–4 917.2
C. Income	–2 517.6	–2 617.1	–1 888.7	–2 233.1	–2 795.3	–2 756.6	–2 535.7
Compensation of employees	–14.0	–20.5	–15.8	–14.4	–14.3	–15.0	–16.0
Investment income	–2 503.6	–2 596.6	–1 872.9	–2 218.7	–2 781.0	–2 741.6	–2 519.7
From direct investment	–1 760.2	–1 942.6	–1 135.7	–1 412.8	–1 894.4	–1 788.7	–1 697.4
Abroad	132.2	242.8	265.6	54.3	567.5	467.4	458.8
From abroad	–1 892.4	–2 185.4	–1 401.3	–1 467.1	–2 461.9	–2 256.1	–2 156.2
From portfolio investment	–281.4	–355.5	–362.4	–347.5	–402.1	–501.5	–500.3
Dividends	–219.0	–251.7	–210.8	–114.4	–66.2	–118.2	–133.2
Interest	–62.4	–103.8	–151.6	–233.1	–335.9	–383.3	–367.1
From other investment	–462.0	–298.6	–374.8	–458.5	–484.5	–451.4	–322.0
Credit	709.5	923.3	923.6	803.4	928.8	775.7	536.3
Debit	–1 171.5	–1 221.9	–1 298.4	–1 261.9	–1 413.3	–1 227.1	–858.4
D. Current transfers	507.5	520.3	462.4	642.5	558.0	428.0	426.4
Credit	665.1	835.0	809.9	840.9	765.3	678.4	698.1
Debit	–157.6	–314.7	–347.5	–198.4	–207.3	–250.4	–271.7

Table A.2. **Balance of payments** (*cont.*)
Million of USD

	1996	1997	1998	1999	2000	2001	2002
II. Capital and financial account	**3 063.7**	**3 422.0**	**4 160.3**	**974.7**	**490.6**	**2 356.2**	**799.5**
Financial account	3 063.7	3 422.0	4 160.3	974.7	490.6	2 356.2	799.5
Direct investment	3 681.2	3 808.7	3 144.3	6 203.1	–347.7	3 044.9	1 139.3
Abroad	–1 133.5	–1 462.7	–1 483.5	–2 557.9	–3 986.5	–1 431.6	–463.7
Equity capital	–1 016.7	–1 148.0	–1 262.8	–1 896.4	–3 573.4	–1 111.3	307.7
Profits reinvestment	–116.8	–134.1	–167.3	91.3	–384.8	–152.5	–401.3
Other capital	0.0	–180.6	–53.4	–752.8	–28.3	–167.8	–370.1
Direct investment in Chile	4 814.6	5 271.4	4 627.8	8 761.0	3 638.8	4 476.5	1 603.0
Equity capital	4 039.0	4 211.4	4 154.7	8 862.7	2 821.5	3 423.9	738.9
Profits reinvestment	477.6	781.2	341.7	281.3	1 123.1	1 148.2	1 190.0
Other capital	298.0	278.8	131.4	–382.9	–305.7	–95.6	–325.9
Portfolio investment	1 134.1	1 625.1	–2 468.6	–3 217.4	638.8	46.0	–1 875.5
Assets	–134.5	–989.1	–3 310.6	–5 795.1	766.1	–1 386.0	–3 203.1
Liabilities	1 268.7	2 614.2	842.0	2 577.7	–127.3	1 432.0	1 327.6
Financial derivatives	–21.7	165.2	–59.3	–5.6	2.2	–85.7	–123.7
Other investment	–607.9	1 142.7	1 349.8	–2 742.9	534.1	–1 245.1	1 858.0
Assets	–854.7	–457.2	–1 953.0	–3 369.2	–2 064.6	–737.1	574.9
Commercial credits	–491.7	–70.2	–118.1	–998.9	–1 134.5	192.1	58.5
Loans	–68.0	–32.1	–214.2	–380.2	–81.9	–193.1	526.6
Currency and deposits	–295.0	–354.9	–1 620.7	–1 990.1	1 502.7	647.8	–10.1
Other assets	0.0	0.0	0.0	0.0	–2 350.9	–1 383.9	0.0
Liabilities	246.8	1 599.9	3 302.8	626.2	2 598.7	–508.0	1 283.1
Commercial credits	839.4	–112.7	–594.5	–232.3	322.8	–227.8	249.4
Loans	–361.9	1 774.5	4 032.7	1 019.1	2 095.7	–90.1	999.4
Currency and deposits	–2.9	–2.3	2.1	–1.7	1.1	5.2	36.2
Other liabilities	–227.8	–59.6	–137.5	–158.9	179.1	–195.4	–1.9
Reserve assets	–1 122.0	–3 319.7	2 194.1	737.5	–336.7	596.1	–198.6
III. Errors and omissions	**18.9**	**238.2**	**–241.9**	**–1 074.1**	**275.7**	**–1 164.0**	**–246.5**

Source: Central Bank of Chile.

Table A.3*a*. **General government budget**
Million pesos current

	1987	1989	1991	1995	1997	2000	2001	2002
I. Total income	**1 317 444**	**1 857 734**	**2 981 490**	**6 359 500**	**8 121 825**	**9 856 816**	**10 595 586**	**10 986 332**
1. Current income	**1 215 196**	**1 704 242**	**2 847 438**	**6 152 174**	**7 922 244**	**9 688 502**	**10 409 325**	**10 763 293**
Operating income	124 969	135 683	208 101	425 301	501 704	948 457	691 433	706 928
Pension deductions	84 168	127 696	188 483	349 124	449 471	576 758	628 052	678 900
Net tax revenues	878 735	1 203 834	2 159 534	4 750 119	6 158 309	7 237 238	7 942 977	8 432 051
Fiscal	820 765	1 112 153	2 012 016	4 400 599	5 672 832	6 616 058	7 266 971	7 708 999
Municipal	57 970	91 681	147 518	349 520	485 477	621 180	676 006	723 052
Copper net of FCC	57 615	140 581	135 972	261 460	305 891	279 132	334 093	345 593
Transfers	18 342	18 920	19 154	63 622	79 296	92 851	110 821	103 091
Other income	51 367	77 528	136 192	302 548	427 572	554 067	701 950	496 729
2. Capital income	**102 248**	**153 492**	**134 053**	**207 325**	**199 581**	**168 314**	**186 261**	**223 039**
Sales of assets	69 233	112 614	68 418	72 005	46 050	41 967	40 319	48 466
Physical	12 585	18 042	27 127	25 092	30 330	16 243	19 578	27 967
Financial	56 648	94 572	41 291	46 913	15 720	25 724	20 741	20 499
Recovered loans	33 015	40 878	65 634	135 320	153 531	126 347	145 942	174 573
II. Total expenditure	**1 229 026**	**1 745 386**	**2 786 523**	**5 666 001**	**7 483 539**	**9 818 766**	**10 702 295**	**11 346 594**
1. Current expenditure	**1 056 045**	**1 450 937**	**2 378 230**	**4 681 314**	**6 067 710**	**8 193 267**	**8 961 049**	**9 455 612**
Personal	201 648	294 144	482 870	1 097 618	1 465 821	1 960 966	2 084 129	2 218 043
Goods and services	144 235	182 580	312 296	602 740	769 691	900 065	965 890	1 028 057
Pensions	330 251	464 851	738 657	1 465 778	1 898 432	2 684 482	2 926 276	3 062 455
Interest on public debt	93 519	129 510	261 719	191 715	140 819	180 359	202 780	135 102
Domestic	38 404	39 988	102 821	37 369	62 579	81 232	91 017	9 652
Foreign	55 115	89 522	158 898	154 346	78 239	99 127	111 762	125 449
Transfers	277 392	370 813	566 322	1 290 668	1 735 200	2 386 875	2 686 378	2 904 989
Other	9 000	9 039	16 366	32 796	57 747	80 520	95 597	106 967
2. Capital expenditure	**172 981**	**294 449**	**408 293**	**984 687**	**1 415 829**	**1 625 499**	**1 741 246**	**1 890 982**
Real investment	120 802	193 079	319 222	780 178	1 084 538	1 074 366	1 108 107	1 161 651
Financial investment	29 803	59 837	69 730	125 786	216 280	206 231	178 469	183 936
Loans granted	25 123	58 894	65 836	120 497	181 371	199 207	174 595	177 987
Purchase of deeds and securities	4 680	943	3 894	5 289	34 909	7 024	3 874	5 949
Capital transfers	22 376	41 533	19 340	78 723	115 012	344 901	454 670	545 396

Table A.3*a*. **General government budget** (*cont.*)

Million pesos current

	1987	1989	1991	1995	1997	2000	2001	2002
Surplus (+) or Deficit (–)								
Current (I.1 – II.1)	159 151	253 305	469 207	1 470 860	1 854 535	1 495 236	1 448 276	1 307 681
Nominal balance (I – II)	88 418	112 348	194 967	693 499	638 287	38 051	–106 709	–360 262
Net change external debt	73 395	27 293	111 369	–620 590	–174 192	–104 590	275 260	449 990
Net change internal debt	–110 107	–428 384	–96 826	–101 455	–174 744	–59 597	–218 494	–393 897
Change in reserves and other (–, increase)	–51 706	288 743	–209 510	28 547	–289 351	126 136	49 943	304 169
Memorandum item:								
Transfers from CODELCO to the Ministry of Defence L.13.196[1]	33 828	88 680	78 665	135 132	118 050	159 915	162 994	153 455

1. By law, CODELCO must transfer 10 per cent of receipts from copper sales to a special account in the Treasury fully at the disposal to the army. These funds are excluded from the Budget Law of the public sector.

Source: Budget Office, Ministry of Finance.

Table A.3*b*. **General government budget** (*cont.*)
In per cent of GDP

	1987	1989	1991	1995	1997	2000	2001	2002
I. Total income	**28.7**	**24.5**	**23.4**	**22.5**	**23.4**	**24.4**	**24.4**	**24.0**
1. Current income	**26.5**	**22.5**	**22.4**	**21.7**	**22.8**	**24.0**	**24.0**	**23.5**
Operating income	2.7	1.8	1.6	1.5	1.4	2.3	1.6	1.5
Pension deductions	1.8	1.7	1.5	1.2	1.3	1.4	1.4	1.5
Net tax revenues	19.2	15.9	17.0	16.8	17.7	17.9	18.3	18.4
Fiscal	17.9	14.7	15.8	15.5	16.3	16.4	16.8	16.8
Municipal	1.3	1.2	1.2	1.2	1.4	1.5	1.6	1.6
Copper net of FCC	1.3	1.9	1.1	0.9	0.9	0.7	0.8	0.8
Transfers	0.4	0.2	0.2	0.2	0.2	0.2	0.3	0.2
Other income	1.1	1.0	1.1	1.1	1.2	1.4	1.6	1.1
2.Capital income	**2.2**	**2.0**	**1.1**	**0.7**	**0.6**	**0.4**	**0.4**	**0.5**
Sales of assets	1.5	1.5	0.5	0.3	0.1	0.1	0.1	0.1
Physical	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.1
Financial	1.2	1.2	0.3	0.2	0.0	0.1	0.0	0.0
Recovered loans	0.7	0.5	0.5	0.5	0.4	0.3	0.3	0.4
II. Total expenditure	**26.8**	**23.0**	**21.9**	**20.0**	**21.6**	**24.3**	**24.7**	**24.8**
1. Current expenditure	**23.0**	**19.1**	**18.7**	**16.5**	**17.5**	**20.3**	**20.7**	**20.7**
Personal	4.4	3.9	3.8	3.9	4.2	4.9	4.8	4.8
Goods and services	3.1	2.4	2.5	2.1	2.2	2.2	2.2	2.2
Pensions	7.2	6.1	5.8	5.2	5.5	6.6	6.8	6.7
Interest on public debt	2.0	1.7	2.1	0.7	0.4	0.4	0.5	0.3
Domestic	0.8	0.5	0.8	0.1	0.2	0.2	0.2	0.0
Foreign	1.2	1.2	1.2	0.5	0.2	0.2	0.3	0.3
Transfers	6.0	4.9	4.5	4.6	5.0	5.9	6.2	6.3
Other	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2
2. Capital expenditure	**3.8**	**3.9**	**3.2**	**3.5**	**4.1**	**4.0**	**4.0**	**4.1**
Real investment	2.6	2.5	2.5	2.8	3.1	2.7	2.6	2.5
Financial investment	0.6	0.8	0.5	0.4	0.6	0.5	0.4	0.4
Loans granted	0.5	0.8	0.5	0.4	0.5	0.5	0.4	0.4
Purchase of deeds and securities	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Capital transfers	0.5	0.5	0.2	0.3	0.3	0.9	1.0	1.2

Table A.3*b*. **General government budget** (*cont.*)
In per cent of GDP

	1987	1989	1991	1995	1997	2000	2001	2002
Surplus (+) or Deficit (–)								
Current (I.1 – II.1)	3.5	3.3	3.7	5.2	5.3	3.7	3.3	2.9
Nominal balance (I – II)	1.9	1.5	1.5	2.4	1.8	0.1	–0.2	–0.8
Net change external debt	1.6	0.4	0.9	–2.2	–0.5	–0.3	0.6	1.0
Net change internal debt	–2.4	–5.7	–0.8	–0.4	–0.5	–0.1	–0.5	–0.9
Change in reserves and other (–, increase)	–1.1	3.8	–1.6	0.1	–0.8	0.3	0.1	0.7
Memorandum item:								
Transfers from CODELCO to the Ministry of Defence L.13.196[1]	0.7	1.2	0.6	0.5	0.3	0.4	0.4	0.3

1. By law, CODELCO must transfer 10 per cent of receipts from copper sales to a special account in the Treasury fully at the disposal to the army. These funds are excluded from the Budget Law of the public sector.

Source: Budget Office, Ministry of Finance.

Table A.4. **Regional disparities**

Regions (from North to South)	Population			Household income (2000)		Employment by sector (per cent in 2002)					Unemployment rate (2002)
	Number in 2002	Per cent increase since 1992	Indigenous ethnic groups (per cent of total)	Income per capita (Chile = 100)	Annual increase 1987-98, per cent	Agriculture, fishing	Mining	Other industry	Construction	Services	
I. Tarapaca	432 484	25	11	122	9	10	2	12	6	71	11
II. Antofagasta	481 931	16	5	101	9	3	12	9	17	60	8
III. Atacama	253 205	8	3	79	6	16	11	7	13	53	11
IV. Coquimbo	603 133	18	1	76	10	29	3	9	10	49	7
V. Valparaiso	1 530 841	9	1	112	8	12	1	11	10	67	13
Santiago (Metropolitan Region)	6 045 191	13	3	123	9	3	0	18	7	71	8
VI. Liberador Bernardo O'Higgins	775 883	10	1	74	8	32	3	11	8	46	8
VII. Maule	905 401	7	1	61	7	30	0	12	7	50	12
VIII. Biobio	1 859 546	6	3	84	9	16	1	17	7	60	10
IX. Araucania	867 351	9	24	67	10	29	0	9	7	54	7
X. Los Lagos	1 066 310	10	10	67	8	28	0	16	5	50	6
XI. Aisen-Gen. Carlos Ibanez del Campo	89 986	9	9	113	8	19	2	11	7	61	5
XII. Magallanes-Antartica	147 533	1	6	118	8	10	4	13	10	64	7
Chile	**15 116 435**	**12**	**5**	**100**	**9**	**13**	**1**	**15**	**8**	**63**	**9**

Source: Population census 2002; *Ingreso de Hogares y Personas* 2000; MIDEPLAN: CASEN data about income changes 1987-98; Labour force surveys quoted from *www.ine.cl*

Table A.5. **Net job creation and destruction by industrial sector in Chile**
In number

		Total change		*Of which*: Enterprises of 10-49 employees, change	
		Of enterprises	Of employees	Of enterprises	Of employees
1982-1989					
3	Manufacturing	49	140 646	–592	102
311	Food products	7	37 055	–149	–547
321	Textiles	8	13 737	–48	494
331	Wood and wood and cork products, except furniture	–29	13 429	–87	197
322	Wearing apparel, except footwear	4	10 055	–42	116
381	Fabricated metal products, except machinery and equipment	–5	8 442	–56	184
382	Machinery except electrical	39	7 445	–2	474
356	Plastic products not elsewhere classified	47	7 084	–1	620
324	Footwear, except vulcanized or moulded rubber or plastic footwear	18	6 425	–8	157
352	Other chemical products	20	6 305	–5	44
341	Paper and paper products	11	3 893	–4	143
384	Transport equipment	10	3 240	–6	246
361	Pottery, china and earthenware	3	2 938	–1	84
369	Other non-metallic mineral products	0	2 821	–15	136
313	Beverage industries	–54	2 490	–49	–939
332	Furniture and fixtures, except primarily of metal	–31	2 460	–43	–575
312	Food products	6	2 000	–3	198
351	Industrial chemicals	10	1 956	4	244
342	Printing, publishing and allied industries	–10	1 877	–23	253
371	Iron and steel basic industries	–4	1 267	–9	–217
390	Other Manufacturing Industries	0	1 247	–14	–63
372	Non-ferrous metal basic industries	13	1 200	4	139
354	Miscellaneous products of petroleum and coal	10	1 187	3	78
355	Rubber products	0	1 040	–6	–12
383	Electrical machinery apparatus, appliances and supplies	–3	958	–8	–158
362	Glass and glass products	–7	890	–11	–215
385	Professional and scientific, and measuring and controlling equipment not elsewhere classified, and of photographic and optical goods	3	295	1	23
323	Leather and products of leather, leather substitutes and fur, except footwear and wearing apparel	–10	211	–10	69
314	Tobacco manufactures	0	–100	1	39
353	Petroleum refineries	–7	–261	–5	–110

Table A.5. **Net job creation and destruction by industrial sector in Chile** (*cont.*)
In number

		Total change		*Of which*: Enterprises of 10-49 employees, change	
		Of enterprises	Of employees	Of enterprises	Of employees
1989-1994					
3	Manufacturing	549	51 372	321	7 514
311	Food products	30	10 815	0	546
381	Fabricated metal products, except machinery and equipment	84	6 356	44	652
356	Plastic products not elsewhere classified	79	6 083	48	1 086
384	Transport equipment	19	5 065	15	193
312	Food products	14	4 277	4	106
369	Other non-metallic mineral products	60	3 780	46	1 087
342	Printing, publishing and allied industries	31	3 159	24	688
341	Paper and paper products	10	2 778	0	–9
332	Furniture and fixtures, except primarily of metal	43	2 762	29	743
352	Other chemical products	30	2 704	17	479
351	Industrial chemicals	6	2 284	–4	–118
322	Wearing apparel, except footwear	20	2 125	14	544
324	Footwear, except vulcanised or moulded rubber or plastic footwear	23	1 618	19	316
331	Wood and wood and cork products, except furniture	56	1 465	24	–372
355	Rubber products	14	1 193	9	181
323	Leather and products of leather, leather substitutes and fur, except footwear and wearing apparel	5	777	1	–31
313	Beverage industries	–11	532	–3	–70
383	Electrical machinery apparatus, appliances and supplies	9	474	9	257
362	Glass and glass products	1	346	–1	–36
385	Professional and scientific, and measuring and controlling equipment not elsewhere classified, and of photographic and optical goods	1	279	–1	–26
353	Petroleum refineries	0	106	0	0
314	Tobacco manufactures	–2	29	–2	–50
390	Other Manufacturing Industries	5	7	11	354
382	Machinery except electrical	22	–386	21	387
371	Iron and steel basic industries	4	–426	3	128
354	Miscellaneous products of petroleum and coal	2	–480	4	168
372	Non–ferrous metal basic industries	–9	–1 309	–6	–109
361	Pottery, china and earthenware	1	–1 511	1	28
321	Textiles	2	–4 470	–5	–608

Table A.5. **Net job creation and destruction by industrial sector in Chile** (*cont.*)
In number

		Total change		*Of which*: Enterprises of 10-49 employees, change	
		Of enterprises	Of employees	Of enterprises	Of employees
1995-2000					
D	Manufacturing	837	–88 787	1 312	–11 520
27	Basic metals	66	5 109	63	207
33	Medical, precision and optical instruments, watches and clocks	9	87	10	115
16	Tobacco products	1	2	0	0
23	Coke, refined petroleum products and nuclear fuel	5	–184	5	52
31	Electrical machinery and apparatus n.e.c.	31	–353	35	185
32	Radio, television and communication equipment and apparatus	–2	–378	1	–8
35	Other transport equipment	2	–1 647	7	–184
22	Publishing, printing and reproduction of recorded media	37	–2 227	45	–532
34	Motor vehicles, trailers and semi	–17	–2 307	–4	–550
24	Chemicals and chemical products	93	–2 815	110	–565
21	Paper and paper products	67	–3 017	67	42
26	Other non	35	–4 287	57	–420
36	Furniture; manufacturing n.e.c.	17	–5 734	54	–687
29	Machinery and equipment n.e.c.	17	–6 193	50	–701
25	Rubber and plastics products	46	–6 543	76	–813
28	Fabricated metal products, except machinery and equipment	140	–7 642	183	341
20	Wood and of products of wood and cork, except furniture; articles of straw and plaiting materials	22	–8 457	67	–1 263
19	Tanning and dressing of leather; luggage, handbags, saddlery, harness and footwear	–46	–9 311	–7	–1 651
17	Textiles	14	–9 477	56	–1 201
15	Food products and beverages	302	–10 989	392	–2 039
18	Wearing apparel; dressing and dyeing of fur	–3	–12 455	44	–1 879

Source: INE.

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