Maintaining Momentum

OECD PERSPECTIVES ON POLICY CHALLENGES IN CHILE

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Foreword

Chile became a new member of the OECD in May 2010, just in time to celebrate our historic 50th anniversary. Chile is a very important, dynamic, young, new member, and the first South American country in the OECD family.

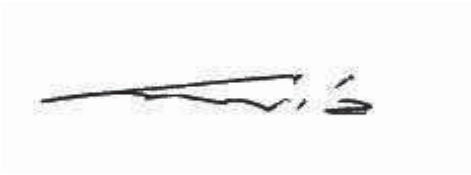
OECD membership is a testimony of the progress Chile has accomplished over the past two decades, when it experienced an extraordinary economic and social transformation. OECD member countries can learn much from Chile's experience. Chile adds important policy lessons resulting in a good performance to our "Club of Better Policies". But we can also offer our help to Chile – based on our expertise of the past 50 years – in achieving "better policies for better lives".

Maintaining Momentum – OECD Perspectives on Policy Challenges in Chile summarises our policy recommendations for the new government. It reflects the experience of OECD member countries on key policy issues, from macro to structural, from boosting growth potential to promoting equality and green growth. Our aim is that it will contribute to a better understanding of Chile's performance in policy areas where reforms are under way or being considered, and to provide guidance to evidence-based policy making to the Chilean government.

The Chilean economy has performed strongly, supported by sound institutions and a stable democracy. As a result, living standards have improved substantially and poverty has fallen. But many challenges remain, if Chile is to reach its full potential. With this in mind, the Administration of President Piñera has embarked on an ambitious reform agenda to further enhance the well-being of the Chilean population by accelerating the development process and making it more inclusive.

In the short term the main challenge for the government is to maintain the momentum of the recovery while preserving price stability. Income per capita remains significantly below the OECD average. Decisive action to tackle the productivity challenge will therefore be needed. This includes the fostering of new sources of growth like innovation and green growth supported by continued reform of product and labour markets. Comprehensive reform strategies are also needed to reduce inequality, an endeavour in which education and social reforms will be key.

Based on our extensive experience with economic analysis, peer review and policy dialogue, the OECD stands ready to support Chile with the identification, design and implementation of reform policies.



Angel Gurría, OECD Secretary-General

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Chapter 1

Overview: Keeping momentum – an OECD economic assessment of Chile

On 7 May 2010, Chile became a member of the OECD, a testimony to its progress and accomplishments. The accession process took place in the difficult context of the 2008–09 recession and the devastating earthquake in February 2010. Nonetheless, the economy has rebounded quickly, showing a welcome resilience to external shocks. To help Chile build on this momentum and achieve increasingly higher living standards as fast and sustainably as possible, President Piñera's administration and the OECD agreed to prepare an economic assessment with policy options. This report highlights the opportunities and challenges ahead. Its goal is to inform policy makers of options for the future of Chile.

Key challenges

Once a relatively poor country, Chile has spectacularly transformed itself over the past decades. Ongoing progress in macroeconomic policy, structural reforms, trade and investment and regulation has brought prosperity to the country. A rich endowment of copper and other mineral reserves has been used cautiously to foster resilience in the face of unexpected headwinds. Moreover, a stable democracy with an effective rule of law has been established. A range of governance indicators relating to both political and economic conditions shows that Chile has caught up with, or even surpassed, OECD averages.

In spite of this progress, there is scope for further positive change. Income per capita remains significantly below the OECD average – making sustained and non-inflationary growth an important goal. Between 1986 and 2007, Chile's income per capita grew at around twice the rate in the OECD area and the income gap with richer countries was reduced substantially. Nevertheless, convergence slowed after 1998. At the average rate prevailing in the decade preceding the global economic crisis, it would take around 30 years to catch up with the current average OECD per capita income. Moreover, income inequality, as measured by the Gini index, is higher than in any other OECD country, and poverty appears to have increased once again during the recent recession.

It is therefore appropriate that the government seeks to achieve fast growth while reducing income inequality. In the short term, the main challenge will be to maintain the delicate balance between pursuing a strong recovery and preserving price stability. Strong domestic demand, partly related to reconstruction spending after the natural disasters of February 2010 and booming international commodity prices risk stoking inflation. The government will also need to focus on structural reforms to spur more productivity growth which has been disappointing over the past few years. There will also be scope to enhance policies to reduce poverty and income inequality (Figure 1.1).

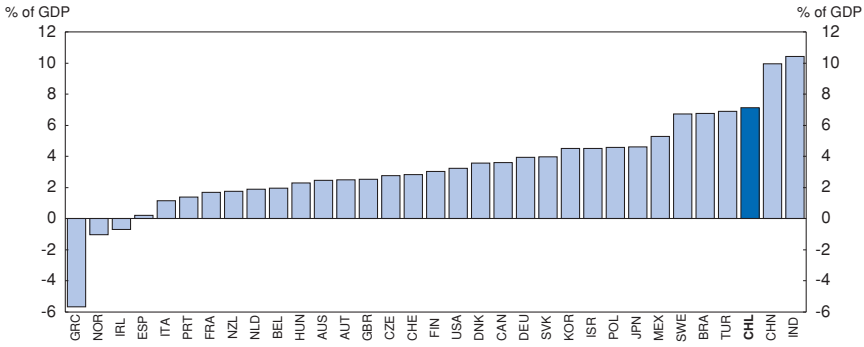
Faster convergence towards high living standards

One of the new government's key objectives is to raise average gross domestic product (GDP) growth to 6% over 2010–14. This will require structural reforms. The main reason for the persistent income gap with high-income OECD countries is lower productivity; the under-utilisation of labour resources explains a smaller part. Fast increases in productivity will therefore be key to sustained economic growth in the long run. While Chile has made substantive progress in upgrading its production structure from relatively low-productivity resource extraction to higher value added activities, restrictions in product and labour markets and the uneven quality of education, among other things, have prevented the country from taking full advantage of its

potential. Following the footsteps of resource-rich OECD countries, such as Australia and Norway, which have successfully managed the transition from resource extraction to high-productivity services-based economies, will require structural reforms in these areas. There is also room to enhance the country's long-term growth performance by better utilising labour resources, as the labour market participation of women and youth remains low from an OECD perspective.

Figure 1.1. **Despite the 2010 earthquake, Chile is showing a strong recovery from the global recession**

GDP growth, 2009 Q3 to 2010 Q3



Source: OECD, National Accounts and Analytical database.

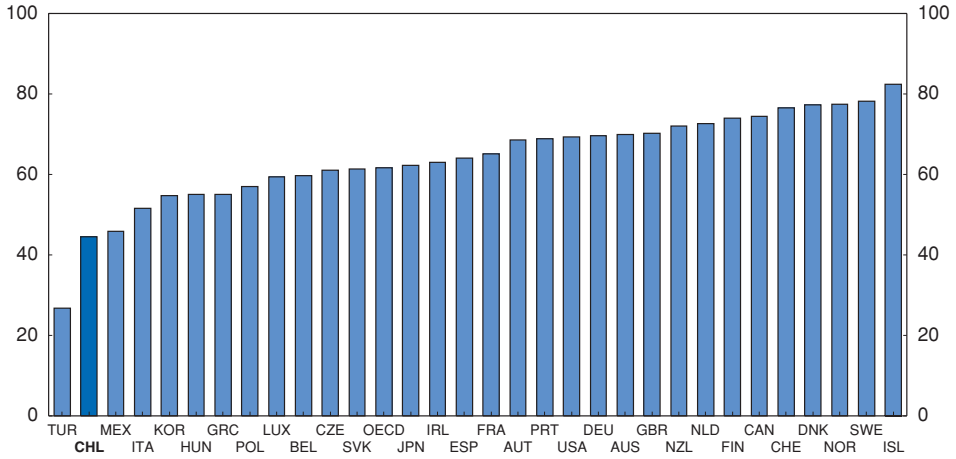
In particular, *there is scope to improve competition policy and promote entrepreneurship*. Competition in some areas of product markets, especially in the services sector, remains weak by OECD standards, which reduces firms' incentives to reduce costs and enhance productivity. The recent reform of the competition law is well designed and tightens the rules against anti-competitive behaviour. *It now needs to be implemented efficiently. Reducing regulatory red tape for business start-ups and easing restrictions on entry in specific services sectors, which remain high by OECD standards, would further contribute to strengthening competitive pressures for firms*. This would also encourage entrepreneurship and thereby the adoption of new and innovative business ideas. The government recognises the importance of structural reforms in these areas and in January 2011 a law was passed that reduces the time needed to start a business from 27 to 16 days. Similarly, reforming the very burdensome bankruptcy procedure would improve the conditions for entrepreneurship, among other things, by giving creditors legal certainty and removing the stigma of failure.

Structural reforms in labour markets would raise the participation rate of women and youth, which are among the lowest in the OECD, and enhance labour productivity. Some OECD countries, such as Ireland,

have managed to raise the female labour market participation from levels similar to the ones currently observed in Chile to around the OECD level over a relatively short period of time (Figure 1.2.). *Although the government has made substantive progress in providing childcare for working women over the past few years, there remains scope to further expand these programmes*. A recent government initiative to extend the maternity leave period may help women to better reconcile work and family life. The minimum wage, which is high from an OECD perspective, particularly hurts the employment prospect of youth. *The government should consider introducing a differentiated minimum wage, with lower rates for young workers*. To enhance labour productivity, the government needs to reduce the share of informal employment, which remains high vis-à-vis the OECD average. High severance pay has reduced employers' incentives to formalise employment relationships, trapping informal workers in low-productivity jobs without access to formal training. *Reducing severance pay while further expanding unemployment insurance, would go a long way towards a Chilean model of "flexicurity", characterised by more flexible employment relationships that would, nonetheless, grant better protection to workers*.

Figure 1.2. **Female labour force participation rates, 2008**

15-64 years



Source: OECD Labour Force Database.

Policies to fully exploit the advantages of Chile's openness to trade and foreign investment may need to be improved to achieve faster technological progress and productivity growth. Openness to trade and foreign investment has intensified competition in domestic markets and facilitated access to imported intermediate goods. Yet, the considerable growth potential from openness to trade and foreign investment has not

been fully exploited, as it remains concentrated in natural resource intensive sectors. Furthermore, the capacity of domestic firms to absorb advanced technologies and management practices is weak. *Innovation policy may have a useful role to play in strengthening the absorptive capacity of domestic firms, for instance by promoting training of Chilean workers in foreign firms and by strengthening links between public research institutions and private firms. Similarly, trade and investment policies need to be re-oriented towards strengthening links between foreign and domestic firms, particularly in the services sector*. The example of resource-rich OECD countries, such as Australia and Norway, shows that services linked to natural resource extraction may have considerable growth potential in Chile. *Promoting environmentally friendly policies may also contribute to the further diversification of the economy and sustainable long-term growth*. For instance, protecting Chile's exceptional biodiversity through appropriate market-based and regulatory instruments would boost Chile's attractiveness as an eco-tourism destination.

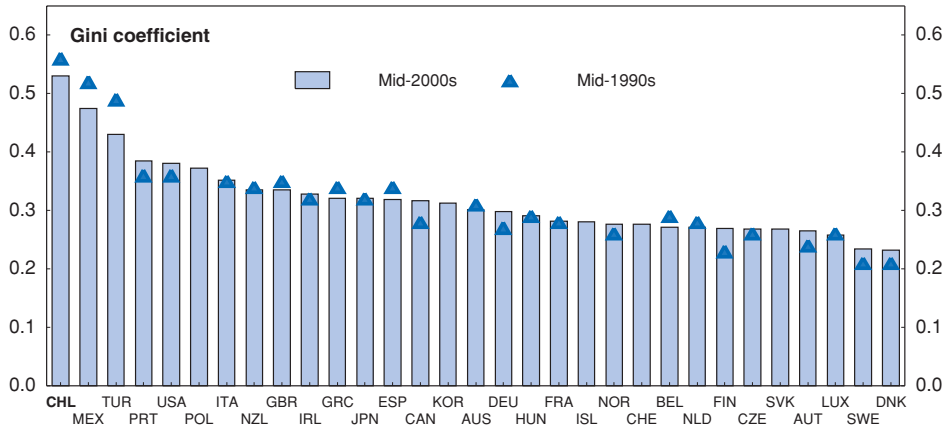
In the medium term, higher productivity growth will be sustainable only with a well-educated and highly skilled workforce. Although educational attainment has increased markedly over the past two decades and there have recently been signs of improving education quality, scores on standardised tests for secondary students remain appreciably below the OECD average, and opportunities for further education and training for the existing workforce are limited. The low skill level of the Chilean workforce has become a barrier to faster productivity growth, as workers often do not have the capacities to absorb and adapt the technologies needed to catch up with high-income OECD countries at the technological frontier. *In the area of secondary education, higher-qualified individuals could be attracted into the teaching profession by reviewing the remuneration system and by defining teacher career paths with attractive opportunities for promotion*. The outcomes of the secondary education system will also depend on the effective implementation of a newly established quality assurance system that will evaluate schools and take measures to improve quality in under-performing ones. While improving the quality of secondary education will be paramount to forming a new generation of highly skilled individuals, there is also a need to enhance the skills of the existing workforce. *This could be achieved by improving the incentives for lifelong learning, for instance by establishing a certification system for vocational skills at the national level, and by improving the quality of enterprise training*.

Reforming education and labour market policy to reduce income inequality

Strong economic performance and the improvement in average living standards since the late 1980s have had little effect on income inequality. With a Gini coefficient of 0.53, the degree of income inequality in Chile is currently higher than in any other OECD country and has barely been reduced since 1990, when it stood at 0.56. While

social policies have contributed to cut poverty rates by half since 1990, they have fallen short of providing equal opportunities to all citizens. Compared to other OECD countries, social mobility is low in Chile, with children from disadvantaged backgrounds often ending up in low-skilled/low-paid jobs as adults. Reaching the government's objective of raising average GDP growth to 6% per year over the 2010–14 period will help to further reduce poverty, among other ways by creating job opportunities and easing the financing of social programmes. Nonetheless, additional efforts in the areas of education and labour market policies will be needed to enhance social mobility and further reduce income inequality to levels closer to those in other OECD countries (Figure 1.3).

Figure 1.3. **Income inequality across OECD countries**[1]



1. After taxes and transfers.

Source: OECD (2008), *Growing Unequal?: Income Distribution and Poverty in OECD Countries*, OECD Publishing, DOI: 10.1787/9789264044197-en; Larrañaga, O. (2009),"Inequality, Poverty and Social Policy: Recent Trends in Chile", *OECD Social, Employment and Migration Working Papers*, No. 85, DOI: 10.1787/224516554144.

Achieving greater social mobility and reducing income inequality requires access to quality education at all levels of the education system for all Chilean children. OECD experience shows that early childhood care and education can be particularly effective tools to break the cycle of inequality across generations. The government has already made substantial progress in expanding nursery and kindergarten places, but there remains scope to further raise capacities and enhance the quality of early childhood education. In the area of primary and secondary education, the government has made significant efforts to improve the access of children from vulnerable backgrounds to quality schools, among other ways by introducing a differentiated voucher scheme. This

scheme grants schools that accept students from vulnerable backgrounds more resources. Experience from top-performing OECD countries, such as Finland, shows that the Chilean government is correct to devote more resources to students who risk falling behind, but the efficient use of resources will have to be monitored and appropriate assistance will have to be provided to schools with limited capacities.

Reducing income inequality will require better job market prospects for low-skilled workers. The establishment of a minimum family income (*Ingreso Etico Familiar*, IEF), which will build on existing social programmes to provide conditional cash benefits, will contribute to the government objective of eradicating extreme poverty by 2014. However, there are limits to what can be achieved through income support for the poor. Reducing income inequality to levels similar to those observed in other OECD countries will require better integration of the poor into the labour market. This would also be a particularly effective way of enhancing social mobility, as being employed can change attitudes and behaviours that are transmitted to children. The IEF training and job-search requirements may promote the activation of low-income people, but bringing them into employment will also require enhancing the capacities of public employment services.

All chapters in this report deal with the three main policy challenges facing the new government (achieving stable and non-inflationary growth in the short term, boosting long-term growth, reducing inequality), with some chapters focusing more closely on implementation and measurement issues (Chapters 7, 9 and 13).

- **Achieving stable and non-inflationary growth in the short term:** Chapter 2 deals with monetary and fiscal policies that would preserve the strong economic recovery after the global economic crisis and the natural disasters of February 2010, while keeping inflation low. Chapter 8 looks at financial market policies that would further enhance the economy's resilience to adverse events.

- **Boosting long-term growth:** Chapters 3, 4 and 5 look at reforms on product and labour markets and in education policy that would enhance the economy's long-term growth potential by raising productivity. Chapters 11 and 12 analyse trade and investment policies that would allow Chile to reap the full benefits of openness by strengthening links between foreign and domestic firms, and diversifying into services. Chapter 10 highlights how environmental policies could support sustainable long-term growth.

- **Reducing inequality:** Apart from dealing with education quality issues, Chapter 4 proposes reforms to improve equity in education. Chapter 5 includes an analysis of policies that would

particularly improve labour market prospects for low-skilled workers, and Chapter 6 looks at social policy.

Chapter summaries

Chapter 2: Locking in growth: Macroeconomic and structural policy challenges

The main challenge for macroeconomic policy in the short term is to return to a path of stable and non-inflationary growth. Chile was well prepared to deal with both the global recession of 2009 and the earthquake and tsunami of early 2010. The macroeconomic framework had largely shielded the economy from overheating in the copper price boom that preceded the crisis, and the government had accumulated a large financial buffer. As a result, the central bank could provide a large monetary stimulus without un-anchoring inflation expectations, and the government could easily finance a large fiscal stimulus. These exemplary macroeconomic policies contributed to the strong rebound of economic activity and ensured that the economy rapidly overcame the aftershocks of these adverse events. In the short term, macroeconomic policy will need to preserve the momentum of the recovery while containing inflation. As argued in past OECD Economic Surveys of Chile structural reforms may contribute to further enhance the economy's resilience in the face of adverse events and accelerate convergence towards income levels prevailing in advanced countries.

If the recovery continues as currently expected, monetary and fiscal policy should continue the exit from exceptional stimulus. Activity rebounded vigorously after the natural disasters of February 2010, with output growing 7% in the third quarter and domestic demand expanding by almost 20% (annual rates). The dynamism of domestic demand and increases of international commodity prices have already led to increases in inflation, which the market expects to be above the central bank's target of 3% by the end of 2011. If activity continues to be as strong as currently expected, with excess capacities diminishing rapidly, the central bank should continue to withdraw exceptional monetary stimulus to maintain medium-term inflation expectations well anchored. Similarly, under the same conditions, fiscal policy should make early progress towards reducing the structural budget deficit.

Financial buffers have been partially depleted and should be restored to handle possible future contingencies. During the economic emergency of 2009, the government used a mix of debt issuance and repatriation of assets in the sovereign stabilisation fund to finance the fiscal stimulus. This reduced the assets in the sovereign stabilisation fund by around half, and net government assets decreased from a peak of around 20% of GDP at the end of 2008 to around 10% in June 2010. Although from an international perspective the government remains in an enviable

position to face economic and natural emergencies, the depletion of assets in the sovereign stabilisation fund has been relatively fast and it may be prudent to restock it. This would restore safety margins to deal with possible future economic or natural emergencies and preserve the country's low sovereign risk premiums. It would also alleviate the pressure on the Chilean peso, which has appreciated strongly over the past year.

Structural reforms will be needed to resume the pace of convergence with OECD living standards of the 1990s. In the 2000s, growth of per capita GDP slowed to less than half the pace of growth during the "golden age", 1986–97, and GDP per capita remains around two thirds lower than in advanced OECD countries. As shown in several OECD Economic Surveys of Chile, continuing and consolidating structural reforms to enhance human capital, to strengthen competition in product markets and to improve the functioning of labour markets would go a long way towards resuming faster catch-up with OECD living standards. Reforms to address quality and equity issues in secondary and vocational education and to foster innovation in firms would spur productivity growth and the adoption of new technologies. Productivity and investment could also be boosted by easing burdensome business regulations for start-ups, reforming the inefficient bankruptcy procedure and implementing the new Competition Law effectively. In labour markets the main challenges are to raise female labour market participation from low levels and reduce informality, which remains high by OECD standards.

Chapter 3: The productivity challenge: Enhancing competition, entrepreneurship and innovation

The stagnation of productivity after 1998 prevented Chile from growing even faster over the past two decades. Whereas macroeconomic management has improved markedly, a number of weaknesses in structural policies have prevented faster productivity growth: product market competition, as measured by price-cost margins, remains weak by OECD standards. Further, regulations on entry and exit discourage entrepreneurial risk taking and the diversification into new and higher-productivity activities. Although recent reforms of the innovation policy framework aim at broadening the focus of innovation policy from basic public research to all forms of innovation, technological and non-technological innovation in firms remain low.

A recent reform of competition law increases the investigative powers of the National Economic Prosecutor, introduces a leniency programme and increases the level of fines for cartel infringement. The well-designed reform must now be implemented effectively. The National Economic Prosecutor should receive sufficient resources to cope with a likely increase in caseloads, and deterrence for cartel participation would be strengthened by making price-fixing a criminal offence, as planned by the government. The current maximum fine

remains too low to deter large corporations and risks undermining the effectiveness of the leniency programme, as immunity becomes more attractive the higher the fine. The authorities should therefore consider linking the maximum fine to sales on the relevant market.

Regulation of start-ups and the bankruptcy law need to be improved to foster entrepreneurship. OECD indicators show that administrative burdens on start-ups are higher than in most other OECD countries. Entry regulations in specific services sectors, such as registration and notification requirements in retail and exclusive rights in professional services, also appear to be more restrictive than in most other OECD countries. The government has recently enacted laws to reduce red tape for small and medium-sized enterprises and reduce the time to open a business from 27 to 16 days. To enhance entrepreneurship, Chile should further reduce administrative burdens on start-ups and facilitate entry into specific services sectors. The bankruptcy procedure is burdensome and grants creditors limited protection, which not only slows the exit of low-productivity firms but also holds back entrepreneurial risk taking and makes access to credit difficult. The government enacted a law that simplifies bankruptcy procedures for small and medium-sized enterprises. The authorities have also launched an inter-ministerial working group to assess options for reform, including the creation of specialised bankruptcy courts. Efforts to improve the bankruptcy procedure should be continued to facilitate the exit of inefficient firms and encourage entrepreneurial risk taking in innovative sectors.

Efforts to broaden innovation policy beyond basic research should be continued, but cluster strategies should remain based on market-like mechanisms, and potential risks should not be overlooked. The authorities have taken several measures to improve relationships between industry and the scientific community to make scientific research more market relevant. Among other measures, a research and development (R&D) tax credit has been introduced that requires the participation of research institutes external to the firm, and funding mechanisms that require matching public grants with funds from private businesses have been strengthened. As in most OECD countries, the government has started to support the formation of industrial clusters, which can foster diversification into non-traditional high-productivity sectors. But potential risks to public resources should not be overlooked. To avoid spending public resources without any inducement effect, or on sectors that turn out to be failures, clear performance objectives should be specified. For clusters that meet performance objectives, the need for continued public support should be reviewed periodically (sunset clauses), as private financing should eventually replace public support. For clusters that continually fail to meet their performance objectives, support should be withdrawn early to avoid the lock-in of failures.

Chapter 4: Quality, equity and equality aspects in the education system

Chile has made impressive progress in educational coverage and attainment, but despite recent improvements the quality of primary and secondary education is still lagging behind most other OECD countries. Primary education coverage is near universal and secondary and tertiary attainment rates have increased significantly in the last years. Yet, scores on standardised student tests, such as the Programme for International Student Assessment (PISA), remain well below the OECD average. One reason for uneven education quality is that, in contrast to top-performing school systems such as Finland; Hong Kong, China; Korea; and Singapore the Chilean education system fails to attract the most qualified individuals to the teaching profession. The government should therefore continue efforts to increase pay and offer scholarships for gifted students who plan to become teachers. In addition, teacher career paths in all publicly funded schools should be defined, while granting some flexibility in terms of teacher employment and pay to all school types. Clear opportunities for promotion to interesting positions for well-performing teachers would further increase the attractiveness of the teaching profession. Further policy options for improving teaching quality include more stringent accreditation requirements for initial teacher education programmes; changes in curricula in order to provide teachers with sufficient knowledge of subject content and professional training for practicing teachers; and the establishment of external exit exams to certify teachers.

Enhanced quality of primary and secondary education could also be achieved by strengthening quality assurance systems. Until recently, the Chilean education system was mainly based on free school entry and school competition, without government intervention to ensure minimum quality standards. Instead of enhancing learning outcomes for all students, schools seem to have competed by selecting the most able students, at least to some extent. To address this issue, the government has recently prohibited such selection until the sixth grade of primary school, and it plans to introduce a quality assurance system. A new superintendence will be responsible for monitoring school compliance with laws and regulations, and an agency will evaluate education quality in schools. Both agencies will have the authority to impose sanctions in case of non-compliance or underperformance. These reforms bring Chile closer to OECD best practice, but the government should ensure that new agencies co-operate efficiently to avoid inconsistent policies across agencies and the duplication of tasks.

There is a need to improve outcomes for students with sub-standard results even more than for the others to reduce inequality in education outcomes, which remains high by OECD standards. The socio-economic background explains a large share of the variance of PISA test scores compared to other OECD countries, indicating that the school system does little to provide equal opportunity to all children. The government

has recently increased the value of the education voucher for children from poor families. To receive the higher subsidy, schools must register with the *Subvención Escolar Preferencial* (SEP) and will be subjected to a relatively stringent quality assurance system. While the extra money could help poor children obtain a high-quality education, the government should closely monitor the schools' results and provide support to ensure the money is spent efficiently. To achieve high education quality in schools enrolling a high number of vulnerable children, particular attention will have to be paid to students at risk of falling behind, as the experience in top-performing OECD countries such as Finland has shown. It would be desirable to integrate the quality assurance system for SEP schools into the planned quality assurance system for all schools, once it is established, which would prevent it from becoming a disincentive for schools to register with the SEP programme.

Investing more in early childhood education would also contribute to improving equity in the Chilean education system. Although the government has made important progress in increasing the capacity of early childhood education through the expansion of kindergarten and nursery schools, there remains scope to enhance its quality by developing standards for initial education of pre-school teachers and more stringent accreditation procedures for initial education programmes for pre-school teachers.

Chapter 5: Employment challenges: Labour market flexibility, informal employment and employability

The main challenges in the Chilean labour market are low levels of labour market participation among women and youth and low labour productivity, partly due to a high share of informal employment. The female labour market participation rate stood at 47% in 2009, compared to an OECD average of 62%, and only 26% of youth were in employment, compared to 40% on average in the OECD. Around 30% of workers are estimated to be employed in the informal sector.

A high minimum wage and high severance pay for permanent workers contribute to a segmented labour market. The minimum wage expressed as a proportion of the average wage is higher than the OECD average, which may have raised unemployment and informality, in particular for low-skilled and young workers. The government should consider increasing the age for receiving a full minimum wage from 18 to 25 and prescribe lower rates (increasing with age) for younger workers. Severance pay is also high by international standards, reducing employer incentives to formalise employment relationships. The government should consider reducing severance pay while further expanding unemployment insurance. This would both protect workers more effectively during temporary spells of unemployment and improve incentives for formal work.

The expansion of unemployment insurance as an alternative to severance pay requires enhanced employment services and job-related training. The Chilean unemployment compensation scheme is based primarily on individual accounts financed through employer and employee contributions. These accounts have the advantage of providing strong incentives for job search, but they may provide insufficient protection to some workers who have accumulated only small balances in their accounts, or during periods of high unemployment. Therefore, in 2009 the government eased access to the Solidarity Fund, which pays unemployment benefits independent of individual account balances. As this re-introduces an element of moral hazard by reducing worker incentives to look for a job, the public employment service needs to be enhanced and the possibility of merging it with the national employment agency should be considered.

A further barrier to hiring is collective agreements that often fail to provide an appropriate degree of flexibility for employers, while protecting only a relatively small group of labour market "insiders". Employment relations are characterised by a lack of trust between employers and workers, partly because of weak and unpredictable enforcement of labour regulations and limited coverage of unions and business associations. To achieve more co-operative labour relations, the government should promote union representativeness and collective bargaining in enterprises. Flexibility for employers could be achieved by including issues other than wages, such as working hours, overtime, shift work and social benefits, in collective agreements.

There is a need to enhance vocational education and training (VET) and lifelong learning to raise labour productivity. The VET system, which is especially important for mobilising human capital and supporting future economic growth in emerging countries such as Chile, remains fragmented. The lack of articulation between the different levels and institutions that provide VET inhibits the recognition of professional qualifications. To facilitate the acquisition of relevant professional skills, the government is currently setting up a qualifications framework to certify vocational skills at the national level. This effort to develop the education and training system for lifelong learning must be accorded high priority and should be complemented by improvements in the quality of enterprise training, in particular in the smallest firms. There is also a need to improve workplace training in upper secondary education and achieve effective consultation between the VET system and employers.

Chapter 6: Improving equality and reducing poverty

Despite sustained economic growth and a sharp decrease in absolute poverty over the past two decades, social mobility in Chile remains low and inequality high. Poverty decreased from around 39% of the total population in 1990 to around 15% in 2009 but inequality, as measured by

the Gini index, remains higher than in any other OECD country. Social mobility, as measured by the correlation between fathers' and sons' incomes, is among the lowest in the OECD. The government has made important efforts to combat poverty through social programmes such as *Chile Solidario*, which gives the poorest households access to health and education services and provides limited cash benefits. The government has also introduced a basic solidarity pension guaranteeing a minimum pension to workers with patchy employment histories who fail to accumulate sufficient balances in their individual accounts. Although the Chilean social assistance system is good at identifying needy households, spending on social assistance remains limited and has had little impact on income inequality. As unequal countries at a given point in time also tend to be the ones with the least social mobility, there is a need to reduce the different forms of inequality to break the cycle of disadvantage across generations and promote equality of opportunity. OECD experience suggests that targeted early childhood interventions in the areas of health, nutrition and education are essential tools to promote social mobility.

Improving job opportunities for the poorest households would also contribute to reduce inequality and enhance social mobility. Employment rates among the poorest 10% of households are around 30%, whereas they are around 70% for the richest 10%. Helping parents find work can be more effective than cash transfers in fostering social mobility, as parental behaviour is transmitted across generations. The training and job-search requirements in the Ethic Family Income (EFI) programme, which will modify and replace existing social programmes, may boost the labour supply from disadvantaged households, but the quality and capacity of public employment services must be improved. The existing employment services infrastructure has been inadequate to help many disadvantaged households get into paid employment. As the EFI will entitle poor households to services and cash transfers conditional, among other things, on their current income, the government should reinforce its efforts to adapt the Social Protection Record to accurately measure short-term income changes. This would allow better targeting and improved incentives to work.

Achieving consistency of social policy across ministries and avoiding duplication of work will require effective collaboration and co-ordination between the new Ministry of Social Development and other stakeholder ministries. Therefore, clear guidelines on the distribution of responsibilities between the new Ministry of Social Development and the stakeholder ministries need to be developed. This will require strong leadership from the President's Office, the Budget Office and the new ministry.

Chapter 7: Enhancing the capacity of Chile's public administration

Sound public finances put the government in a comfortable position to finance the implementation of its ambitious agenda, but there is a need to enhance strategic planning. The detailed outline of the government's agenda in the *Compromisos 21 de Mayo* is in itself a commendable measure, as it increases transparency and accountability. While prudent fiscal management over the past few years will facilitate the financing of the government's agenda, more needs to be done to extend the time horizon of strategic planning and achieve better co-ordination between ministries. Currently, strategic objectives can change after 12 months and co-ordination between ministries on longer-term objectives is limited, which can jeopardise longer-term government priorities. Weaknesses in strategic planning can be particularly problematic in complex policy areas, such as education, health and social policy, which often need the interaction of several ministries and which require time for results to become apparent.

Resource flexibility will need to be promoted further, in particular by enhancing the capacity of human resources. The natural disasters and mining accident of 2010 have demonstrated that flexibility in the government's capacity to move human and financial resources to strategic priorities can reduce pressure on public spending and lead to more efficient public service provision. In response to the earthquake, for instance, the government swiftly shifted financial resources to reconstruction projects. An important element of resource flexibility is the capacity of the public administration's staff to implement the government's strategic priorities. In Chile, the duality between public employees who are hired on permanent contracts (*planta* system) and those that are hired on more flexible contracts (*contrata* or *honorarios* system) can generate inefficiencies. In particular, it can lead to short-termism and the loss of institutional knowledge when employees on short-term contracts leave. The government should consider giving public sector managers more flexibility to adapt to needs and reward performance.

Administrative streamlining should be continued across all areas of public administration. This has hitherto focused on specific sectors, such as small and medium-sized enterprises, international trade and health. To avoid possible incoherency, the government should consider a comprehensive approach across all sectors of public administration. Reforms should be based on consultation with the public, thereby ensuring that regulatory reform is driven by the needs of citizens and firms.

Chapter 8: Strengthening the financial system in Chile

Compared to many other OECD countries, Chile's financial system has weathered the global financial crisis relatively well, but further improvements in the regulatory and supervisory structure may

nonetheless be needed. During the global financial crisis no major banking failures occurred and the Chilean financial market recovered quickly from the initial uncertainty. This was in large part due to prudent regulation, and in particular a prudent approach to authorisation of complex financial products. Although the Chilean financial system proved to be resilient during the global financial crisis, the government could take measures to modernise the regulatory and supervisory frameworks to prevent future vulnerability. The current move to consolidate credit information concerning banks and non-banks would enable informed credit ratings of retail consumers, and limit the potential negative impact on bank soundness.

Chile has quantitative investment regulations, which effectively drive investment decisions such as the extent of diversification in the portfolios of insurers and pension funds. However, risk management processes are needed to manage and mitigate operational risks, and to complement investment regulations.

Full, risk-based supervision that focuses on a more pro-active risk assessment by the supervisors of insurers and pension funds is currently being piloted in Chile and is expected to be rolled out at the beginning of 2011. With the introduction of a more risk-based supervisory system, formal risk-management guidance from the supervisors is likely to be forthcoming.

A long-standing issue is the independence of the financial supervisory authorities. The supervision of financial entities is shared between the Superintendence of Banks and Financial Institutions (SBIF), the Superintendence of Securities and Insurance (SVS), and the Superintendence of Pensions (SP). While the Chilean supervisors are generally considered competent, there is scope to grant them greater operational independence. The government could consider introducing minimum terms for the heads of supervisory agencies and ensure these can only be removed for reasons specified by law. Their appointment should be carried out through a transparent and competitive selection process and their terms of office should not coincide with the ones of the president.

Almost all banks, securities market intermediaries and pension funds, and many insurance companies, form part of corporate groups with activities in at least one other financial sector. Yet, Chile does not have a system of consolidated supervision and relies on “firewalls” between activities and voluntary information exchange in the Superintendents Committee. International best practice indicates that supervisors should supervise financial groups on a consolidated basis and apply prudential standards to all activities conducted by the group. In Chile, it is unclear to what extent individual supervisors have adequate information regarding the entirety of group activities. The government should therefore establish a system of consolidated and group-wide supervision, which would help detect the build-up of risk in

complex groups and conglomerates early on, and thereby further enhance the resilience of the Chilean financial system.

The level of financial education of Chile's population is uneven and could be strengthened. OECD best practice shows that a consistent national strategy on financial education can be an important element in strengthening the financial system to prevent problems such as over-indebtedness of consumers. The government could consider including financial education in school curricula and further improve the transparency of information and advice on all financial products. In the Chilean pension system, households bear most of the responsibility for their future pension income. Chile has made some significant initiatives to improve financial literacy and awareness in the area of pensions, but this remains a key challenge for Chile going forward.

Chile has a strong pension system and regulation is comprehensive and generally well-designed. Nevertheless, a few key reforms could further strengthen the system and help secure pension savings for Chileans. These reforms would include improving coverage of the system to the informal and self-employed sectors, raising contribution levels, promoting later retirement.

Chapter 9: Regional development policies: Co-ordination across levels of government

A stronger regional approach to economic development in Chile would help to better exploit regional growth opportunities. This would improve the country's overall performance and contribute to reduce persistent income per capita discrepancies across Chilean regions. Although part of these discrepancies results from differences in unemployment rates, the major part is attributable to gaps in productivity.

Improving productivity will require context-specific territorial policies, in particular in the areas of innovation, and education and training. Currently, economic development strategies are mostly decided from the centre, and R&D and the leading higher education institutions are concentrated in the Capital. Further efforts to promote more equal opportunities for human capital enhancement across regions may be needed, including in the areas of in-work and vocational training. In addition, the government's cluster strategy may benefit from taking into account regional needs and growth opportunities more effectively. Finally, improving access to infrastructure, basic services and telecommunications in rural areas and peripheral regions represents a potential source of growth. Boosting regional growth through these context-specific territorial policies would not only benefit growth at the national level but also territorial cohesion, an important element of a sustainable open economy

Chile has traditionally been a country with a high degree of fiscal and regulatory centralisation. In recent years, some responsibility for regional planning has been delegated to the regions. Recent reforms transferred several administrative functions to the regional and local level, and strengthened multi-level governance arrangements (programming agreements). This will probably bring benefits in terms of better alignment of sectoral and regional policy priorities and identification of growth opportunities. Yet, there is a need to further extend the regions' responsibilities in the planning and co-ordination of regional policies. The devolution of more responsibilities to the regions should be accompanied by efforts to enhance the regional authorities' capacities, and to strengthen performance management.

Chapter 10: Chile going green

Chile's rapid economic development over the past two decades has been accompanied by mounting pressures on natural resources. The booms in mining, forestry and aquaculture have contributed to air, water and soil pollution. Since the 1980s Chile has implemented environmental policies, often using innovative instruments and regulatory reforms. For instance, it has pioneered tradable permit mechanisms for water rights, particulate emission permits in Santiago, and fishing quotas, which have provided valuable experiences for Chile and other countries. However, there is a need for integrating environmental objectives into a wider range of key economic sectors, such as mining, forestry, tourism, energy, agriculture, aquaculture and transport, to achieve green growth. The government should make broader use of market-based instruments, such as environmental taxes and permit trading. For instance, there is scope to apply the experiences from the tradable permit schemes pioneered in the 1980s and 1990s to a wider range of activities.

Chile's water resources and export-oriented agribusiness sector are likely to be adversely affected by climate change. Although Chile participates in the Clean Development Mechanism (CDM), with around 40 projects to reduce greenhouse gas emissions completed since 2004, it has currently no legally binding emission limits under the Kyoto Protocol. The government could make further progress in reducing GHG emissions by formulating a national mitigation strategy that would include emission reduction targets and action plans for key economic sectors. There is also scope to phase out the stabilisation scheme for fuel prices, which effectively acts as a subsidy and counters the country's efforts to encourage the shift to renewable energies. Partly due to the cessation of gas imports from Argentina, Chile is planning to expand energy capacity through investments in new coal-fired power plants. From the perspective of private enterprises, this is particularly profitable because externalities associated with coal use are not internalised through fiscal instruments. The government should consider a carbon

pricing scheme, which would re-direct current investments in energy capacity towards renewable energy sources.

Chile's unique natural resources and biodiversity are vital assets for economic sectors such as agriculture and tourism. As a result of its geographic isolation and its different latitudes, Chile boasts a large variety of ecosystems and a large number of endemic species. Whereas Chile adopted a National Biodiversity Strategy in 2003 and specific policies on endangered species in protected areas and wetlands in 2005, the national target of protecting 10% of all significant ecosystems by 2010 has not been met. Partly, this is due to the failure to acknowledge that the country's biodiversity is a vital asset for its tourism industry and that not meeting the National Biodiversity Strategy's targets may hamper the industry's future development. The government should therefore complete the implementation of the National Biodiversity Strategy. Sufficient resources should be devoted to reaching the target of protecting 10% of all significant ecosystems in Chile, possibly by making the tourism sector contribute to nature management and by making more extensive use of payments for ecosystem services.

The mining sector, an intensive water and energy user and a major emitter of air and water pollutants, represents a particular challenge for environmental policy. Copper mining accounts for a significant share of the country's power consumption. A significant share of sulphur oxides and particulate emissions and much mining wastewater from large companies remains untreated. Environmental concerns in the mining sector should be addressed under the polluter-pays principle, using economic and other instruments.

Chapter 11: Diversifying exports and improving competitiveness

Trade liberalisation has brought Chile substantial growth benefits, but exports remain heavily concentrated in natural resource intensive sectors. The country embarked on unilateral trade liberalisation in the late 1970s, and by 1990 it was applying a low uniform multilateral tariff of 15% on all imports. Formerly shielded sectors had to put up with import competition and exporters gained access to cheaper intermediate goods, which after an initial phase of adjustment raised productivity and GDP growth in the late 1980s and 1990s. Over the past two decades, the government has consolidated these reforms, bringing the multilateral tariff to 6%. Moreover, it signed a large number of regional trade agreements, which has brought the average applied tariff even lower (to around 1%) and has given Chilean exporters preferential access to their main export markets. As a result, Chile is now one of the most open economies in the world outside East Asia, with a ratio of trade to GDP of around 80%. However, the natural resource intensive copper, agriculture and agro-food sectors account for around two thirds of total exports, with other manufacturing and services accounting for the rest.

The specialisation on natural resource intensive exports reflects, to some extent, Chile's comparative advantage, but there remains scope to better exploit the benefits from the economy's openness. Natural resource intensive sectors generate only limited technological spillovers, since links with the rest of the economy are generally weak, as in the mining sector, or the level of technological sophistication is low, as in parts of the agricultural and fisheries sectors. Moreover, the mining sector generates only very little employment (less than 1% of total employment), although it accounts for around 15% of GDP. In the long term, sustainable GDP and employment growth can be achieved only through productivity growth, which requires advances in technology. The main challenge for trade policy in Chile is therefore to diversify into exports that are technologically more sophisticated and more closely linked to the rest of the economy.

To achieve greater export diversification, the government could build on existing areas of comparative advantage. Other mineral-exporting countries, such as Norway and Brazil, have diversified into mineral-related services, such as exploration, engineering and construction. Apart from opening new markets and new business opportunities, this has often brought upgrades in technologies, thereby enhancing productivity at home. Similar opportunities of diversifying into related services exist in the agri-business sector, in which marketing services can support the move from producing low-margin commodities to higher-margin differentiated products, as the experiences of the wine, salmon, pork and poultry sectors have shown.

The government's cluster initiative may help identify unexploited export opportunities, but risks to public resources should not be overlooked, and the government should continue to focus on improving the framework conditions for exporting. As part of the cluster initiative, the government will provide priority support to a number of specific sectors, including through the provision of sector-specific public goods, such as infrastructure and training, and the preferential allocation of innovation grants. The cluster strategy targets sectors with high growth potential in which Chile is seen to have a comparative advantage, which it has yet not fully exploited. While the cluster initiative has spurred a useful public debate on potentially unexploited export opportunities, there are risks to public resources of targeting resources at specific sectors. In general, the government's priority should be to improve the framework conditions for exporting through structural reforms to enhance human capital and to improve the functioning of product and labour markets. Human capital shortages and regulatory barriers to competition have hampered the development of services exports, which can play a key role in export diversification, as the experience of other natural resource abundant countries has shown. Structural reforms to address these issues would go a long way towards bringing services exports closer to their potential and to emulate successful mineral-rich OECD members, such as Australia and Norway.

Chapter 12: Making the most of an open foreign investment regime

Chile's foreign investment regime is very open, but foreign direct investment (FDI) remains heavily concentrated in natural resources, potentially limiting beneficial technology spill-overs. There are no prior-approval or screening requirements for FDI, and foreigners are legally granted the same treatment as nationals. Moreover, strong macroeconomic performance, sound institutions and a generally growth-friendly regulatory framework have enhanced the attractiveness of Chile as an FDI destination. As a result, Chile boasts one of the highest ratios of FDI to GDP in the OECD.

In the area of investment promotion and facilitation, there is a need to clarify the roles of the involved government agencies. A better co-ordination of investment promotion efforts and a reduced duplication of tasks could be achieved by clearly assigning responsibilities for country image building, investment generation, linkage promotion and policy advocacy. Furthermore, as the challenges for investment facilitation have shifted, there is a need for adaptation of the relevant agencies: away from giving investors certainty and focusing more policies to strengthen linkages with the domestic economy. The interest of foreign investors in special contracts that guarantee the invariability of tax treatment and the repatriation of profits and capital (DL600) has gradually decreased, as Chile's macroeconomic and fiscal framework improved markedly over the past two decades. As a consequence, investment promotion and facilitation can focus on strengthening linkages between the domestic economy and foreign firms and attracting investments with strong spill-over effects. These investment targeting policies can be useful to enhance the absorptive capacity of the domestic economy, but risks to public resources of targeting specific sectors should be borne in mind. Chile has distinguished itself by avoiding the pitfalls of special incentive schemes for foreign investment and any new program should carefully balance costs and benefits.

Chapter 13: Measuring progress and well-being: New concepts, new policies

Chile's accession to the OECD provides an opportunity for the government to improve broader measures of people's well-being, and to bring the priorities and concerns of the country into this agenda. Material living standards are generally measured using GDP, but well-being encompasses a wider range of elements. Over the past few years, in many OECD countries the gap between the development of GDP and households' perception of their well-being has grown. While GDP measures an economy's volume of production, it does not take into account a wide range of economic and non-economic factors, such as non-market household production, leisure, social conditions, inequality and the environment. Better accounting for these elements would enable the government to base policy, implementation and evaluation

on a broader range of indicators. The government should identify critical dimensions of well-being, bringing together academics and civil society organisations to analyse the relevance and robustness of the data.

Some of the elements directly influencing well-being can be integrated in a monetary framework. In national accounts, health and education services received by households are measured based on the costs of the inputs used rather than the value of the output produced. A more accurate picture would be obtained by developing measures of health and education output, distinguishing between price and volume effects. With few exceptions, services produced by households for their own use, such as caring for family members, are also omitted from national account measures, even if (illustrative) calculations show that household production is large relative to conventionally measured GDP. Leisure time also contributes to individual well-being but, as it is not purchased on markets, it is not reflected in national account measures, leading to an implicit bias against countries that opt for enjoying more free time. GDP per capita measures also fail to account for differences in household size across countries; because of economies of scale in household consumption, for a given level of GDP per capita, individual well-being may be higher in countries with larger households. Finally, higher GDP may benefit only a small fraction of the population; changes in inequality can be taken into account by 'weighting' average incomes in each income decile or by looking at income changes at different points in the income distribution.

A more comprehensive view of well-being can be obtained by complementing monetary and non-monetary measures. Social conditions such as health and education determine well-being of each individual and of society as a whole. Indicators of social conditions are often only weakly associated with GDP per capita. In Chile, for instance, the GDP per capita gap with the United States widened in the late 1990s, while the gap in life expectancy, a measure of population health, continued to narrow. The natural environment also affects people's well-being, by affecting their health status and the amenity value of the natural habitat for current and future generations. While an increase in GDP per capita may raise a society's capacity to deal with environmental problems, it may also lead to pressure on the environment through higher energy and water consumption and higher emission of pollutants. Finally, individual well-being is to a large extent subjective and can be measured through surveys. While richer OECD countries generally report higher levels of life-satisfaction, the relationship between income and life-satisfaction is weak. In Chile, for instance, reported life satisfaction is close to that in much richer OECD countries such as France, Italy and Spain.

Chapter 2

Locking in growth: Macroeconomic and structural policy challenges

Main recommendations

Thanks to its sound macroeconomic policy framework and strong institutions, Chile was well prepared to respond to the global economic recession of 2008-09 and to the natural disasters of February 2010. Consequently, economic growth rebounded quickly and indications are for continued strong growth in 2011 and 2012. The short-term focus is to rebalance fiscal and monetary policy, while the longer term challenge is to accelerate the catch-up toward higher living standards.

- *Economic activity after the global economic crisis and the natural disasters of February 2010 has been strong. If it remains so, the central bank should continue to raise the policy interest rate to keep inflation expectations well anchored. Similarly, under the same conditions, fiscal policy could make early progress towards the objective of reducing the structural budget deficit.*
- *Chile was well prepared to face the global recession and the February natural disasters, thanks to the large financial buffers accumulated during the copper price boom. The stock of government financial assets is now reduced, and it should gradually be rebuilt to prepare for possible future contingencies. An additional fiscal rule (a floor on net government financial assets) could help to reach this goal.*
- *Convergence toward OECD living standards has slowed over the past decade. Reforms to prepare workers for the skilled jobs of the future as well as further steps to foster business activity, especially innovative start-ups, would contribute to resuming a faster pace of long-term economic growth.*

Chile was well prepared to deal with both the global recession of 2008-09 and the earthquake and tsunami of early 2010. The macroeconomic framework – a structural fiscal rule, an independent inflation-targeting central bank and a flexible exchange rate – had largely shielded the economy against overheating in the copper price boom that preceded the crisis, so monetary policy was in a good position to provide a vigorous monetary policy response to the crisis without un-anchoring inflation expectations. The government also accumulated a large buffer of financial assets during the boom, which was used for a large countercyclical fiscal stimulus. These exemplary macroeconomic policies contributed to the strong rebound of activity and helped to rapidly overcome the aftershocks of these adverse events. Going forward, the main challenge for macroeconomic policy is to return to a path of sustainable and non-inflationary growth.

Structural reforms will be needed to raise Chile's income per capita towards the average level prevailing in the OECD. Currently, Chile's per capita gross domestic product (GDP) remains only one-third the level prevailing in the upper half of OECD countries. Although there was fast convergence during the "golden age" (1986-97), growth during the past decade fell to less than half this pace. Continuing and consolidating structural reforms to enhance human capital, strengthen competition in product markets and improve the functioning of labour markets would go a long way toward resuming faster catch up with OECD living standards. Reforms to address quality and equity issues in secondary and vocational education and to foster innovation in firms would spur productivity growth and the adoption of new technologies. Productivity and investment could also be boosted by easing burdensome business regulations for start-ups, reforming the inefficient bankruptcy procedure and implementing the new Competition Law effectively, as planned by the government. In labour markets the main challenges are to raise female labour market participation from low levels and reduce informality, which remains high by OECD standards.

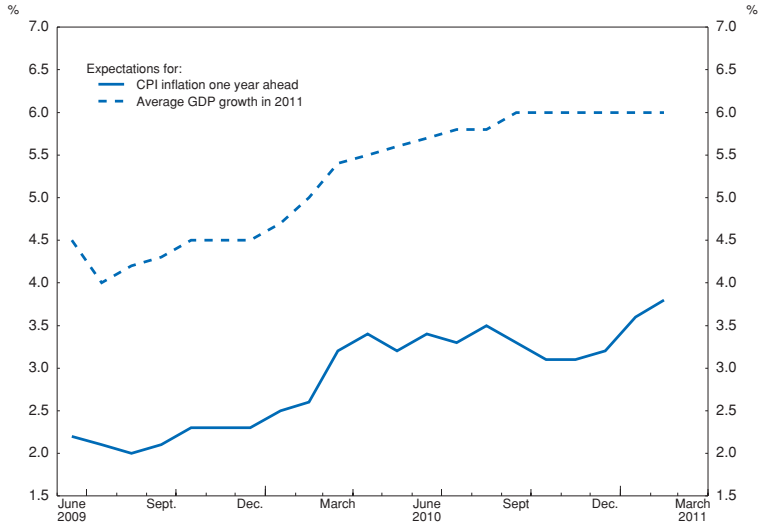
An early rebound of economic activity and a strong outlook in the near term

After the temporary dislocation of activity caused by the earthquake during the first quarter of 2010 output rebounded quickly, with annual real GDP growth estimated at more than 5%.. Financial conditions have improved, which is reflected in increased bank lending and strong investment growth., Gross fixed capital formation in the third quarter of 2010 was almost 20% higher than one year before. As a good part of capital goods are imported, the current account surplus is turning into a deficit: the central bank expects a current account deficit of around 1.4% in 2011 (Banco Central, 2010).

The strong rebound in output is accompanied by a quick pace of job creation and gradually rising inflation. Despite the earthquake, unemployment fell to around 7% by end-2010, after having peaked at above 11% one year earlier. Headline annual inflation increased from -1.4% at the end of 2009 to around 3% at the end of 2010. This mostly reflected a fast increase of prices in the services sector, while by contrast price increases for goods were muted by the strong appreciation of the peso. Thus, a widely used measure of core inflation (excluding fresh food, administered prices and financial services) remains low (0.5% in January 2011). The central bank has raised its policy rate, but monetary policy remains nonetheless expansionary, with the short-term interest rate well below its non-expansionary (neutral) level.

While price increases remain so far contained, the inflationary effects from reduced production capacities after the earthquake and recent commodity price increases should nonetheless not be underestimated. Inflation expectations shifted up in March and have not reverted to their pre-earthquake levels (Figure 2.1). As the natural disasters disrupted supply only in the affected regions and just for a few days, the shift in inflation expectations may reflect concerns that the earthquake caused severe damages to production capacities. Moreover, the recent increases in food and energy prices on world markets and the vigorous growth in private consumption and investment are exerting upward pressure on prices. The consensus expects consumer price inflation of around 4% at the end of 2011, which is somewhat above the central bank's target of 3%.

Figure 2.1. **Chile's growth and inflation expectations have risen**



Source: Banco Central de Chile, Monthly Survey of Expectations.

Reconciling the twin challenges of strong growth and low inflation will be the main challenge for macroeconomic policy in the short term. According to the central bank, the earthquake of February 2010 destroyed around 3% of the country's capital stock. With the subsequent rebound in economic activity, this has reduced excess capacities and may put upward pressure on inflation. The start of major reconstruction projects in the second half of 2010 has provided a further stimulus to an already dynamic domestic demand. Recent forecasts, including by the OECD in November 2010 (OECD, 2010b), suggest that growth may exceed 6% in 2011 and 5% in 2012 (Table 2.1). Growth may come in even higher if major reconstruction projects, which have mainly been launched in the second half of 2010, exert an unexpectedly strong impulse on domestic demand. The major downward risk to the projection stems from the uncertainties surrounding the global economic recovery. As a small and very open economy, Chile is heavily exposed to developments in the world economy and a slowdown in global growth would have a significant impact on domestic economic developments.

Table 2.1. **Growth forecasts, 2011-12**

	OECD (November 2010)		Consensus (February 2011)	
	2011	2012	2011	2012
Chile				
Real GDP growth	**6.2**	**5.4**	**6.1**	**5.1**
Consumer price inflation[1]	**3.0**	**3.0**	**4.0**	**3.3**
Brazil				
Real GDP growth	4.3	5.0	4.4	4.6
Consumer price inflation[1]	5.2	5.0	5.5	4.7
Mexico				
Real GDP growth	3.5	4.2	4.3	4.0
Consumer price inflation[1]	3.2	4.0	3.8	3.7
United States				
Real GDP growth	2.2	3.1	3.2	3.3
Consumer price inflation[2]	1.1	1.1	1.9	1.9
Euro area				
Real GDP growth	1.7	2.0	1.6	1.7
Consumer price inflation[2]	1.3	1.2	2.0	1.8

1. End-of-year annual CPI inflation.

2. Average annual CPI inflation.

Source: OECD Economic Outlook 88 (database) and Consensus Economics (February 2011).

Barring a sudden reversal of the world economic recovery, the central bank should continue withdrawing its exceptional monetary stimulus. The partial destruction of the capital stock due to the earthquake of February 2010 has reduced excess capacities. Moreover, unemployment is falling quickly, real wages are increasing and commodity prices are rising. Private professional forecasters already expect inflation to be above the central bank's target at the end of 2011

(see Figure 2.1). If activity continues to grow at the pace expected by the consensus, the central bank should therefore continue to gradually raise the policy interest rate.

The fiscal policy challenges ahead

Similarly, the government is right to plan a return to a more neutral fiscal stance if economic activity remains as strong as expected. Despite buoyant public spending following the natural disasters of February 2010, the government estimates that the structural budget deficit declined from 3.1% of GDP in 2009 to 2.1% of GDP in 2010, as a good part of past fiscal stimulus measures have been withdrawn. By 2014, the government plans to reduce the structural budget deficit to 1% of GDP. The government plans to achieve this objective mainly by limiting spending growth, which was exceptionally high in 2009 (18% in real terms) and around 7% in 2010, and which will partly slow down automatically as reconstruction spending tapers off.

The main challenge for fiscal policy in the near term is to finance the reconstruction after the natural disasters of February 2010 while simultaneously returning to a more neutral fiscal stance. According to the government, the reconstruction will cost around 5% of GDP over 2010-13 (USD 8.4 billion). The government will finance this mainly through a mix of tax measures, sales of government assets and debt issuance.[1] The tax measures include temporary increases in corporate and real estate taxes, a permanent increase in tobacco taxes and a modification of the mining tax. Moreover, the government plans to reduce income tax deductions for pension contributions and introduce stricter rules for the deductibility of real estate purchases. The transitory tax measures are expected to yield around 1.6% of GDP (USD 2.6 billion) over 2011-12, while the sale of government assets should bring another 2% of GDP (USD 3.2 billion). The government's financing plan further includes the issuance of debt amounting to around 1% of GDP (USD 1.5 billion). Military spending and infrastructure spending unrelated to reconstruction will be cut back. The government also plans to raise financial resources for reconstruction through improving the efficiency of the tax administration.

Partially financing the reconstruction through taxes and restraining spending is appropriate to facilitate the return to structural budget balance in the medium term. The structural budget deficit in 2010 was 2.1% of GDP despite the expiry of a good part of the fiscal stimulus measures of 2009. The strong economic performance since the second quarter of 2010 gives the government some room to increase taxes without endangering the recovery. The government's choice of permanent increases in some taxes is well justified on efficiency and income distribution grounds, as the tax deductions favouring pension contributions and the purchase of real estate property are very costly to the government, while benefiting mainly the wealthier parts of the

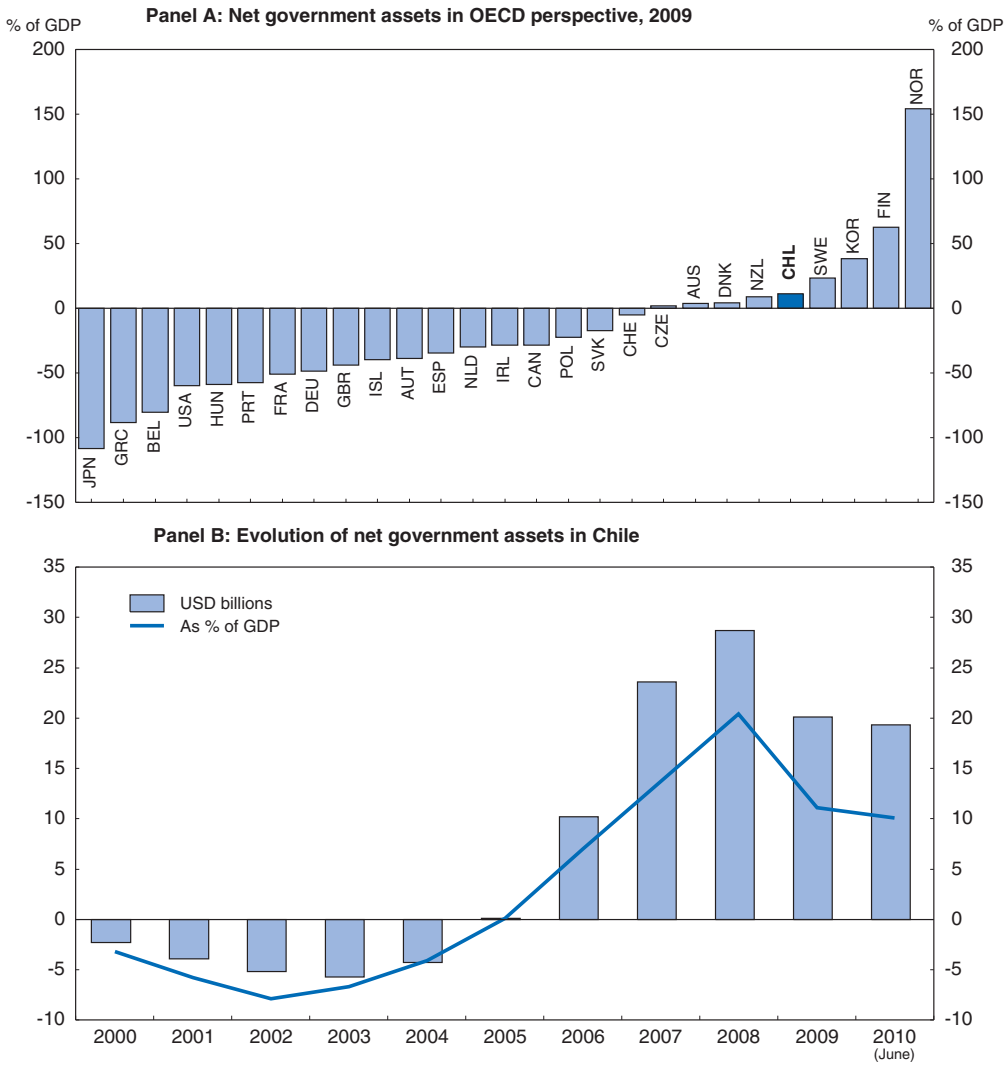
population, as argued in the 2010 OECD Economic Survey of Chile (OECD, 2010a). In addition to higher taxes, it is important to restrain spending, in particular through enhanced spending efficiency, as this would strengthen the credibility of the government's fiscal policy, in particular in the eyes of bond-market participants.

The sovereign stabilisation fund was a crucial source of financing in the recent context, but the size of the fund has been sharply reduced. During the economic emergency of 2009, the government used a mix of debt issuance and repatriation of assets in the sovereign stabilisation fund to finance the fiscal stimulus. This reduced the assets in the sovereign stabilisation fund by around half, from USD 20 billion at the end of 2008 (around 12% of GDP) to USD 11 billion at the end of 2009 (Dipres, 2010). Total net government assets decreased from a peak of around 20% of GDP at the end of 2008 to around 10% in June 2010.[2]

Although from an international perspective the government remains in an enviable position to deal with economic and natural emergencies, the depletion of assets in the sovereign stabilisation fund has been relatively fast and it may be prudent to replenish it faster than currently planned by the government. This would both restore safety margins to deal with possible future economic or natural emergencies and preserve the country's low sovereign risk premiums. A comfortable financial buffer may be particularly desirable for an emerging country as Chile whose access to international capital markets may be impaired temporarily during an emergency, as during the 2008-09 global economic crisis. There should be no outflows in 2011 and 2012 if the recovery proceeds as projected. The government is therefore right to plan to finance possible headline budget deficits through issuance of debt in international and domestic markets, which Chile can currently access at relatively favourable interest rates. At the current level of assets, the sovereign fund should be reserved for situations when the government's access to capital markets is impaired and the issuance of debt would be costly.

The recent economic and natural emergencies have shown that, as a small open economy, Chile is strongly exposed to adverse global developments and, as a result of its location, to natural disaster risk. In a context of adverse events, even a large amount of accumulated assets can be depleted rapidly (Figure 2.2). If economic activity remains as strong as currently expected and downside risks do not materialise, the government would be in a good position to consider a faster rebalancing of the budget and an early replenishment of the sovereign stabilisation fund than currently envisaged. This would also reduce upward pressure on the Chilean peso, which has appreciated strongly over the past months.

Figure 2.2. **Chile's net government assets are positive, but have declined**[1]



1. End of period, central government for Chile, general government for other countries.

Source: OECD, Economic Outlook 88 database; DIPRES 2010.

There are many ways to achieve a fiscal adjustment. Policies that would be least harmful for growth and jobs would be to enhance the efficiency of government spending, further limit inefficient tax expenditures and raise the property tax rate. The 2007 *OECD Economic Survey of Chile* (OECD, 2007) made several recommendations to enhance spending efficiency in health care, education and housing. On taxation, shifting the tax structure toward consumption and property taxes and away from corporate and personal income taxes is the least harmful approach (Johansson *et al.*, 2008). The reason is that consumption and property taxes are less harmful to work and investment incentives. In this sense, Chile's tax structure is currently relatively growth-friendly as it relies more strongly than other OECD countries on value-added tax (VAT) (OECD, 2010a, Figure 2.10). The last *OECD Economic Survey of Chile* (OECD, 2010a) made several recommendations to broaden tax bases by eliminating distortionary and inequitable tax exemptions, such as abolishing or limiting remaining VAT exemptions; closing tax loopholes associated with corporations created for the sole purpose of deferring the payment of personal income taxes (*Sociedades de Inversión*); and increasing the property tax rate.

Refining the fiscal rule to further enhance resilience

The strength of Chile's fiscal framework notwithstanding, the government could consider complementing the fiscal rule by a floor on assets accumulated in the sovereign stabilisation fund to ensure the accumulation of a sufficient fiscal safety buffer in good times. Introducing a rule on the minimum amount of assets accumulated in the sovereign stabilisation fund would help to guide the budget towards a position that permits the accumulation of financial assets during good times. It would also help to maintain the credibility of the structural fiscal rule even when the government temporarily deviates from it. At the beginning for 2009, for instance, the government first announced a reduction in the fiscal structural target from a surplus of 0.5% of GDP to balance, so as to be able to conduct its fiscal stimulus programme. Ex-post the government appears to have run a structural deficit of 3.1% of GDP in 2009. Modifying the structural balance target or deviating from it temporarily may be justified in a situation of severe economic stress, as during the 2009 global economic crisis. Complementing the structural fiscal rule by a floor on assets accumulated in the sovereign stabilisation fund would guide fiscal policy towards the replenishment of the sovereign fund in the wake of such deviations. To allow for some flexibility, the floor on accumulated assets would have to be accompanied by a clearly-defined escape clause, for instance if the output gap crosses a threshold or a natural disaster hits.

Alternatively, the government could consider complementing the structural balance rule by a floor on *net* government assets (a ceiling on *net* government debt). A floor on *gross* assets accumulated in the

sovereign stabilisation fund would have some drawbacks: the target could, for instance, be reached by issuing debt and transferring the proceeds to the stabilisation fund.

Automatic corrections of past deviations from the structural balance target, as in the German and Swiss fiscal rules, would also support the accumulation of a sufficient fiscal safety buffer in good times. In Switzerland and Germany ex-post deviations from the structural balance rule are reported in a notional account. As soon as the amount accumulated in the account exceeds a pre-specified threshold, the government has to take corrective action. In the Swiss case, corrective action is triggered when the negative balance in the notional account exceeds 6% of expenditure (around 0.6% of GDP). The government then has three years to bring the balance in the notional account below this threshold. In Germany, corrective action is triggered when the negative balance in the notional account exceeds 1% of GDP. The maximum annual correction in the structural deficit is capped at 0.35% of GDP and the adjustment has to take place only in periods of economic recovery. In Germany, deviations in the structural balance due to errors in the forecast for the output gap are not stored in the notional accounts whereas they are fully accounted for in the Swiss case.

The government could enhance the counter-cyclicality of the fiscal rule by explicitly acknowledging the possibility of temporary deviations from the structural balance target in emergency situations. As the 2009 global economic crisis and the 2010 earthquake have shown, the government may have to respond to emergency situations through discretionary fiscal policy actions. In these situations, merely allowing the automatic stabilisers to play out may not be sufficient. The possibility of temporary deviations from the structural balance target should therefore be acknowledged and be clearly linked to observable events, such as output contractions or natural disasters. This would further enhance the credibility of the fiscal rule by limiting ad-hoc modifications of the target while giving the government more flexibility to respond to shocks through discretionary fiscal policy. Escape clauses from the fiscal rule should come with clearly-specified rules on the return to the original target. Complementing escape clauses with a floor on assets in the sovereign stabilisation fund or a ceiling on net government debt would ensure temporary deviations do not become permanent and fiscal policy remains on a sustainable path.

Complementing the adjustment of revenues for the influence of the business cycle by a correction of expenditures would also strengthen the fiscal rule's counter-cyclicality. Across OECD countries, expenditure tends to increase in economic downturns, mainly due to benefit payments. Allowing a cyclical increase of spending during downturns would give the government more leeway although in Chile the effect would likely be small, given the comparatively small size of benefit payments. However, spending is likely to react more strongly to the cycle in the future, as Chile has expanded its unemployment insurance

system. Chile could also consider adjusting the structural balance for short-term changes in the exchange rate, which are particularly important for the peso value of copper revenues.

Structural reforms to accelerate the convergence toward higher living standards

Apart from strengthening the economy's resilience to adverse events, the government should also consider structural reforms to enhance long-term growth, in particular in the areas of secondary and vocational education and in innovation policy. Although educational attainment has improved markedly over the past decades, the quality of secondary and vocational education remains uneven. Moreover, the access to quality secondary education is among the most unequal in the OECD, which prevents a large share of the population from reaching its full potential. Recent reforms to strengthen quality assurance and to ease access to quality schools for children from weak socio-economic backgrounds will raise the long-term growth potential and should be continued. In vocational training, experience from other OECD countries, such as Germany and Korea, shows that supporting work-place training and effective consultation between training institutions and employers can give a boost to quality. Innovation policy may also have a useful role to play to enhance long-term growth by raising productivity. Until recently, the government focused on support for basic research in public institutions. To promote innovation and technology adoption in firms, efforts to strengthen links between research institutions and firms and to promote technology diffusion should be continued.

Continuing structural reforms in product and labour markets would enhance productivity and investment, and create more and better jobs. In product markets, the main challenges are to continue reforms to reduce regulatory red tape for start-ups, to reform the burdensome bankruptcy procedure, and to effectively implement the 2009 competition law reform. In labour markets, female labour market participation, which is among the lowest in the OECD, needs to be enhanced. Informal employment, which remains high by OECD standards, could be reduced by improving employers' incentives to hire in the formal labour market. As argued in the 2010 *OECD Economic Survey of Chile* (OECD, 2010a), this could be achieved by developing a Chilean model of "flexicurity", which would combine reduced severance pay with an expanded unemployment insurance system.

Conclusion and summary

Chile's economy has proved highly resilient to the adverse events of the past two years. In the short term, the main challenge for macroeconomic policy will be to ensure the recovery in economic activity is sustained, and dynamic domestic demand does not result in renewed inflationary pressures. The government also faces the challenging task of re-building fiscal safety buffers in a highly uncertain global economic environment without endangering the ongoing recovery. Resuming the pace of growth of the late 1980s and 1990s will require structural reforms, including in education, product and labour markets. The OECD, with its long-standing cross-country experience in these areas, is a useful forum for discussion with other governments. Its regular structural policy analysis in the Economic Surveys of Chile (OECD, 2003, 2005, 2007, 2010) and for all OECD countries and the BRIICS (Brazil, Russia, India, Indonesia and China) in *Going for Growth* (see OECD, 2010c for the latest issue) may provide the new government with valuable inputs to address remaining policy challenges and achieve its ambitious agenda.

Notes

1. The tax, debt, and asset sales mix is part of the broader financing strategy of the government, which will cover the initial fiscal deficit, reconstruction spending and the cost of the government's programme. GDP shares are expressed in terms of the level of GDP in 2009.

2. Beside the sovereign stabilisation fund, total gross government assets include the pension reserve fund, the petroleum stabilisation fund, the infrastructure fund and other government assets. As gross government debt is low (around 6% of GDP in 2009), total net government assets (gross asset – gross debt) are larger than the gross assets in the copper stabilisation fund.

Further reading

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Chapter 3

The productivity challenge: Enhancing competition, entrepreneurship and innovation

Main recommendations

Chile's productivity has virtually stagnated over the past decade, thus impairing the convergence towards higher living standards. Key policy measures to boost productivity growth include: enhancing competition through legal and regulatory action; removing regulatory barriers to entrepreneurship; and strengthening innovation in firms.

Specifically:

- *Ensure the National Economic Prosecutor receives sufficient resources. Deter cartel participation by linking the maximum fine to revenues on the market involved in the conspiracy. Make price fixing a criminal offence.*
- *Revise the text of the Competition Act to clarify the Competition Tribunal's jurisdiction to review mergers, the stages of merger analysis and the substantive standards applied.*
- *Reduce entry barriers in retail and business services to discipline incumbent firms.*
- *Continue reducing "red tape" for start-ups to strengthen competition and encourage entrepreneurial ideas.*
- *Reform the bankruptcy law to encourage entrepreneurial risk taking in non-traditional sectors.*
- *Maintain strong commitment to support technological and other forms of innovation and continue efforts to strengthen links between universities and firms.*
- *Complement supply-side measures to foster broadband Internet access by demand-side measures.*
- *Pursue the cluster initiative as a market-friendly, bottom-up approach to give innovation policy the necessary degree of selectivity, but strengthen the evaluation of relevant measures and establish sunset clauses for public support.*
- *Establish by law the institutional structure for innovation policy to ensure continuity of the long-term innovation strategy.*

Over the past two decades Chile has grown faster than most other OECD countries. Between 1986 and 2007, gross domestic product (GDP) per capita grew on average 4.3% per year, compared to 2.2% in the OECD area. Income per capita (in purchasing power parity) relative to the United States has increased from 18% in 1986 to 31% in 2007, and Chile has overtaken all other Latin American countries except Mexico. While part of the exceptionally high growth in the second half of the 1980s was due to the cyclical recovery from the banking crisis in the early 1980s, sounder macroeconomic policies also played an important role. The implementation and later consolidation of ambitious reforms to liberalise foreign trade, improve the functioning of labour, product and financial markets, and restructure the pension system further contributed to strong economic performance.

Nevertheless, the income gap with many advanced OECD economies remains substantial and growth has slowed since the end of the 1990s. Chile's GDP per capita is around one-third the level in advanced OECD countries. Following the Asian economic crisis, growth of per capita GDP slowed to less than half the pace of growth during the "golden age", 1986-97.

Uneven productivity developments explain the major part of the recent slowdown in growth. According to a growth decomposition (OECD, 2010a), the contribution of capital formation to GDP growth over the past decade has been similar to that of the 1986–97 period, but both labour input and total factor productivity (TFP) growth have slowed. The slowdown in labour input growth accounts for around one-third of the slowdown in GDP growth over the past decade, and the apparent stagnation of TFP accounts for the remaining two thirds (OECD, 2010a). Over the past decade, the rate of TFP growth in Chile has been below the OECD average (Table 3.1).

In Chile the macroeconomic policy framework, in particular the structural fiscal rule with an independent inflation-targeting central bank and a flexible exchange-rate regime, has gone a long way towards achieving macroeconomic stability. However, macroeconomic stability alone cannot achieve strong productivity growth. One important precondition is vigorous competition in product markets, which gives firms incentives to reduce inefficiencies in organisation and management and to innovate. The regulatory framework for entrepreneurship, including entry and exit regulations, can facilitate the reallocation of production from inefficient to more efficient firms. An appropriate innovation policy framework can also help increase productivity growth by overcoming market failures that influence firms' propensity to upgrade their products or production technologies.

Table 3.1. **Total factor productivity growth in selected OECD countries, 1998-2008**

	1998-2003	2004-08
Australia	1.4	-0.1
Canada	1.0	0.0
Chile	**-0.7**	**0.0**
Denmark	-0.1	0.5
France	1.4	0.3
Germany	0.9	0.8
Ireland	3.8	0.7
Italy	-0.3	-0.3
Japan	0.9	1.9
Netherlands	0.8	1.1
New Zealand	1.1	-0.2
Spain	-0.2	0.1
Sweden	1.8	0.9
Switzerland	0.2	1.4
United Kingdom	1.6	1.2
United States	1.7	1.0
Average	1.0	0.9

Note: OECD calculations based on Ministry of Finance data for Chile. 2007 for Australia, Switzerland, Denmark, Japan, New Zealand and United Kingdom.

Source: OECD Dotstat and Chilean Ministry of Finance.

A number of weaknesses in structural policy settings have contributed to Chile's uneven productivity performance. Product market competition remains weak by OECD standards, as suggested by high price-cost margins. Furthermore, existing framework conditions for entrepreneurship do not encourage risk taking and the reallocation of production to new and higher productivity activities. For instance, entry and exit regulations for businesses are overly restrictive, and relatively high severance pay may limit labour market mobility. Until recently, the innovation policy framework favoured basic public research over business innovation. As a consequence, both rates of technological (product and process) and non-technological (marketing and organisation) innovation in firms remain low and production remains concentrated in low productivity activities.[1]

Recent reforms in competition, regulatory and innovation policies will reduce firms' anticompetitive behaviour, reduce the costs of complying with regulations and may boost the pace of innovation in the business sector. A major competition policy reform was adopted in April 2009, which will strengthen enforcement through an expansion of the investigative powers of the National Economic Prosecutor and through higher fines for cartel participation. A law passed in January 2010 (*Estatuto Pyme*) reduces red tape for small and medium-sized enterprises. The research and development (R&D) tax incentive introduced in 2008 improves incentives for innovation in the private

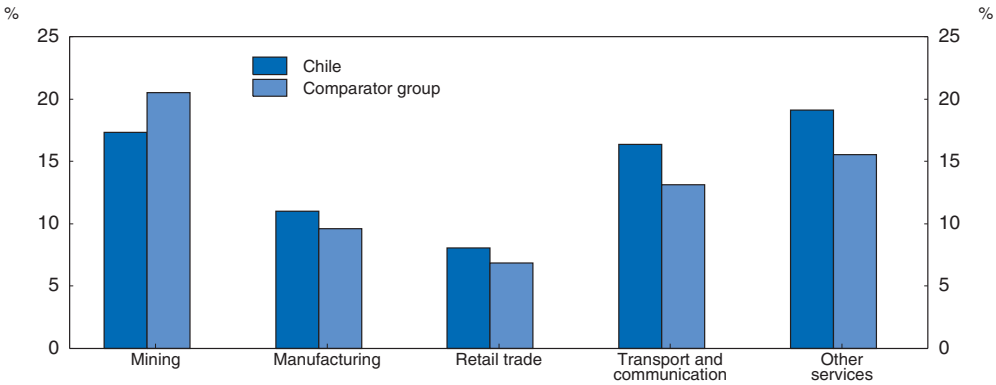
business sector, and the newly created National Innovation Council has started to develop a long-term innovation strategy.

Despite such reforms, much remains to be done if productivity is to catch up with that in more advanced OECD countries. Even though the April 2009 reform has strengthened competition law enforcement, deterring anti-competitive behaviour, in particular by large corporations, will require diligent application of these rules. Setting clear objectives for the sectoral clusters, which are part of the long-term innovation policy strategy proposed by the National Innovation Council, and regularly assessing progress will help reduce the risk of misallocation of public resources. Establishing by law the National Innovation Council and the Innovation Fund for Competitiveness, which was set up as a new source for financing innovation, would ensure continuity for the long-term innovation strategy. Product market regulations on entry and exit remain restrictive and could be eased further. Resuming the pace of reform in product markets of the 1990s to foster productivity growth should be one of the main priorities on the economic policy agenda.

Policies to enhance product market competition

Despite high rankings on overall competitiveness indicators, a sound regulatory framework for network industries and openness to trade and foreign direct investment (FDI), competition as measured by price-cost margins of listed firms appears to be weaker than in a comparator group of resource-intensive OECD countries (Figure 3.1). Chile ranks high in overall competitiveness indicators compiled by policy institutes and international organisations, which measure the quality of regulation and the overall macroeconomic framework. The regulatory framework in network industries is generally considered sound (OECD, 2005). Chile is also very open to international trade and FDI, with a 6% multilateral tariff, an extensive network of free trade agreements (FTAs) (which has brought the average actual tariff rate paid on imports down to around 1%) and no restrictions on inward FDI. The profile of price-cost margins, defined as the ratio of operating income over total revenue, across industries in Chile is similar to a comparator group of resource-rich OECD countries. This is in line with expectations because price-cost margins are partly determined by the production technology in an industry, for instance, the level of fixed costs. However, the level of price-cost margins is higher in Chile than in the comparator group in all industries except mining. They are higher even in the manufacturing sector, which is open to international trade, and in the retail sector, which has a reputation of being competitive. But the largest differences can be found in transport and telecommunications and other services, primarily business services. This suggests that competition in Chile, in particular in the services sectors, is weaker than in some other resource-rich OECD countries.[2]

Figure 3.1. **Price-cost margins in Chile and an OECD comparator group, 2000-08**

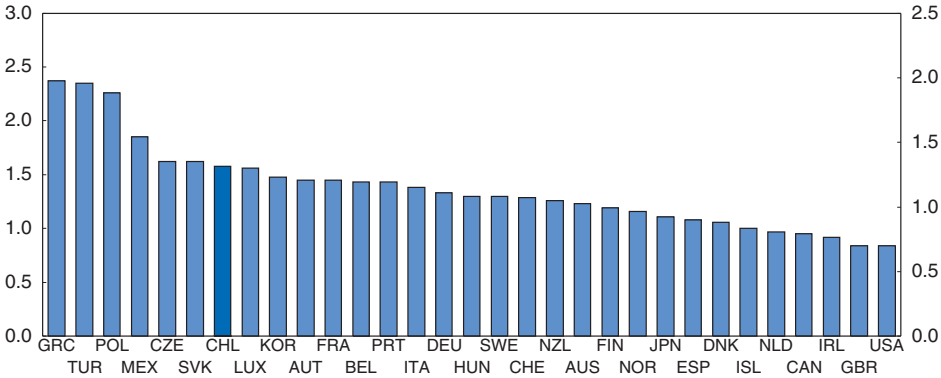


Note: Average ratio of operating income to total revenue. The comparator group includes Australia, Canada and New Zealand. Regulation of start-ups and some services sectors is restrictive.

Source: Thomson Financial, Wordscope database.

One reason for high profit margins is that by OECD standards Chile has relatively restrictive product market regulation (PMR) in some areas, according to the 2008 OECD PMR indicators (Woelfl *et al.*, 2010) (Figure 3.2). While Chile ranks high on broad indicators of overall competitiveness, the OECD PMR or the World Bank Doing Business indicators, which measure more specifically regulation affecting competition in product markets, suggest some regulation could be eased to catch up with the OECD average (Chile ranks 49th on the World Bank Doing Business indicators; World Bank, 2009).

Figure 3.2. **Product market regulation in Chile, 2008**



Note: Overall indicator.

Source: OECD Product Market Regulation Database.

While Chile has fewer barriers to trade and investment than most OECD countries, according to the OECD PMR indicator, administrative burdens on start-ups are higher than in almost all other OECD countries, which reduces the disciplining effect of potential entry on incumbent firms. Only in Mexico are administrative burdens imposed on sole-proprietor firms higher than in Chile, and no OECD country imposes a higher burden on corporations than Chile, which does so mainly through lengthy and costly registration and notification requirements. According to the 2011 edition of the World Bank Doing Business indicators, it takes 8 procedures (against 5.6 in the OECD), 22 days (against 13.8 in the OECD) and costs 6.8% of gross national income (GNI) per capita (against 5.3% in the OECD) to start a business. The government does not ask sectoral regulators to use alternatives to traditional forms of regulation and does not provide guidance on alternative forms of regulation.

Regulation of retail and professional services is stricter than in most OECD countries. In particular, Chile appears to have higher entry barriers in retail, mainly because of stricter registration and notification requirements, than any OECD country. A similar pattern emerges in professional services (accountants, architects, engineers and lawyers), in which entry barriers are comparatively high. Whereas education requirements to enter the professions are around the OECD average, exclusive rights of provision for accountants, architects, engineers and lawyers keep potential entrants out of the market. Advertising bans in these professions further restrict competition. Against the background of high price-cost margins in services (see Figure 3.1), the authorities should consider easing these regulations.

Recent competition policy reforms

Apart from overly restrictive product market regulation in some areas, a further reason for high price-cost margins may be the weak enforcement of competition law, in particular in the area of cartels. The institutional structure for competition law and enforcement is now sound. The National Economic Prosecutor (*Fiscalía Nacional Económica*, FNE) investigates cases of potential anticompetitive behaviour, while the Competition Tribunal makes decisions and imposes fines. Until the recent amendments to the Competition Act, the investigative powers of the National Economic Prosecutor were limited. It could initiate investigations, but could not make surprise inspections ("dawn raids"), intercept communications or seize documents. Because it was hard to obtain direct factual evidence, the cases brought before the Competition Tribunal often relied on indirect evidence, such as parallel behaviour, to imply that participants had reached an anti-competitive agreement.

Strengthening the enforcement of competition law and improving market transparency are especially important in small markets, such as Chile. A small market might be able to sustain only a small number of firms producing at the minimum efficient scale. Markets in small

economies therefore tend to have a more concentrated production structure, with only few firms serving a large share of the market. This could be productively more efficient than a less concentrated structure, of course. But a highly concentrated structure could also lead to allocative inefficiency. In an oligopolistic market structure, where each producer's action has a direct effect on its competitors, prices may rise above competitive levels even if the parties do not explicitly reach collusive agreements (Tirole, 1988). A liberal trade regime helps to deter anti-competitive conduct, but it cannot substitute for a well designed and enforced competition law and market transparency, in particular in services that are often non-tradable.

Until recently, the absence of a leniency programme and relatively low fines have also contributed to weak enforcement. Many OECD countries, among them the United States and the European Union, use leniency programmes to detect cartels. In Chile, firms participating in cartels could not, until recently, apply for immunity in exchange for co-operating with the National Economic Prosecutor. This has further contributed to making the collection of direct evidence on collusive agreements difficult. Moreover, the level of fines is relatively low. The highest fine ever imposed was around USD 11.2 million against the two retailers in the "flat panel TV war" case. According to the income statement of one of the retailers involved (*Falabella*), the fine for the company amounted to less than 0.1% of its revenues in 2008.[3]

A 2009 reform partially addresses some of the enforcement issues, but may require additional resources for the National Economic Prosecutor. The reform includes an increase in the maximum fine for cartel infringements from around USD 15 million to around USD 23 million, enhanced investigative powers for the National Economic Prosecutor (it will be allowed to request "dawn raids", intercept communications and search premises to seize documents), and a leniency programme for cartel infringements (the National Economic Prosecutor can grant full immunity to the first firm to confess to a cartel and allow fine reductions of up to 50% for others). It is expected that these reforms will lead to an increase in the number of cartel cases brought before the Competition Tribunal, which again may require additional resources for the National Economic Prosecutor.

The leniency programme is in line with international best practice, but competition policy enforcement could be enhanced further by linking the maximum fine for cartel participation to revenues on the relevant market and treating price fixing as a criminal offence. The Chilean leniency programme is in line with best practice in that firms can apply even after the start of an investigation has changed the trade-off between expected payoffs and costs of forming a cartel. The National Economic Prosecutor has also published the first draft of a guide on the conditions it will require for granting immunity, which will give the applicants legal certainty.[4] By increasing the probability of being caught, the enhanced investigative powers for the National Economic

Prosecutor will increase the expected costs of anti-competitive behaviour to some extent. Nevertheless, it seems that, at least for large corporations, even the increased maximum fine remains too low, as it probably represents only a very small fraction of the additional revenues they could earn by forming a cartel. On theoretical grounds, it is desirable to link fines to firms' profits from cartel participation, because even high fine ceilings may have weak deterrent effects if the expected profits from cartel participation are very large. To increase deterrence, the maximum fine could be set as a percentage of the firms' revenues in the market involved in the conspiracy, as in a number of OECD countries. The authorities plan to make price fixing a criminal offence, which would further contribute to curbing incentives for cartel participation.

Moreover, Chile's Competition Act would benefit from a more precise treatment of merger control, which is currently not mentioned in the text. Statutory support for merger control decisions is inferred from the prohibition against any conduct that "tends to produce" anticompetitive effects, but greater clarity and detail about merger rules and processes would reduce both uncertainty and inconsistency. The need to make inferences about what the Competition Tribunal would do in a given case – and indeed about whether the Tribunal even has jurisdiction – without any guiding statutory language creates the uncertainty. The uncertainty is then magnified by the inconsistency of the Supreme Court's directions. Its disagreements with the Tribunal reveal a lingering judicial preference for making decisions in terms of legal categories rather than economic analysis. Currently, uncertainty remains about the methods for defining markets and the legal standard applicable to mergers. It is helpful that the Prosecutor has published a set of guidelines on merger analysis, but express statutory language about merger control is nevertheless desirable.

Policies to foster entrepreneurship and business innovation

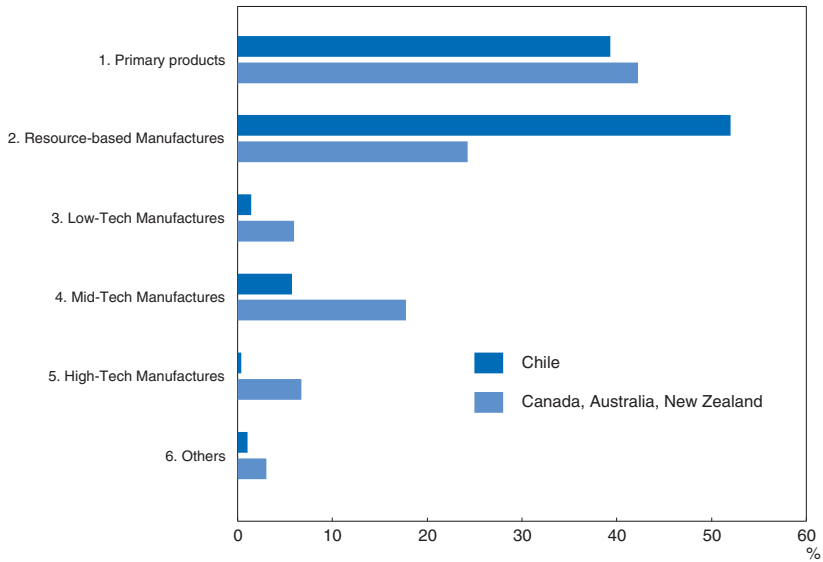
Even by the standards of natural resource–abundant OECD countries, Chile's exports of goods remain heavily concentrated in mining and natural resource–intensive products, partly reflecting low levels of innovation. Chile's specialisation pattern also partly reflects its pattern of comparative advantage in natural resource–intensive sectors and a strategy of trade liberalisation and export-led growth over the past three decades. However, the specialisation pattern also reflects the slowdown in innovation within the technology frontier, defined as the discovery of products invented abroad but that are new to a country or firm. The number of products added to the Chilean export basket over the past decade was below the value expected for a country of Chile's income per capita. Although export concentration has decreased over the past decades and services exports have increased, around 90% of Chile's exports remain concentrated in primary products (mainly copper) and resource-based manufacturing (Figure 3.3). The share of non-resource-

based manufacturing is low – at any level of technological sophistication –relative to a control group of resource-abundant OECD countries. Innovation on the global technology frontier as measured by patent registrations is also low, which is to be expected for a country at Chile's income per capita level. However, on-the-frontier innovation will become increasingly important as Chile grows richer, and an appropriate innovation framework will help avoid the risk that low on-the-frontier innovation becomes a drag on productivity growth.

Start-up regulations and bankruptcy procedure

Regulatory barriers and financing constraints have impeded entrepreneurial activity and the reallocation of resources from low productivity activities to innovative and productivity-enhancing activities. Difficult access to credit and overly restrictive regulation of start-ups have prevented the development of new entrepreneurial ideas, and an inefficient bankruptcy procedure has slowed the exit of inefficient firms from the market. A first-best policy to enhance innovation would therefore be to ease these regulations, a conclusion supported by a number of recent studies that have shown that a liberalised trade and FDI regime needs to be complemented by free entry and exit in order to generate productivity gains (see Harrison and Rodriguez-Clare, 2009, for a survey).

Figure 3.3. **Export composition in Chile, 2006**



Notes: Export shares for the benchmark calculated using simple average across countries. Lall (2000) product classification.

Source: United Nations, Comtrade database.

Restrictive start-up regulations not only act as a brake on competition but can also hold back innovation by restricting the entry of firms with new and innovative ideas. The government is currently considering several reforms to ease regulatory red tape for start-ups. In 2010 a law was passed that reduces red tape for small and medium-sized enterprises (*Estatuto Pyme*). In January 2011, a law was passed that reduces regulatory barriers for start-ups more generally and reduces the time to start up a business from 27 to 16 days, including by easing the obtainment of permits and the payment of taxes, and by streamlining notification requirements. The Ministry of Economy has also launched a pilot project to integrate the different administrative procedures for firms in a single electronic platform (Platform of Interoperability of Public Services, PISEE). In the medium term this platform could act as a one-stop shop for business start-ups.

Entrepreneurship could also be fostered by reforming the inefficient bankruptcy procedure and continuing to ease access to credit for start-ups. The bankruptcy procedure is inefficient, which holds back entrepreneurial risk taking and makes access to credit difficult. According to the 2011 edition of the World Bank Doing Business indicators, Chile's bankruptcy procedure is lengthier and more costly than in most OECD countries. It takes 4.5 years and costs 15% of the estate to close down a business, as compared to 1.7 years and 9.1% in the average OECD country. Lengthy bankruptcy procedures and high costs can deter entrepreneurial risk-taking by making it costly to fail (White, 2005). Moreover, the protection of creditors during bankruptcy appears to be weak. While creditors in the average OECD country recover 68.6 cents on the dollar, in Chile they recover only 21.3 cents. As creditors anticipate low recovery rates, they can become reluctant to give credit to potentially very productive but risky businesses. Several initiatives to make the bankruptcy law more efficient are under way. The government has facilitated the reorganisation or orderly closing of SMEs through an extra-judicial procedure (*Estatuto Pyme*). The authorities have also launched an inter-ministerial working group to assess options for reform, which considers, among other options, the creation of specialised bankruptcy courts. The government has also taken significant measures to ease access to credit for start-ups. *BancoEstado* provides credit guarantees to small and medium-sized firms through its FOGAPE programme. Corfo's venture and seed capital instruments help innovative but risky ventures obtain access to capital, and further support for this type of enterprise may come from a capital market reform enacted in August 2010 (MK III).

The innovation policy framework

OECD countries increasingly recognise that long-term productivity growth is strongly related to the capacity to innovate, *i.e.* to introduce new products, processes and organisational routines in the economy. Despite several recent policy reforms and significant increases in

innovation spending over past years, Chile's innovation system still shows a number of weaknesses (OECD, 2007). R&D is mainly financed by the government and carried out in universities and public research organisations. With the caveat that data on the composition of R&D spending in Chile after 2004 are not available, only around 46% of R&D is financed by industry as compared to an OECD average of more than 60%. Links between universities, public research institutes and the private business sector are weak.[5] As a consequence, the private business sector's propensity to engage in innovation is low by OECD standards (Schwellnus, 2010).

In 2008, steps were taken to promote links between public research institutes or universities and private enterprises by introducing an R&D tax credit, among other measures. Under this scheme firms can claim a tax credit of 35% of the payments made to a public research institute they have contracted to conduct R&D, and can deduct 65% of the remaining amount from taxable income. Research centres and R&D contracts have to be certified by the Economic Development Agency (Corfo), and in-house R&D is excluded from the tax credit. It remains to be seen whether the tax credit will induce more R&D. While it is too early to carry out a full evaluation, it should be monitored continually. In addition it would be commendable to investigate the reasons for the relatively low number of certified contracts. At some later stage, when the current volume-based scheme is up and running, the Chilean authorities may consider a switch to an incremental scheme that provides incentives only for additional R&D.[6]

The authorities have launched other promising initiatives that require the matching of public grants by private funds. One of these programmes is the joint Technological Consortia Programme of the National Commission for Scientific and Technological Research (CONICYT), the Corfo and the Foundation for Agricultural Innovation (FIA), which requires private enterprises and research institutes to set up technological consortia to be eligible for public grants; 24 consortia are currently in operation. Corfo's innovation arm (*InnovaChile*) runs a similar technological consortia programme (although it does not require the participation of a university or technological institute).

Some Chilean institutions engaged in fostering innovation – notably *Fundación Chile* – have shown considerable skill in the discovery of new commercial opportunities and technology adaptation (Rodrik, 2004). Yet, public funding has traditionally focused on R&D rather than technology diffusion. According to the Innovation Survey, only 30.9% of firms having introduced an innovation (technological or non-technological) report R&D spending, as the bulk of innovating firms mainly rely on the acquisition of machinery and equipment. Indeed, only around 20% of firms' spending on innovative activities is on R&D. Although most literature finds a link between R&D, innovation and productivity, Benavente (2006) finds no link between R&D spending and innovation in Chile. The move of *InnovaChile* to support any type of innovation

(product, service, marketing, organisational) and not exclusively spending recorded as R&D may help foster more market-oriented innovation, as does the support for the formation of technology consortia, including private enterprises and public research institutes that develop market-oriented technologies. To enhance technology diffusion the National Innovation Council for Competitiveness (2008) proposes to create an association of the 15 technological institutes (*Sistema Nacional de Institutos Tecnológicos*, SNITec), which would provide R&D and technological consulting services especially tailored to the needs of SMEs.

The government recognises that telecommunication infrastructure and services are key enablers of innovation, and it promotes widespread access to high-speed broadband networks. The Chilean telecommunication market is among the most dynamic and promising in Latin America, and it has a relatively well-developed infrastructure. Market entry is simple and there are no foreign investment restrictions; in fact, most of the current operators are foreign-owned entities. In the mobile telephone sector, Chile has four operators and its penetration rate is just over 100 subscribers per 100 inhabitants. Fixed-line penetration is 20.8 per 100 inhabitants, relative to an OECD average of around 40.0 lines per 100 inhabitants, and has started to decline from the last quarter of 2009, mainly because of fixed-mobile substitution. Chile enters the OECD with one of the lowest broadband penetration rates, around 10 subscribers per 100 inhabitants by the end of 2009, a rate well below the OECD average (around 23) but in line with countries at similar levels of GDP per capita. In accordance with the Digital Development Strategy for 2007–12, the main use of the Telecommunication Development Fund has been the development of high-speed Internet. From the standpoint of a broad-based and inclusive innovation strategy, a long-term challenge is to reduce the social digital divide. The skewed income distribution in Chile and the large income gap relative to OECD economies is one of the main reasons for low Internet access where entry costs (purchase of computer, modem) and recurrent monthly charges may require a larger proportion of disposable income than in the OECD area.

The institutional framework for innovation has been strengthened, and changes should now be enacted into law. Before the creation of the National Innovation Council for Competitiveness, several agencies in the ministries of economy, education, agriculture and planning were setting the innovation policy priorities in a decentralised manner, which made the formulation of a coherent long-term strategy difficult. Moreover, a multiplicity of funding mechanisms were targeting similar market failures and similar firms and were partly overlapping, thereby compromising the benefits of scale. The creation of the National Innovation Council (strategy setting) and the Innovation Fund for Competitiveness (funding) partly addresses these issues by separating strategy from funding, in line with international best practice (OECD, 2010b, Chapter 4). A proposed law submitted to Congress would

establish by law the National Innovation Council and the Innovation Fund for Competitiveness, thus ensuring the continuity of the long-term innovation strategy. As the Fund for Competitiveness works as a second-tier "fund of funds", there may nevertheless remain scope for further reducing overlap between existing funding mechanisms.

Policies to strengthen innovation by fostering the supply of knowledge and inventions through investment in basic R&D and support for private-sector R&D are important, but attention also needs to be given to making markets work better for innovation and increasing the adoption of innovation by society. Such policies need not be costly; they can be very effective if well designed and based on a sound policy rationale. Well-designed demand-side policies are not directed at specific firms, but reward innovation and efficiency. Green tax reforms, for example, can encourage environmental innovation. Better and smarter regulation can also help increase the adoption of innovation.

Potential risks of prioritising sectoral clusters

A number of sectorally neutral or horizontal policies address presumed failures in the market for innovation. In recent years the authorities have started to complement these policies by more selective programmes and instruments, under which some sectors are singled out for priority support. Horizontal policies include the above-mentioned credit guarantee programme of *BancoEstado* and Corfo's venture and seed-capital programmes. In 2010, the government launched a promising programme (Start-Up Chile) to attract foreign entrepreneurs, including by offering grants, residency visas and support for administrative procedures.

Over the past several years the authorities have moved away from an exclusively horizontal approach. The economic development agency, for instance, has a programme to attract FDI to high technology sectors. In 2007, the withholding tax for repatriated earnings was restructured to make investment in knowledge-intensive services more attractive (15% withholding tax rate on such services as compared to a 35% rate on other repatriated earnings). On behalf of the National Innovation Council, and based on both comparative advantage and growth potential of sectors, a global consulting firm has identified sectoral clusters that will receive priority in the allocation of funds.[7]

The government is aware of the risks associated with selective innovation policies. One risk is to pick sectors that would have formed successful clusters even in the absence of public support; another is to support sectors that are not viable. Cluster policies can help overcome co-ordination failures between private businesses that prevent the emergence of successful clusters. However, these policies may also erroneously target sectors in which private businesses are able to overcome co-ordination failures on their own. For instance, the Chilean wine industry has moved towards promoting the image of Chilean wine

abroad and increasingly co-operated in upgrading Chilean grapes through R&D as export prospects soared over the past decade. In this case, targeted public funds may have little additional effect. Conversely, if the National Innovation Council's projections of global growth and Chile's comparative advantage turn out to be inaccurate, public resources would be wasted on failing sectors. Moreover, labour and capital would be allocated to relatively unproductive uses, thereby reducing overall output and productivity.

More generally, the role of the public sector in selecting export sectors should not be overemphasised, and the public sector should focus on providing adequate framework conditions, such as an open trade and FDI regime, appropriate regulation and access to credit for potentially innovative enterprises. While in the presence of severe co-ordination failures, the public sector may at times play a useful role in identifying export sectors (for instance, the salmon sector in the late 1970s), in general a strong comparative advantage and adequate framework conditions will be sufficient for export success. The wine sector emerged as a successful exporter on world markets without public support, but it was supported by an open trade and FDI regime and appropriate regulation.

Capture may be another problem with selecting sectors for priority support, although the planned institutional setup for the National Innovation Council and the use of temporary grants limit this risk. According to the proposed law that establishes the institutional framework for innovation policy, the members of the National Innovation Council would be independent (nominated by the president and ratified by the Senate) and the terms of office would not coincide with those of the president. In this way, the members of the Council would be independent of the electoral cycle and less likely to make concessions to special interest groups to enhance their electoral prospects. The predominant use of the existing funding mechanisms of Corfo and CONICYT, which mainly use temporary grants to redirect resources to the priority clusters, also limits the risk of capture by special interest groups, as compared to "hard" industrial policy instruments, such as import tariffs or tax breaks.

To minimise these risks, the objectives of innovation policy programmes and instruments, including the cluster initiative, should be clearly stated and their evaluation strengthened. The authorities have identified the outcome targets of the industrial clusters. These should be monitored more closely. Moreover, cluster designations should be reviewed periodically and clear protocols should be established on when to withdraw public support. To avoid lock-in of failures, support should be withdrawn from clusters that continually fail to meet their performance objectives (Rodrik, 2004). Even for clusters that meet their performance objectives, support should be reviewed after a period of time has elapsed (sunset clauses); the objective should be that private financing eventually replaces public support. The National Innovation

Council has initiated efforts to promote and create a framework for evaluation. Evaluations of institutions, programmes and policy instruments have not been common practice in Chile thus far. Further efforts in this direction will be needed.

The cluster experience of *InnovaChile* and the programmes to support clusters should be used as an opportunity to strengthen regional capabilities in developing and implementing innovation policy (OECD and IADB, 2010). In Chile, these capabilities have traditionally been weak but need to be developed and will eventually gain in importance as the country's innovation system advances.

Notes

1. Education policy and human capital formation, which are further major bottlenecks for productivity growth in Chile, are discussed in Chapter 4.

2 While the evidence is suggestive of weaker competition in Chile than in the comparator group, more research on price-cost margins is needed to reach a definitive conclusion. In particular, the sample of firms should be enlarged to include non-listed firms and the cross-country comparison should control for firm characteristics.

3. According to Falabella's income statement, its revenues in 2008 were 3 727 186 million pesos, or around USD 7.1 billion (available at www.google.com/finance) and the fine imposed was 8 000 tax units, which in 2008 was equivalent to USD 6.9 million. The other retailer involved, Almacenes Paris, is owned by Cencosud, and a separate income statement is not available.

4. The United States reformed its leniency programme along these lines in 1993 and the number of applications rose from approximately one per year to two per month (Motta, 2004). Since 2002 the European Union has applied a leniency programme with near-automatic immunity and eligibility after an investigation has started. The Chilean leniency programme is in line with best practice in that firms can apply after an investigation has started.

5. This is according to a 2008 government communication to the Committee for Scientific and Technological Policy of the OECD, and OECD (2007).

6. Because the entire amount of R&D expenditure contracted with a certified research institute can be claimed, the credit may have little incremental effect on R&D spending. To make sure that firms benefit from tax credits only for additional R&D, some OECD countries (Ireland and the United States) use incremental schemes in which only additional R&D with respect to a reference base is eligible, while others (France, Korea, Portugal and Spain) use mixed-volume

incremental schemes. A volume-based mechanism can be used for setting up an incremental scheme, as it collects information on R&D per firm, which can then be used as the reference for the incremental mechanism. For a discussion of the advantages and disadvantages of different designs of R&D tax incentive schemes, see *e.g.* Bloom *et al.* (2001).

7. The selected sectors are fish farming, special interest tourism, copper mining, global services, processed food, primary fruit industry, pork and chicken farming and financial services. The National Innovation Council also identified five "transversal" platforms: human capital; research and development; infrastructure and natural resources; regulatory, legal and political framework; and financial services.

Further reading

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Chapter 4

Quality, equity and equality in the education system

Main recommendations

- *Ensure that all teacher education programmes meet well-defined minimum standards.*
- *Upgrade the subject content knowledge of teachers, especially in the upper grades of primary schools, through richer curricula in initial teacher education programmes at universities and at post-graduate programmes for practicing teachers.*
- *Develop an induction programme for novice teachers.*
- *Introduce external exit exams for initial teacher education.*
- *Ensure that student selection is prohibited by schools; consider extending the prohibition to secondary schools and strengthening it by requiring lotteries at oversubscribed schools.*
- *Provide teachers, school managers and parents with sufficient information to read results of the national student achievement test (SIMCE), and complement the test with richer quality indicators, including qualitative information and possibly value-added indicators.*
- *Implement the newly designed quality assurance system, while making sure that the new agencies interact efficiently.*
- *Consider introducing higher subsidies at decreasing rates for several income brackets, and limit top-up payments dependent on parents' income. Over time, consider moving away from shared financing and increase voucher subsidies sufficiently to make up for this.*
- *After significantly expanding access, systematically evaluate quality at preschools and make sure that initial education prepares preschool teachers and aides to enhance children's abilities and learning skills.*

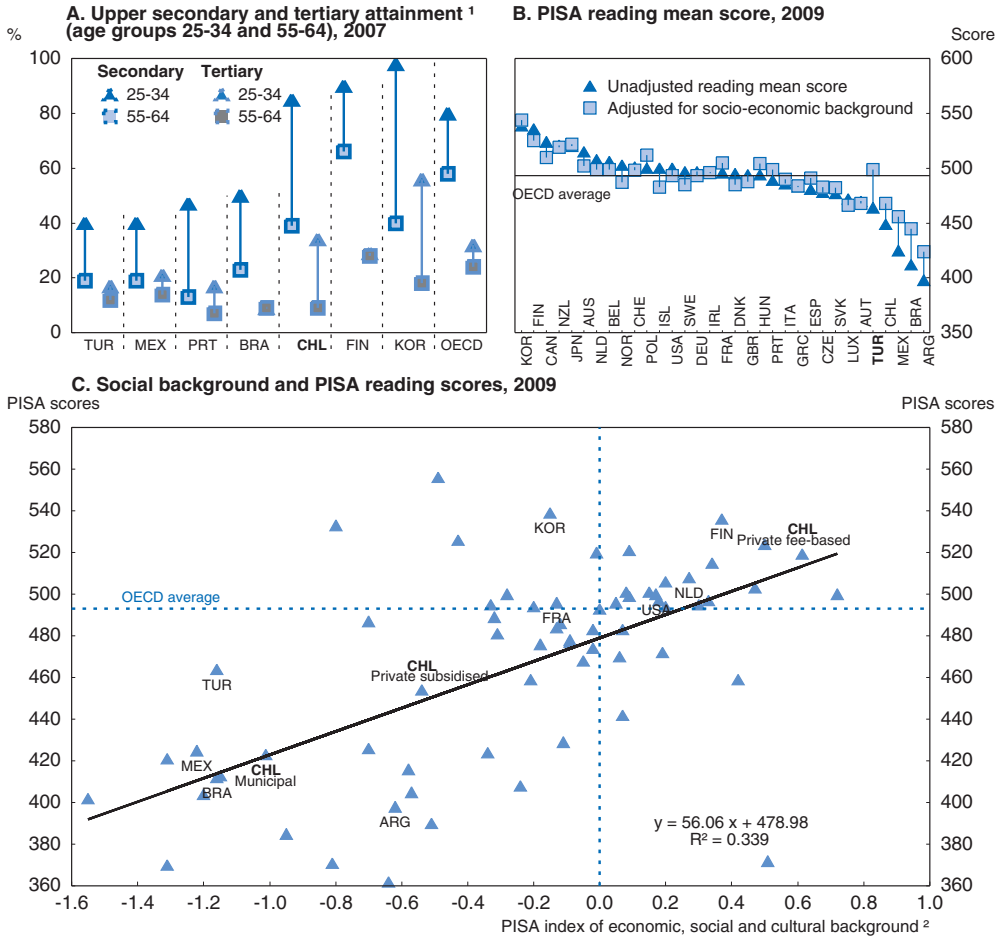
Educational attainment versus quality

Chile introduced a unique voucher system for school financing in the early 1980s, whereby publicly financed schools receive, for each of their students, a subsidy that was essentially flat until recently. Public schools, which have been run by municipalities since the reform, and private subsidised schools receive the voucher subsidy. Private subsidised schools, but not municipal schools, are allowed to top up the voucher subsidy with fees from parents. If these fees exceed a certain limit, private schools lose their right to the voucher subsidy and are financed by parents' fees alone. This school type is called a private fee-based school. Since the voucher reform, Chile has relied on free school entry and school competition as the main quality assurance mechanism, with, until recently, little or no state intervention to ensure minimum quality standards. The reform has led to the creation of a large number of private subsidised schools, which have increased their share in enrolment from 30% to 48% since 1986, and a flight of the middle classes from public schools, with their enrolment share decreasing from 63% in 1986 to 43% in 2008. As before the reform, a small share of pupils (around 7%), mostly from high-income families, go to private fee-based schools. Private subsidised schools receive students from a wide range of weaker socio-economic backgrounds. Municipal schools receive the poorest children, around 60% of children from the two lowest income deciles.

Chile has made impressive progress in terms of educational coverage and attainment, which is in part related to the large increase in the number of private schools, but quality is still lagging. The coverage of primary education is now almost universal and secondary and tertiary attainment rates have increased rapidly (Figure 4.1, Panel A). Yet while Programme for International Student Assessment (PISA) results improved considerably between 2000 and 2009, the scores of 15-year-olds in science, reading and mathematics are still well below the OECD average, even after adjusting for the lower socio-economic background of Chilean students (Figure 4.1, Panel B).

Equity issues need to be addressed. PISA results decrease sharply by school type in line with the average socio-economic background of the children (Figure 4.1, Panel C). In fact, the socio-economic background explains a large share of the variance of PISA test scores in Chile compared to other OECD countries, indicating that the Chilean school system needs to do more to help disadvantaged children catch up.

Figure 4.1. **Educational attainment and outcomes in Chile**



1. Excluding ISCED 3C short programmes.

2. The PISA index of economic, social and cultural status (ESCS) summarises various aspects of socio-economic background, including father's and mother's education and occupational status and students' access to educational resources. It is normalised to zero for the OECD average. A higher index value indicates a higher socio-economic background.

Source: OECD (2009), *Education at a Glance 2009: OECD Indicators*, OECD Publishing, DOI: *10.1787/eag-2009-en*; PISA Results 2006 Database; *Ministerio de Planificación, Encuesta* CASEN 1990 and 2006.

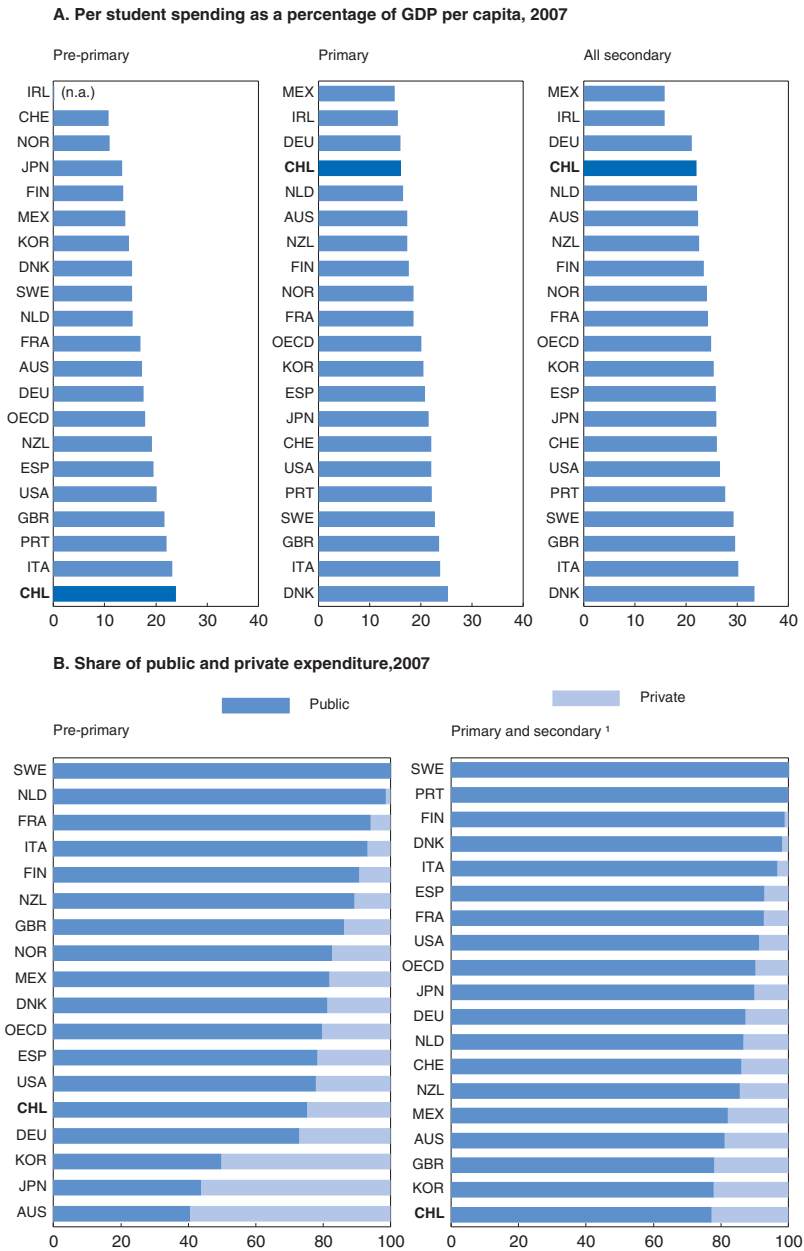
Education spending per pupil is low at the primary and secondary school level (Figure 4.2), although comparatively high at the pre-primary level once adjusted for income. At the same time, the share of private spending is high (Figure 4.2) given the large number of private schools in the system, which levy fees. This indicates that there is a case for dedicating more public funds to education in Chile. Given high income inequality and the strong socio-economic segregation of its school system, Chile needs to do more than other countries to help children with limited financial means.

Chile has taken action in many of these areas. After having achieved much progress in raising educational attainment, it is crucial for Chile to continue improving education outcomes. There is pervasive evidence that learning outcomes, as measured by cognitive skill tests, are much more important than educational attainment in determining economic growth and employment prospects (Hanushek and Wössmann, 2008). Improving results of the poorest children, in particular, would reduce inequalities and do much to lift the average. Raising the quality of its human capital will be important for Chile to increase its productivity growth, raise the employment and earnings prospects of its citizens and reduce income inequalities.

Attracting qualified individuals to the teaching profession

To improve education outcomes for all Chilean children, teaching quality needs to be upgraded. Top performing school systems, such as those in Finland; Hong Kong, China; Korea; and Singapore consistently recruit teachers from the top third of pupils in their school systems (Barber and Mourshed, 2007). While Chile has made substantial efforts in recent years to increase the attractiveness of the teaching profession by raising pay levels and offering scholarships to gifted students who want to enter the teaching profession (OECD, 2004), very few prospective teachers graduate in the top third of the class. A pilot exam recently given by the government-run programme INICIA, which tested basic language, writing and numeracy skills and subject content knowledge of students who are soon to become primary school teachers, revealed deficiencies among many applicants. The Chilean government plans to step up its efforts to attract highly qualified students to the teaching profession by extending scholarships to gifted students who want to study to become teachers, and through marketing campaigns underlining the appeal of the profession.

Figure 4.2. **Per-student expenditures in Chile, 2007**



1. Includes post-secondary, non-tertiary education.

Source: OECD (2010), *Education at a Glance 2010: OECD Indicators*, OECD Publishing, DOI: *10.1787/eag-2010-en*.

Performance-based pay already plays a role in municipal schools, although seniority remains more important. Teachers who make a special effort and who perform well can make up to 40% more (Vegas, 2007). Taking on administrative tasks or working in difficult schools is rewarded with higher wages as well. A thorough teacher evaluation programme (*Evaluación del Desempeño Docente*) with rich qualitative information, including a portfolio, references from the principal and a structured interview, was introduced at municipal schools; teachers with good results can now obtain salary bonuses after taking tests on subject content and pedagogical skills. Those with low scores are offered professional training; in extreme cases, when their performance does not improve, they can lose their jobs. Another evaluation of teacher abilities (*Asignación de Excelencia Pedagógica*), which is available for municipal and private subsidised schools, can lead to bonuses, and teachers who have passed this test can receive extra salary for training other colleagues (*Maestro de Maestros* programme). The corresponding bonuses have recently been increased, in particular for teachers who work in schools with a high share of poor students. This increases the chances these children will be taught by excellent teachers.

There is also a collective performance bonus for teachers in all publicly subsidised (municipal and private subsidised) schools, but this is not without problems. It is awarded mainly based on schools' average results of the *Sistema de Medición de Calidad de la Educación* (SIMCE), a standardised student performance test, adjusted for student socio-economic background. Such adjustment is necessary, as it is a strong determinant of schooling outcomes, while not reflecting the contribution of schools. However, research shows that rankings based on SIMCE results that are adjusted for differences in pupils' socio-economic background resemble a random selection with strong variations from year to year (Mizala *et al.*, 2007). Somewhat more reliable quality indicators could be obtained by generating information on value added. The SIMCE tests have recently been rescheduled to ensure that the same class is tested again after four years, which has not been the case previously. The new schedule will allow the government to construct proxies of value added. Chile could also consider producing individual value-added data by following SIMCE results for each child over time, although this would be expensive. In any case, there is widespread consensus in the literature that measuring teacher performance with quantitative indicators of student outcomes alone risks punishing or rewarding teachers for results beyond their control (Kane and Staiger, 2002), even if value-added data are available. Career progression and pay should therefore be based on qualitative measures of teaching, as well.

To reward excellence in teaching, Chile could create career paths for teachers in publicly funded schools closely linked to performance. Salary increases and interesting positions could be awarded, for example based on the kind of thorough teacher evaluations that have been used at public schools. While this would require extending them to all publicly

funded schools, this might in fact be a desirable step, given that there is scope to improve teacher performance throughout the system. Becoming an instructor who trains other teachers or a mentor for novice teachers could be an important career step to become a principal or school supervisor. This would also ensure that these positions would be awarded to individuals with proven teaching skills and a capacity to help others develop their own, thus putting more emphasis on the instructional leadership role of these functions than on their administrative role.

Improving teacher education and professional training

While Chile has made progress in improving teacher education, more needs to be done. In publicly funded schools teachers who have completed degrees in accredited programmes now receive bonuses although those who have not are still allowed to teach. Practice for teacher students in schools has been introduced more widely and tutors and mentors for new teachers are being considered and in some cases introduced.

At the same time, accreditation has only recently been made mandatory and has not yet been entirely effective in controlling the quality of teacher education programmes. There are special programmes for initial teacher education, that is, teacher training at universities (*Programas Especiales de Titulación*), which have been shown to suffer from serious deficiencies regarding entry requirements, the quality of their educators and their teaching programmes (Ruffinelli and Sepúlveda, 2005). More candidates are enrolled in these programmes than at the more traditional universities, and this is cause for concern. The government should apply strict accreditation procedures based on well-defined standards that ensure that students learn key skills such as classroom management, teaching methodologies and evaluation of student performance. Programmes that are found to fall short of well-defined minimum standards several times should be closed.

Many students entering teaching programmes still have insufficient literacy and numeracy skills. These programmes could administer entrance exams to assess applicants' literacy and numeracy skills, their motivation and their personal qualities. This practice is common in countries with the highest performing schools systems, including Finland and Singapore. In Chile, this could have a twofold purpose. Very talented students could be enrolled in accelerated programmes to take on leadership roles in education. This has been implemented in Israel and some cities in the United States, and rapid progress in student outcomes has been achieved (OECD, 2005; Barber and Mourshed, 2007). Those with deficient literacy and numeracy skills, but sufficient motivation, could be enrolled in remedial classes. In Chile, this would be preferable to turning students away altogether, as it may not be possible in the short to medium term to attract sufficient numbers of high-ability

students to teacher education programmes. Currently, admission to university for students in all fields of studies is based on their results in a multiple choice test, the *Prueba de Selección Universitaria* (PSU), which measures verbal and numerical skills. The government now offers scholarships to students with excellent PSU results, who want to enter teacher education. This is a step in the right direction. Complementing the PSU with tests that assess students' motivation for teacher education and personal qualities could help identify those who are worthy of entering the field, even though they might need remedial classes to enhance verbal and numerical skills.

Concerns remain regarding subject content knowledge, especially for primary school teachers in higher grades. They are trained as generalists and are not provided with sufficient instruction in mathematics, language and other subjects, even for the lower grades (OECD, 2004). This problem becomes especially acute in the upper grades of primary school. In the public sector, the proportion of seventh grade teachers with only primary school teacher training was 80% in 2006, compared with 55% in the private subsidised sector, and only around 30% in private fee-based schools (Cox, 2007). Chile has recently legislated shortening the primary school cycle from eight to six years. This is welcome, as secondary school teachers with their more specialised training should be better able to teach the required subject content to students in seventh and eighth grades. However, this change will require a large-scale programme for retraining teachers who teach in theses grades. There is a small-scale programme that offers a post-graduate degree in specific school subjects for practicing teachers (*Postítulos de Mención*), but this will have to be expanded so the skills of the existing workforce can be upgraded quickly.

At the same time, the curricula in teacher training programmes should evolve to ensure that students acquire sufficient knowledge in subject content. The government should make classroom practice an integral part of initial teacher education and develop an induction programme for teacher novices over time, during which they are trained in classroom practice with support from mentors before taking over full responsibilities as teachers. Such efforts have been shown to reduce attrition rates and help teachers apply their pedagogical and subject content knowledge to the complexity of the classroom (OECD, 2005). Teachers also require more focused training in how to deal with students from very different backgrounds and in how to close learning gaps. Changes in curricula have been financed at 15 institutions that train teachers for grades five to eight. However, it is not clear that this programme has gone far beyond defining competences that student teachers should achieve. It is important that the participating universities improve their curricula accordingly. Moreover, other institutions that train teachers should be encouraged to make similar progress.

One way for the Ministry of Education to ensure the quality of teacher training programmes is to introduce external teacher certification exams. This can become a useful quality assurance mechanism in a system like Chile's where teacher education programmes are perceived to be of varying quality (OECD, 2005). The government is moving in this direction and plans to make the pilot exit exam developed by the programme INICIA mandatory as of 2011, in the sense that public subsidised schools can only hire teachers who have taken the exam. Graduates with good exam results can receive higher starting salaries. Over time, this could be developed into a fully fledged teacher certification exam; only candidates who pass the exam would be allowed to teach. Some transition phase would be needed, but in the longer run only schools that employ certified teachers should be able to obtain a license. A re-certification process for practicing teachers would also be useful.

More equal conditions for private and public schools to compete

In a system based on competition, the hope is that schools are forced to increase their productivity to help their students learn. In some cases, however, schools compete by selecting more capable students. In Chile there is some evidence that competition has led to sorting. At the same time, PISA results suggest that competition has not brought about sufficient improvements in schooling outcomes. Econometric tests of whether private or public schools are more productive yield conflicting results after accounting for socio-economic background (for a literature overview, see OECD, 2010). In part, the limited impact of competition can be explained by very different conditions in which private and public schools compete.

Until recently private subsidised, but not municipal, schools could select students based on ability or its proxies, such as socio-economic background, favouring competition via selection.

Private fee-based and subsidised schools have much more flexibility regarding teacher employment and pay. Teachers in the public sector have a special status with a high level of job security, and centralised wage negotiations. They are assigned to schools by municipalities with little leeway for principals to influence their workforce. In contrast, private teachers' contracts are governed by labour law.

Private schools with higher fees also have significantly more resources per student than municipal schools or low-fee private subsidised schools located in poorer areas. Yet, teaching poor students mainly falls on the latter two. Research shows that student socio-economic background is among the most significant determinants of learning outcome, while the impact of the socio-economic background of other pupils in the same class can be even stronger (OECD, 2007).

Hence, teaching poor students is difficult and thus costly, in particular when they are concentrated at the same school.

Finally, there is evidence that parents have limited information about school quality (Elacqua and Fabrega, 2004) and access and use of it is dependent on socio-economic background. Poorer parents in particular strongly value school distance from home in addition to school quality (Chumacero *et al*, 2004; Gallego and Hernandez, 2009). This can lower schools' incentives to raise their quality to attract students.

Chile has taken a number of measures to address these issues.

Selection of students by school based on ability or socio-economic background has recently been prohibited in primary schools, and this is welcome. So is the requirement for schools to allow students to repeat a class at least once before expelling them. Prohibiting selection increases chances that schools compete for higher productivity. The government should ensure that the law prohibiting selection is enforced. Requiring schools with too many students to issue lotteries may be the safest way to avoid selection of higher-ability students. There remains the problem, however, of residential segregation.

The government should also consider prohibiting selection in secondary school admission. Some argue that certain highly selective municipal schools, such as the *Instituto Nacional,* have improved social mobility of children who are admitted to them (González and Mizala, 2006). In fact, the government is creating more of these elite public schools, providing them with extra funds. Research about selective versus comprehensive school systems in the United Kingdom has shown that schooling outcomes of "borderline" children who just make it into selective schools can indeed be very positive, although high-ability students seem to perform just as well in comprehensive schools. Yet, this has to be weighed against negative effects on students who narrowly fail to gain access to these schools (Schagen and Schagen, 2001; Boaler *et al.*, 2001). Rather than keeping the practice of selection, it may be preferable to create a climate of high achievement and aspirations for all children in less segregated schools with better teachers.

The government should also seek to create more equal working conditions and pay for teachers across different school types. While the relative security of the teaching profession could be maintained to make up for lower salaries than in other professions, all schools should have some flexibility over teacher employment and pay. Principals in public schools are now allowed to dismiss some teachers who have received bad evaluations several times in a row.

One important issue is that municipalities are not equally well equipped to run schools. Some of the wealthier municipalities have large and well-trained staff dedicated to technical-pedagogical support of schools, while others can barely afford one employee. A fiscal

equalisation mechanism would be needed to address this issue. Alternatively, the central government could assign additional resources to municipalities or local education authorities to allow them to employ technical-pedagogical support staff for all publicly subsidised schools in the municipality.

Strengthening the state-run quality assurance system

Chile is taking steps to establish a more regulatory approach to quality assurance in all publicly funded schools. Among successful school systems, such as in New Zealand and Finland, even the most decentralised ones have stronger quality assurance and performance reporting systems than in Chile (World Bank, 2007). Well-functioning quality assurance systems evaluate whether schools and teachers meet minimum quality standards, as in New Zealand, where licenses to operate or teach can be revoked if standards are not met. In other systems, such as in the United Kingdom, Finland and some districts in the United States, the state intervenes actively if schools perform poorly. These controls are largely absent in Chile, but plans are under way to introduce a comprehensive quality assurance system, which is currently discussed in Congress. In the new system the Ministry of Education will continue to be responsible for policy and curriculum. The *Consejo Nacional de Educación,* comprising independent education experts, will approve the curriculum and the standards proposed by the Ministry. A new *Superintendencia de Educación* will be responsible for ensuring school compliance. It will have the power to request the Ministry to designate a provisional administrator for schools that are deficient several years in a row. It will be able to apply other sanctions that could result in the revocation of the school's license. A newly created *Agencia de Calidad de la Educación* will be responsible for independent evaluation of student outcomes and the performance of schools and their administrators. Both the *Agencia de Calidad de la Educación* and the *Superintendencia* are required to make reports available to the public.

These reforms will bring Chile closer to international best practice, but the government should be careful to ensure co-operation among the new agencies. The new arrangement assigns clearly defined responsibilities for each participant in the educational process to different agencies. Reporting requirements for all performance evaluations are now spelled out, as are the consequences for schools falling short of expected standards. However, the number of agencies that will have to co-operate and interact efficiently is rather large. The government should closely monitor their interaction and, if needed, merge some agencies to avoid a duplication of tasks and promote efficiency.

There is a need for more information on school quality that is easier to interpret. Currently, performance review is based primarily on the SIMCE, a standardised student performance test, adjusted for

socio-economic background, which has some weaknesses, as discussed before. The government recently began publishing SIMCE maps on a web page. The maps show whether schools are below, at or above the national average, without adjusting for student socio-economic background. This could well be confusing to the public, because children's socio-economic background, albeit a strong determinant of schooling outcomes, reflects what happens outside the classroom, in particular intellectual stimulation in the family. Publishing SIMCE results adjusted for socio-economic background, as before, would be preferable. In any case, school managers, teachers and parents need more information on how to read SIMCE results, as they are often not able to interpret them (Taut *et al*., 2009). The work of the new Quality Assurance Agency will provide an excellent opportunity to base performance assessment on a larger set of instruments, including qualitative and possibly value-added indicators, with sufficient explanation for all stakeholders to interpret results.

Expanding resources for poor children

With high income inequality and a school system that is strongly segregated by socio-economic background, Chile needs to invest more public resources in education than other countries. After having attracted a lot of private resources to the school system, increasing public money that is efficiently spent is likely to have higher returns than increasing private expenditure even further.

Against this background, the government's initiative to raise the base value of the voucher by 15% in 2008, while increasing it substantially for the poorest children,was the right way to go. Schools that apply to the *Subvención Escolar Preferencial* (SEP) receive higher subsidies for poor children with increases up to 50% and some extra payments if the concentration of these children is high. There is a rather stringent quality assurance system, including improvement plans for schools. The government has recently decided to increase the extra subsidy for poor pupils by an average of 20% with even higher increases for the poorest, and this is welcome. This extra money could increase the chances of poor children to receive high-quality education. It will also make education financing less regressive at the lower end of the income distribution.

The government should evaluate results and offer support to schools to ensure that the extra money is spent effectively. There is a need for independent evaluations of methods employed to teach vulnerable students. The government could experiment with some of the new methods with a group of schools or a region to evaluate the efficiency and effectiveness of these tools. Good practices could be identified, and then implemented throughout the system.

One important effort will be to enhance methods to help students at risk of falling behind. In the Finnish education system, which has

consistently high outcomes and equity, well trained teachers identify these at-risk students and give them extra support, either individually or in small groups. If needed, teachers' assistants and trained special education teachers provide extra support under the supervision of the teacher. Close to 30% of the student population receive support in this way each year (Field, Kuczera and Pont, 2007). If all of these measures fail, a multi-disciplinary team comprising teachers, social workers, psychologists and representatives of health and public housing authorities, if necessary, work out a plan of support. In Chile, hiring more special education teachers at schools that receive the extra voucher might be a good use of this money. Offering higher salaries for especially qualified teachers to teach at schools with many poor students should also help. A set of methods called formative assessment, whereby teachers concentrate on student progress towards learning goals, rather than their absolute level of attainment, employs varied instruction methods to meet diverse student needs. This has proven very successful in improving the results of students at risk of failure (Field, Kuczera and Pont, 2007). In Chile, school reinforcement programmes for vulnerable children provided by charity organisations have been effective in improving the grades of at-risk children (Contreras and Herrera, 2007).

The government should also evaluate whether there is scope to develop the SEP further, in order to direct more public resources to more children with limited means. Rather than withdrawing the voucher subsidy depending on the top-up fee that parents pay, the government could make it more generally dependent on income (Beyer, 2009) or on socio-economic background (Sapelli, 2006), by creating several income brackets that would receive an increasingly lower subsidy. To some extent the government has recently moved in this direction by increasing the extra subsidy for poor children with the largest increases for the 20% poorest. In turn, maximum top-up payments could be positively related to parents' income to make free school choice less dependent on the ability to pay. The government could require schools to accept all children with a maximum top-up payment that would be zero for the poorest children, increasing gradually across the different income brackets. Over time, Chile could increase the voucher for all children, while keeping it progressive, to increase public spending on education. Cross-country empirical evidence suggests that a large share of privately operated schools has a positive impact on PISA results, but only if the share of public financing remains high (Wößmann, 2005). In contrast, school systems with a high share of private financing achieve weaker results than others, presumably because they do not do enough to help children of lower ability catch up.

The increased subsidy for vulnerable children could help eliminate the socio-economic segregation of the school system as it becomes more attractive financially to accept poor children. Preliminary evaluations of the scheme have shown, however, that mainly schools that already educate poor students have applied to participate, while more selective

schools have not (Elacqua *et al.*, 2009). The government oversees only those schools that enter the SEP system and accept the extra subsidy, which has created a disincentive to participate. To counter this, the government should require all publicly funded schools to accept the SEP subsidy without extra fees levied on the parents. It should integrate the SEP quality assurance system into the new national quality assurance system for all schools as planned. It is also important to ensure that technical support is conveniently available to schools, even in remote areas.

Investing more in preschool education to enhance schooling outcomes and equality of opportunity

One efficient way to promote schooling outcomes of all children and reduce the impact of socio-economic background on results is to invest more in preschool education. Children from disadvantaged backgrounds receive much less cognitive and emotional stimulation, producing an early gap in ability. Yet, early intervention, *e.g.* high-quality preschool centres and home visits to help parents mentor their children, has been shown to be very effective in strengthening the abilities of disadvantaged children (Heckman and Masterov, 2007). The positive impact of a high-quality preschool education has also been shown to be stronger for children who start with weaker abilities (Connor *et al.*, 2006), indicating that it can be a good way to close learning gaps.

Chile has made important efforts to expand early childhood education capacity, but more needs to be done to ensure quality. Kindergartens and nurseries have been expanded rapidly and subsidies for poor children to attend these institutions have increased. When capacity increases rapidly, however, there is a danger that quality can suffer.

Research suggests that improvements in quality are possible in Chile. Preschool teachers generally have a university education and practical experience in preschool institutions. Many have benefited from additional training programmes. However, preschool programmes can differ significantly, suggesting that there are no standard requirements for preschool teachers. Studies have found that Chilean kindergartens devote very little time to language study and reading (Eyzaguirre and Fontaine, 2008; Strasser *et al.*, 2009). Yet, an emphasis on language has been shown to be one of the most important determinants for a positive impact of early childhood education on the development of children's cognitive skills (NICHD, 2000). Chilean preschools often ignore the special requirements of children from vulnerable backgrounds, as well as interaction with their parents (García-Huidobro, 2006). Developing standards for education of preschool teachers and making accreditation a prerequisite would be important steps. There is also a need to improve the training of auxiliaries practicing at preschools, who assist teachers, because they are often the ones who interact most with the children.

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Chapter 5

Employment challenges: Labour market flexibility, informal employment and employability

Main recommendations

The following main recommendations in the labour market and training policy areas draw from the assessments that were made in the accession review process. They also take into account the policy reforms undertaken since then.

- *Reduce severance payments to strengthen incentives for employers to formalise employment relationships.*
- *Promote collective bargaining and consider developing consultation and dialogue with unions and employers to improve trust.*
- *Promote ongoing reforms to strengthen the Labour Inspectorate and labour courts, along with further efforts to eliminate the remaining pockets of informal employment and non-coverage of social insurance.*
- *Increase the age for receiving the full minimum wage from 18 to 25, and prescribe lower rates (increasing with age) for younger workers.*
- *Enhance the public employment service as a complement to higher spending on unemployment benefits. Consider merging it with the national employment and training agency. Consider sub-contracting employment services to the private sector.*
- *Give high priority to policies that develop education and training systems for lifelong learning. Ensure high-quality enterprise training and provide training to workers in the smallest firms.*
- *Establish systematic consultation between the vocational education and training (VET) system and the industrial sector, allowing for discussion at sectoral and regional levels.*
- *Encourage workplace training in all parts of the VET system, building partnerships between training institutions and employers.*

A segmented labour market

In 2008, the OECD reviewed Chile's labour market and social policies. While the review highlighted the impressive economic performance over the previous decade, it also stressed that Chile has a long way to go in catching up with average OECD living standards and in reducing inequalities. Indeed, labour force participation is still relatively low, with few job opportunities for certain groups. In particular, while female labour market participation has risen steadily over the past two decades, in 2009 the female employment rate (42%) was still 28 percentage points below the male employment rate and well below the OECD average of 57%. At the same time, only 26% of youth (age 15 to 24) were employed in 2009, compared with 40% on average in OECD countries. As elsewhere, this in part reflects efforts to promote higher levels of education, but for many youth with low skills, access to jobs remains a challenge in Chile.

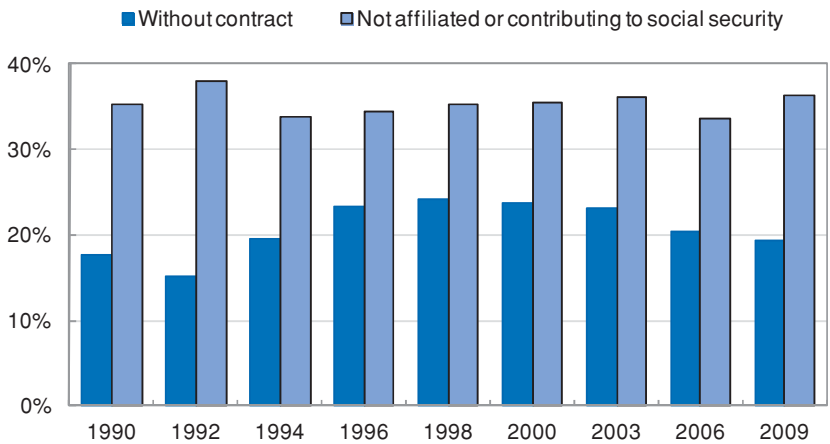
International comparison is difficult, but indicators suggest that informal employment in Chile remains high by OECD standards, albeit receding and lower than in most of Latin America (OECD, 2009a). Estimates based on the Chilean household surveys CASEN (*Encuesta de Caracterización Socioeconomica Nacional*) suggest that about one-third of the Chilean workers are not affiliated with or contributing to social security (Figure 5.1). The number of workers without a contract has been declining over the past decade, but their share of total employment was still 19% in 2009. Informality is most common in the low-productivity segments of the labour market, where low-skilled employees are often hired without a contract by small firms that are themselves informal. These workers generally lack old-age, unemployment or health insurance and are not covered by labour law (minimum wage, employment protection or occupation health and safety standards). They are often poorly paid, with limited access to training and career advancement.

Towards more inclusive growth in Chile

In order to create more and better jobs, the OECD labour market and social policy review (OECD, 2009a) identified a set of policy options for Chile drawing upon OECD country experiences. The following sections update this work and consider Chile's employment protection regulations, minimum wages, labour taxation, unemployment benefits and public employment services.

Figure 5.1. **Informal employment in Chile, 1990–2009**

Share of workers in total employment



Source: OECD calculations based on Mideplan (CASEN 1990 to 2009).

A dualism in the labour market

Chile's employment protection regulations for standard contracts are not overly strict by OECD measures, with the exception of the severance payments for regular workers. These can be as much as 11 months' wages, compared with 3-4 months in many OECD countries.[1] The high costs associated with severance payments dissuade employers from formalising employment relationships. Employers also often avoid paying the full amount of severance payments by reaching an agreement with workers or simply by refusing to pay. Until recently, temporary work agencies (TWAs) and sub-contracting employment arrangements contributed to a further segmentation in the labour market, but a 2007 law eliminated the option to use these atypical contract forms to circumvent employer responsibilities.

Labour relations in Chile are generally confrontational and marred by lack of trust, a factor that is becoming increasingly problematic for the development of a Chilean version of "flexicurity". This is partly due to the limited membership in unions and business associations. For example, union membership accounted for only 12.5% of the workforce in 2009 and is concentrated in big firms and certain sectors, particularly in mining. As in most countries, the main labour law enforcement body, the Labour Inspectorate (*Dirección del Trabajo*), has limited resources and can only deal with reported disputes and specific complaints. Given the limited union coverage, many workers remain vulnerable to labour law

offences and it falls on them to check whether the law is correctly implemented and whether social insurance contributions are paid. Recent reforms facilitate the legal procedures to bring labour cases to a court, but a further strengthening of the Labour Inspectorate is essential to reduce costs and spread benefits to a wider group of workers.

The Chilean government intends to develop new legislation to promote collective bargaining in enterprises and to make it more far-reaching. The legislation is expected to encourage more bargaining over matters other than wages – such as working hours, overtime, shift work and social benefits – and to strengthen the union representation. Moreover, as part of its effort to develop more effective industrial relations, the government is implementing a significant reform aimed at improving the court system for labour cases, combined with optional "fast-track" procedures for resolving labour conflicts. These initiatives are important, but the government must consider which further developments are needed to promote dialogue and consultation with employers and unions, as well as to strengthen trust.

The minimum wage

Expressed as a proportion of the average wage, the legal minimum wage was raised substantially between the mid-1990s and 2003. By the end of 2009, it was 44% of the average wage, exceeding the OECD average of 40%. The OECD Economic Survey of Chile (2003) found evidence that the increases until the early 2000s had contributed to a rise in unemployment, a result that still appears relevant. Moreover, despite the fact that informal work arrangements are very common among low-skilled people, the minimum wage tends to operate as a strong pay signal for the informal sector. This implies that hikes in the minimum wage can have distributional implications that go beyond the formal sector: not only are the wages of the low-paid likely to increase in both segments of the economy, but their employment prospects may decline as well in both sectors (Cunningham, 2007). The Chilean authorities are aware of the risks related to a high minimum wage and, in 2010, the change in the minimum wage was for the first time based on a technical analysis by the newly created Advisory Commission for Labour and Minimum Wage, which took into account the risk of unemployment and informal labour for low-skilled workers and youth. Nevertheless, the minimum wage increase in mid-2010 (+4.2%) was still about the same as the average wage increase of 2009 (+4.8%) and far above the rise in inflation in 2009 (+0.4%).

Given the difficulties faced by young workers entering the labour market in Chile, there is a strong case for introducing a lower minimum wage for youth up to the age of 25, as has been done in many OECD countries. The in-work benefits introduced in 2009 for young people age 18-25 (*Subsidio al Empleo Joven*) could support those in low-paid jobs. This programme is targeted at youth coming from poor families and

subsidises 30% of wages up to CLP 160 000 per month (about USD 300), dropping to zero at CLP 360 000 (USD 680). The worker receives two-thirds of the subsidy, while the employer receives one-third to stimulate hiring of workers under formal employment conditions.

Social security contributions

According to OECD studies, efficient tax collection and social security contributions are important instruments for enforcing formal employment regulations (OECD, 2004). Tax collection is a significant issue in Chile where the tax burden is fairly low. Indeed, income tax is charged only on incomes higher than about 1.4 times the average wage, with an initial marginal tax rate of 5% rising to 40%. Most workers pay only the mandatory social security contributions – representing about 26% of wages. Despite this relatively low tax burden, about one-fifth of the employees – concentrated in small firms with below-average productivity levels – are not contributing to social security.[2] As many of them also lack labour contracts, there seems to be a more general enforcement problem among micro firms.

While the Labour Inspectorate plays an important role in enforcing labour law and social contribution obligations, targeted enforcement measures should be accompanied by other policy measures to promote the formalisation of jobs. In particular, taxes, social contributions and other regulations should be regularly reassessed with a view to strengthening tax collection. For instance, the 2008 pension reform, introducing financial incentives to pension insurance for women and young workers (see Chapter 6), is likely to promote formal jobs.

Employment services and job-related training

Chile's unemployment compensation scheme consists mainly of *individual accounts* from which the accumulated contributions are paid upon job separation for any reason, most often as a lump sum. The accounts are financed by contributions from employers and employees, at rates implying that a permanent and temporary worker would accumulate, respectively, 26% and 36% of a monthly wage per contribution year (before adjustment for financial returns, administrative costs and changing wages). If the account balance is too low to permit a certain level of compensation, a Solidarity Fund pays out additional benefits (financed by state subsidy and part of the employer contribution). Due to the strict eligibility rules, however, the Solidarity Fund was involved in only 6% of all benefit cases before mid-2009. As part of the May 2009 reform to tackle the economic crisis, workers on temporary contracts were given permanent access to the Solidarity Fund, although only for two months to minimise work disincentives. In addition, the benefit duration of recipients drawing from the Fund is now automatically extended by two months (with a replacement rate of

25%) when the unemployment rate is one percentage point higher than the average unemployment rate over the previous four years. By November 2010, the Solidarity Fund was involved in 23% of all benefit cases.[3]

One advantage of the Chilean unemployment savings account system is that it tends to promote active job search among the recipients who draw from their account while unemployed. In this sense, the system is less demanding in terms of job counselling and activation, a particularly important factor given the limited resources available in the labour offices (Vodopivec, 2009). However, the complementary support from the Solidarity Fund reintroduces the moral-hazard problem. The increased access to the Fund and more generous benefit entitlements may thus require stronger efforts by the public employment services to enforce the job-search requirement.

Providing effective re-employment services for the unemployed still poses a significant challenge in Chile. There are over 200 municipal employment centres (*Oficinas Municipales de Intermediación Laboral*, OMILs) but they often have very limited resources – spending on public employment services amounts to about 0.1% of GDP compared with 0.4% on average across the OECD – and many of the OMILs do not have the administrative capacity to deliver appropriate job-search services. A reform in 2009 addressed part of the resources problem, but in order to improve the provision of employment services, the government should consider merging the OMILs into a nationwide network, combined with the national employment and training agency *Servicio Nacional de Capacitación y Empleo* (SENCE). Further improvements to the *Bolsa Nacional de Empleo*, a nationwide search engine available free of charge on the Internet, are also required. The new government intends to make use of private organisations to deliver employment services to the most vulnerable workers. OECD experience indicates that a partial outsourcing of employment services can be cost-effective, but the public agency must then be prepared to monitor the outcomes and compare them with in-house services. The incentive system for private agencies also has to be designed to reward positive outcomes and minimise the risk of "cream-skimming" (*i.e.* selecting the most employable clients).

Challenges in making use of human capital

The protracted period of strong economic growth in Chile has been accompanied by dramatic improvements in educational attainment, with around 70% of young people now graduating from upper secondary education, a large proportion continuing into tertiary education. Significant improvements have also been made in quality, as shown by the substantially improved reading performance of students in the Programme for International Student Assessment (PISA) between 2000 and 2009 (OECD, 2010d). But if Chile is to sustain its strong economic record, it needs to make effective use of this upgraded human capital. As

discussed above, informal employment remains a challenge and female labour force participation, although rising, is still well below the OECD average. These factors suggest that an upgraded education and training system should be accompanied by further efforts to reform labour and social policies to mobilise human capital and underpin future economic growth. The following sections discuss Chile's qualification framework and the system of vocational education and training, workplace training and partnerships between employers, the education system and lifelong learning.

Implementing a qualifications framework

A national certification system for vocational skills has been under development for several years. Regulated by law since 2008, it has been designed to cover the entire labour market, although standards have not been developed for a significant part of the job market (*e.g.* tourism, food and beverage production, construction, technical and mechanical installations). The qualification framework would improve the access to higher-level education for all, facilitate lifelong learning and help sustain a broader reform effort. International experience suggests that a qualifications framework in Chile also has the potential to unify a fragmented vocational education and training (VET) system and to increase transparency, so that the value of different qualifications can be more clearly recognised. Currently, VET is provided at numerous levels and in many learning contexts, but the lack of institutional or curricular co-ordination inhibits progression within the system (see Box 5.1).

In order to ensure quality and coherence in the education and training system, qualification frameworks need to be supported by a strong methodology and should be backed by complementary measures to unify the education and training systems. Consultation with employers is crucial to ensure that qualifications are recognised and valued in the labour market. This requires strong employer engagement in their formulation. As illustrated by the experience of Ireland, Scotland and New Zealand, effective consultation processes and principled compromises are essential (Young, 2005; Raffe, Gallacher and Toman, 2007). Better social dialogue (as discussed above) is also needed to improve the link between qualifications and the wage structure, a prerequisite for promoting further investment in education and training. The role of the government in setting standards can be reduced once effective non-governmental training is in place. Some countries, such as Germany and Korea, have long traditions of apprenticeships co-managed by employers and business associations, which have contributed to high vocational skills and relatively low youth unemployment.

Box 5.1. **A snapshot of vocational education and training in Chile**[1]

Compulsory education includes eight years of basic education (*educación básica*) and four years of secondary education (*educación media*). During the first two years of secondary education, students follow a general curriculum. During the last two years, they choose between the general track (chosen by two-thirds of the students) and the vocational track (chosen by one-third of the students).[2] After completing the four grades of secondary education, students obtain the secondary school leaving certificate (*Licencia de Enseñanza Media*). To obtain a VET certificate they have to complete a period of 480–960 hours of workplace training (*práctica profesional*) which typically takes place after graduation from secondary school. Available estimates suggest that half of the students do not complete their workplace training period. Tertiary-level VET includes two-year programmes offered in technical training centres (*centros de formación técnica*, CFT), and four-year programmes provided by professional institutes (*institutos profesionales,* IP).

The various elements of the VET system are, however, weakly connected and limited resources are devoted to the VET system. Although more than 90% of upper secondary VET students aspire to post-secondary studies (VET Commission, 2009), many are ill-prepared and dropout rates from tertiary education are worryingly high. Admission into tertiary programmes is typically based on results from a national test, PSU (*Prueba de Selección Universitaria*),[3] though some institutions (often IP and CFT) do not require PSU results. Students from the vocational track score significantly lower than those from the general track (Bassi, 2009). In addition, many of those who are accepted struggle with some parts of the tertiary curriculum because of weak general skills. Of those who enter a university after vocational secondary education, 61% do not complete their studies, while for tertiary VET the figure is 47% (Bassi, 2009). Chile allocates 22% more resources per student to general education than to vocational/pre-vocational programmes: these outcomes contrast with most OECD countries, where more is typically spent per student on vocational programmes (OECD, 2009b).

1. As part of the OECD Learning for Jobs exercise (OECD, 2010b), a study of Chile's VET system was undertaken in 2009, exploring how to make the system respond better to labour market requirements. The review examined three issues in particular: i) the implementation of a qualifications framework; ii) the balance between generic and specific skills in vocational programmes; and iii) the need to create partnerships with employers (Kis and Field, 2009).

2. The majority of secondary VET students come from disadvantaged socio-economic backgrounds (65% belong to the two lowest income quintiles; VET Commission, 2009).

3. The test is compulsory in language and communication, and mathematics; it is optional in history and social science, and science. Applicants may choose to take all four tests (*www.demre.cl/psu.htm*).

Enhancing workplace training and partnerships with employers

The incoming government has expressed its concern regarding low-skilled young persons who often cannot find work. As discussed above, minimum wages tend to be relatively high in Chile by international standards and this may have some displacement effect, especially among low-skilled youth. While this stresses the need for the education and training system to provide strong initial skills, more effective

workplace training as part of initial VET can also smooth the path to employment and reduce the risks of youth unemployment.

There are some very strong arguments for workplace training in VET, when linked to effective regulatory standards (OECD, 2010b). First, it can offer a very high-quality learning environment: this allows students to acquire practical skills on up-to-date equipment and under trainers familiar with the most recent working methods and technologies. It also allows students to develop key soft skills – such as dealing with customers – in a real-world environment. Second, workplace training facilitates a two-way flow of information between potential employers and employees, making later recruitment much more effective and less costly. Third, the willingness of employers to offer workplace training provides a signal that a VET programme is of labour market value. Fourth, trainees in the workplace can make a productive contribution.

The current arrangements for workplace training in upper secondary education in Chile are unsatisfactory, however, with many students failing to complete the programme. One option would be to insist that students not obtain their upper secondary certificate unless they have undertaken such a placement. To ensure that the work placements are substantive, adequate quality controls would need to be in place. Mandatory work placements of this type would also narrow the provision to fields in which employers are interested. At the same time employers would need to be provided an incentive to offer positions in fields where they need recruits.

As in other countries, effective partnerships between employers and the vocational education and training system play a very important role in facilitating workplace training and more broadly in sustaining the VET system in meeting labour market needs. While previous mechanisms for employer engagement have been limited, the creation of the National Council for Vocational Education and Training announced in 2009 is very welcome.

In addition, Chile needs a strategy to systematically enhance the general skills of VET graduates. As noted by the recent report of the VET Commission (2009), employers put less emphasis on specific vocational skills while they focus more on global, literacy and numeracy skills. Even so, these general skills do not seem to receive enough attention in the curriculum. To make sure that VET graduates have adequate general skills, both for the labour market and for further learning, the Chilean education system should ensure that VET programmes devote sufficient space in the curriculum to the acquisition of hard and soft general skills.

Financing lifelong learning

Lifelong learning usually depends on a complex interaction between work and learning that is difficult to achieve unless employers and

workers share a mutual interest in skill enhancement. According to OECD experience, low-educated workers are usually among the least likely to attend job-related adult training, a problem that is accentuated when they are employed under precarious conditions.

Employee training in Chile is financed predominantly by tax credits, corresponding to up to 1% of the wage bill. A slightly higher tax rebate is available if the training is approved by a bipartite committee at the enterprise level, but very few enterprises use this option. In 2005, the tax rebate was replaced by training grants for the smallest micro-firms with up to one employee, where the frequent presence of informal and family workers had made it difficult to assess the wage costs. Even so, the tax-based financing scheme tends to favour large firms in practice, as the administrative burden associated with requesting tax deductions may not provide enough incentives for small and medium-sized firms to invest in training (given the small number of potential trainees). Overall, about 20% of the dependent employees reportedly participate each year (about 1 million persons in 2008, up from 600 000 in 2000).

Policy makers have been concerned for a considerable time about the quality of the existing training schemes. Employers are free to choose training content and to select trainees, while the administrator, SENCE, has limited control. It must generally approve tax relief when the training is purchased from an authorised provider, and also, with few exceptions, if it is provided in-house (OECD, 2007a). The relatively lax regulations combined with insufficient information – especially in small firms – have tended to make the programme supply-driven, as employers are sensitive to training centre marketing. The government and SENCE have gradually tightened the requirements for accreditation of training centres (*Organismos Técnicos de Capacitación*), with important changes, notably in 2006, after which the number of approved centres was reduced by almost one third to about 1 900. SENCE also seeks to provide more advice and information to employers about the training.

As noted in OECD (2007a), SENCE needs to be further strengthened if it is to use the tax relief effectively as leverage to enforce quality. This is required especially when tax relief is accepted for in-house training in enterprises. Many OECD countries have similar programmes to subsidise enterprise training, and, for example, Belgium, Canada, France, Ireland, Spain and the United Kingdom have used levy/grant or "train-or-pay" schemes resembling the present one in Chile (OECD, 2005). Some positive effects have been reported, but international experience suggests that such programmes often have a high deadweight losses.

Given Chile's heterogeneous labour market, efforts to promote human capital accumulation must be designed to target a broader set of actors in the labour market, including small entrepreneurs and their formal or informal employees. This could justify greater direct subsidies (if this can be afforded), for example, by extending the training grant for micro-firms to somewhat bigger firms, *e.g.* those with up to five or ten employees. The government is also studying the possibility of

introducing a voucher system (*Bono de Capacitación*) to give workers the possibility to participate in training when and where they want. The range of training courses available is restricted, however, and the potential to expand them will probably remain limited in the near future.

Conclusion

Despite strong economic growth prior to the global financial crisis and overall improvements in the labour market, many women and youth are suffering from the shortage of adequate employment opportunities, and the crisis has further aggravated their job prospects. The Chilean authorities are aware of this, and several policy measures have been introduced to increase income security for the most vulnerable workers. More should be done, however, to create more and better jobs, and to tackle informality and the lack of social security coverage of many workers. Chile needs to take additional measures to remove existing barriers to labour force participation and access to formal-sector jobs for under-represented groups, including women, youth and low-skilled workers more generally. In particular, policy should review existing taxes, social security contributions and wage floors that may price low-skilled workers out of employment.

Further investment in the education and training system is required to boost the level of human capital and to make the system respond better to labour market requirements. Efforts to create a national certification system for job skills should be reinforced, so as to increase efficiency in the labour market and in the markets for training. At the same time, there is a need to strengthen the linkages between the education system and enterprises through apprenticeships, combined with effective quality standards.

Notes

1. However, employers who pay severance benefits can deduct their previous contributions to the worker's individual accounts under the unemployment insurance system.
2. The 2009 CASEN household survey of Mideplan, *www.mideplan.cl/casen/*.
3. *www.spensiones.cl/safpstats/stats/*.

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Chapter 6

Improving equality and reducing poverty

Main recommendations

- *Social mobility in Chile is low. In order to promote equality of opportunity, there are a number of steps Chile should consider taking. The most important is the reduction of different forms of inequality, including current income inequality and inequality in access to quality education. The evidence from OECD countries also suggests that interventions targeted at improving childhood outcomes are desirable.*
- *There is ample scope for mobilising labour supply among groups of workers currently under-represented in the labour market. The training and job-search requirements the government is planning to introduce as conditions of the new Ethic Family Income programme will promote the mobilisation of extra labour supply, provided that adequate assistance can be given to disadvantaged workers. The existing service infrastructure has been inadequate to help many of them get into paid employment, which is a condition for any sharp reduction of poverty. Chile needs to continue its investment in the infrastructure of service provision (*e.g. *training of social workers and employment service staff).*
- *Government plans to adapt the Social Protection Record to accurately measure current income changes and to design supplementary tools to measure short-term income changes will enable better targeting and improve incentives to work. Efforts in this direction should be reinforced.*
- *Achieving whole-of-government policy outcomes for social policy programmes will require effective collaboration and co-ordination on policy development, implementation and evaluation between stakeholder ministries and ministers and with the proposed Ministry of Social Development. This will require strong leadership from the President's Office, the Budget Office and effective leadership within the new ministry.*

Poverty and income inequality

Years of sustained growth in Chile resulted in a substantial decline in the *absolute poverty* headcount ratios (as defined nationally) between 1990 and 2009.[1] Poverty dropped from 38.6% to 15.1% of the total population, which corresponds to around 2.4 million persons moving out of poverty. The drop in the incidence of poverty was particularly sharp during the 2003–2006 period. The percentage of people living in *extreme poverty* (indigence) fell by 9.3 percentage points to 3.7% in 2009.

According to an official survey held every three years, the poverty rate was 15.1% in 2009, 1.4 percentage points higher than found by the previous survey (Mideplan, 2010a, Table 6.1). One of the main factors for this increase is the rise in the poverty line of about 20% in real terms between 2006 and 2009, which resulted from the increase in food prices during this period (an increase of about 35% versus 10% on the overall price index). The cost of the food basket accounts for approximately half of the poverty line and any changes in food prices therefore have a strong impact on the poverty rate. Another factor is the impact of the financial and economic crisis, which may have further contributed to the increase in the poverty rate.

Table 6.1. **Poverty trends in Chile, 1990-2009**

Evolution of poverty and indigence

	Indigence		Not indigent poverty		Total poverty	
	Persons	%	Persons	%	Persons	%
1990	1 674 736	13.0	3 293 566	25.6	4 968 302	38.6
1992	1 206 421	9.0	3 184 146	23.8	4 390 567	32.8
1994	1 045 083	7.6	2 770 816	20.1	3 815 899	27.7
1996	822 371	5.7	2 498 156	17.5	3 320 527	23.2
1998	825 545	5.6	2 358 444	16.0	3 183 989	21.6
2000	838 196	5.6	2 200 709	14.6	3 038 905	20.2
2003	726 509	4.7	2 178 915	14.0	2 905 424	18.7
2006	516 738	3.2	1 692 199	10.5	2 208 937	13.7
2009	634 328	3.7	1 929 704	11.4	2 564 032	15.1

Notes: The poverty headcount ratios are the shares of the population living below the national poverty and indigence lines. The indigence or extreme poverty line is measured on the basis of the cost-efficient food basket that satisfies the nutritional requirements of household members. The poverty line is obtained after adding up the cost of other commodities: clothing, transport, housing, etc. The calculation is based on the actual consumption spending of a reference group of households.

Source: Mideplan (2010a), "Encuesta de Caracterización Socioeconómica Nacional (CASEN 2009)", Ministerio de Planificación, Santiago, *www.mideplan.cl/casen/publicaciones/2009/resultados_casen_2009.pdf*.

Notwithstanding Chile's economic success, the country faces a difficult problem of relatively high inequality. With a Gini coefficient of

around 0.5, the degree of inequality in household disposable income in Chile is the highest among OECD countries. Chile also shows high *relative poverty,* with around 18% of the population having an equivalised disposable income of under 50% of the median for the entire population in the mid-2000s – more than in all OECD countries except Israel and Mexico.

Strong economic growth in recent years has reduced absolute poverty rates and increased average incomes of lower- and middle-income groups, but as incomes of the highest income groups increased at almost the same pace, there has been only a small decline in income inequality over time.

The distribution of household market income remained virtually unchanged between 1990 and 2003 (Table 6.2). Household market income covers the income generated with the household's own means and includes labour income, capital income (rents and interest), benefit payments from contributory pensions and other private income (such as transfers from relatives not living in the household and donations). In 2006, there was, for the first time, a visible improvement in the income distribution. Deciles 2 to 9 increased their share in household market income at the expense of the 10th income decile, whose share of income declined from 41.5% in 2003 to 38.6% in 2006. The latest data for 2009 show a reversal of this trend with only the highest income decile gaining between 2006 and 2009, and all other groups moving back to the levels of 2003. This may partly reflect the impact of the 2008-09 recession and does not take into account changes in net cash transfers between 2006 and 2009.

Table 6.2. **Distribution of household market income in Chile, 1990-2009**

By decile of household market income per capita

Decile	1990	1992	1994	1996	1998	2000	2003	2006	2009
I	1.4	1.5	1.4	1.3	1.2	1.3	1.2	1.2	0.9
II	2.7	2.8	2.7	2.6	2.5	2.7	2.7	2.9	2.7
III	3.6	3.7	3.5	3.5	3.5	3.6	3.6	3.9	3.7
IV	4.5	4.7	4.5	4.5	4.5	4.5	4.7	4.9	4.6
V	5.4	5.6	5.6	5.4	5.3	5.7	5.4	5.6	5.6
VI	6.9	6.6	6.4	6.3	6.4	6.2	6.6	7.0	7.1
VII	7.7	8.1	8.1	8.2	8.3	7.9	8.2	8.7	8.5
VIII	10.4	10.5	10.6	11.1	11.0	10.4	10.7	11.1	11.1
IX	15.2	14.8	15.4	15.4	16.0	15.1	15.3	16.0	15.6
X	42.2	41.8	41.8	41.8	41.4	42.7	41.5	38.6	40.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: The official income concept provided by Mideplan is used (household market income per capita).

Source: Mideplan (2010b), "Distribución del Ingreso (Encuesta CASEN 2009)", Ministerio de Planificación, Santiago, *www.mideplan.cl/casen2009/distribucion_ingreso_ casen_2009.pdf.*

Taking into account cash transfers and income taxes, the distribution of household disposable income is somewhat more equal than that of market income, by 6% in 2009. This is, however, far from the 25% reduction recorded on average in the OECD in the mid-2000s.

Equality of opportunity and social mobility

Measuring equality of opportunity is much harder than measuring outcomes, such as income, wealth and so on. One way to analyse this issue is to see how well children do relative to their parents. If socio-economic conditions (*e.g.* earnings) of most people do not change relative to those of their parents, then both advantage and disadvantage are passed on to the next generation. In contrast, if sons' earnings are less closely related to their fathers', then there is greater intergenerational economic mobility. The extent of intergenerational mobility can therefore be seen as a measure of the equality of opportunity.

Most evidence on this measure is based on a comparison of the earnings of fathers and sons. For women, it is difficult to disentangle the effect of changing patterns of work and social attitudes between generations, the impact of anti-discrimination laws and other factors. For Chile, the most recent estimates of intergenerational income elasticity (the percentage change in the son's adult income resulting from a 1% difference in the father's income) are in the range of 0.57 to 0.74 and 0.63 to 0.76 for ages 25–40 and 31–40, respectively (Nunez and Miranda, 2010), which may reflect life-cycle effects resulting in lower earnings of younger individuals or an increase of social mobility in Chile.

Compared with other OECD countries, these values place Chile after the United States, Italy and the United Kingdom, where social mobility is low, with elasticities in the range of 0.47–0.5. In these countries, a 1% difference in the income of a man's father results, on average, in a little less than half a percentage point difference in his own adult income. By contrast, in three Nordic countries (Denmark, Finland and Norway) and in Canada, the intergenerational income elasticity for men is less than 0.2, implying that a 1% difference in the income of a man's father results, on average, in less than a 0.2% difference in his own adult income, meaning that fathers' earnings have much less influence on sons' earnings.

These very low levels of social mobility for Chile also support the hypothesis proposed in the literature that more unequal countries at a given point in time (*e.g.* measured on the basis of the Gini coefficient) are also the least socially mobile.

One of the main objectives of social policy is to break the cycle of disadvantage across generations and prevent the development of a self-replicating underclass. If countries want to promote equality of

opportunity, there are a number of steps they could take. The most important seems to be the reduction of different forms of inequality, including current income inequality.

For policy makers, the findings also reinforce the lessons of the child development literature. The evidence suggests that early and sustained interventions targeted at improving childhood outcomes are desirable, especially for children living in disadvantaged households. Such interventions have become a much more important feature of social policies in many OECD countries in recent years.

Childhood poverty is in fact a route through which disadvantage is transmitted between generations, so tackling it needs to be a priority. Doing so by helping parents work can be more effective than giving them cash transfers, as the former may change attitudes or behaviours. Indeed, there is evidence that parental behaviours can be transmitted across generations, and that these seem to be more important than "intelligence" in explaining the intergenerational correlation of income. Having a working parent as a role model is important. Reducing the stress and anxiety of children, from whatever source, will have a pay-off in the incomes they subsequently command. Targeting intensive health, nutrition and care support on particularly deprived households or areas is highly desirable. Most important, getting good-quality care in early childhood, preschool and school is the essential tool for promoting intergenerational mobility.

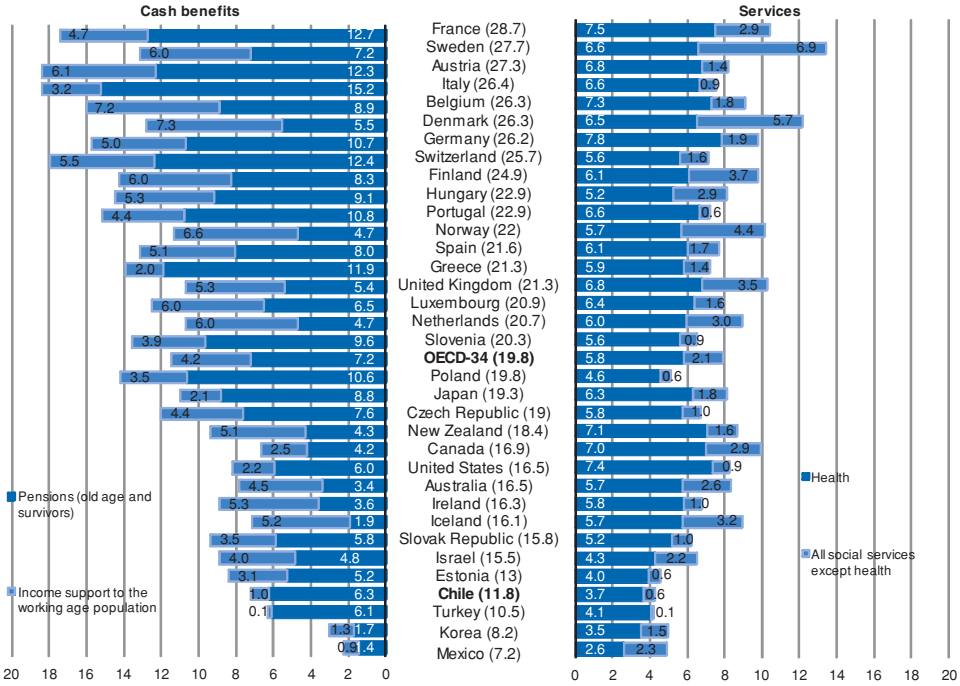
Social policy

Overall spending and redistributive effect

Chile ranks low in an OECD comparison of publicly mandated social spending relative to gross domestic product (GDP) (Figure 6.1). Including spending on pension benefits and annuities that derive from mandatory pension contributions, publicly mandated social spending amounted to 11.8 in 2007, a little bit more than half the OECD average. Only Korea, Mexico and Turkey spend less than Chile among the OECD countries.[2]

At 6.3% of GDP in 2007, publicly mandated spending on pensions was the largest single item of social spending. It includes the transition cost of the 1981 pension reform, *i.e.* the expenditure on benefit-entitlements established under the old pay-as-you-go pension system, pensions for the armed forces and minimum pensions. Public spending on employment support and family support was only 1.6% of GDP in 2007.

Figure 6.1. **Publicly mandated social expenditure by broad social policy area in Chile, in percentage of GDP, 2007**



Notes: Countries are ranked by decreasing order of public social expenditure as a percentage of GDP. Spending on Active Labour Market Programmes (ALMPs) cannot be split by cash/services breakdown; they are, however, included in the total publicly mandated spending (shown in brackets).

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD Social Expenditure Database (SOCX).

Spending on family support includes services for (orphaned) youth, income-tested family benefits and allowances, and maternity payments. Family allowances are paid almost completely out of general revenue by different social protection institutes. Payment rates are low, at about CLP 6 776 per month at maximum (about USD 14), and phased out on income of CLP 464 823, where the payment is CLP 1 549. These benefits are nevertheless very important, as they are paid to about 2.7 million dependents (mostly children, but also other dependent family members, including widowed mothers, disabled spouses, students and/or grandchildren).

The Chilean benefit system is relatively successful in targeting the poor, with almost 75% of public social expenditure and public spending

on education going to households from the four lowest income deciles. Because of the value of education and health support (and to a lesser extent, the minimum pension payment), total disposable income of households in the lowest income decile is almost three times the income they generated autonomously in 2006. While the value of individual social benefits and drinking water subsidies may be low, they constitute a significant part of income in poor households.

It appears that social policies in a broad sense achieve a significant redistribution of resources. For example, in 2006, net market income of the 10% of richest households was 31 times higher than for the 10% of poorest households, but only 12 times higher if their consumption of publicly financed social services, healthcare and education is taken into account.

Chile Solidario, the Social Protection Record and the Ethic Family Income

The *Chile Solidario* programme was introduced in 2002 to promote equity and enhance opportunities. It is a targeted anti-poverty instrument that grants the poor entitlements to a range of services. It focuses on four target groups: families, the sole elderly, the homeless and children with a parent in prison. Services include healthcare, childcare, education, income and other family-support services. Cash benefits play only a limited role. Family workers and clients sign a contract of participation committing themselves to specific actions, such as participating in medical check-ups, having their children vaccinated and sending their children to school. The primary benefit for participants thus lies in the access to services, not in the receipt of financial transfers.

The main instrument for targeting groups is the *Ficha de Protección Social* (Social Protection Record, FPS). The FPS establishes the household or family score by adding up individual scores while applying equivalent scales to account for household composition. The FPS aims to identify long-term vulnerability by measuring the income-generating capacity of a family/household, not its actual earnings As a result, declared earned income accounts for only 10% in the overall FPS-index calculation.

Between June 2002 and April 2010, *Chile Solidario* contacted almost 400 000 families, of which the vast majority (88.9%) completed or participated in the programme. Only 1.7% of the contacted families decided not to participate; 4.4% could not be located at the address given; and 5.0% were taken off the programme because of systematic non-compliance. In April 2010, there were just over 216 000 families in the programme. Benefits are paid to mothers rather than fathers, as this is more likely to benefit the children (*e.g.* Woolley, 2004).

Considering participation in 2010 (based on budget data), 50 000 new clients are projected to enter the psycho-social support phase, 55 400

will receive an exit bonus as they leave the psychosocial support phase and 265 500 will be using preferential access supports (*Programe Puente*). As for the targeted subprogrammes of *Chile Solidario,* these cover the 24 000 elderly people living alone (*Programa Vínculos*) (to be increased by 8 000), 3 276 homeless persons (*Programa Calle*) (to be increased to more than 5 000) and 1 975 children with a parent in prison (*Programa Abriendo Caminos*) (to be increased to 4 000).

The FPS has been a very useful tool for the identification of the target population. But as FPS scores are increasingly used to establish not only income-generating capacity but also entitlements of clients to services and (prospectively increasing) cash transfers, it will become more important that household incomes are reported accurately. In June 2010, the Planning Ministry created a commission of technical experts, mayors and staff from the social ministries to revise, evaluate and recommend improvements to the FPS, so that this instrument can provide real guarantees to those who apply for social benefits and can identify with the greatest possible accuracy the most vulnerable families. In 2011, the Ministry is planning to create another technical commission to generate social mobility metrics that could be used for the design of social promotion policies.

There is general agreement that *Chile Solidario* support reaches the people who need it most. Contreras *et al.* (2008) found that two-thirds of the *Chile Solidario* participants belong to the very poor population (households who have difficulty meeting basic nutritional requirements of household members), and another 15% to the poor population (households who have difficulty meeting clothing, transport and housing needs). As one third of the very poor population is excluded, there are ongoing efforts to extend coverage, especially in rural areas.

However, the *Chile Solidario* package seems to have had little effect in helping clients get into or back to the labour market, and has had only a small effect on earnings and income poverty reduction (Contreras *et al*., 2008). This is not surprising, as public spending on employment support in the programme, and on labour market support more generally, is extremely limited, at around 0.1% of GDP. In addition, client characteristics are not favourable: clients are frequently not job-ready, face serious skill deficiencies and are generally difficult to place. Local employment services (OMILs) find it difficult to help clients become job-ready. Referring clients who are not job-ready to employers is likely to be counterproductive, as clients' expectations will not be met, causing frustration and demotivation, and employers will be unwilling to notify OMIL of future job vacancies. Childcare supports are another bottleneck. Many *Chile Solidario* clients are mothers with small children, for whom access to affordable quality childcare arrangements is crucial to labour market participation. Although capacity constraints continue to exist, policy measures are being implemented to expand day-care capacity (see above).

The rapid development of new policies in Chile poses both quality and capacity challenges to service providers. There is widespread concern about whether local administrations have enough family workers to provide intensive family support. Moreover, even if sufficient resources for staff are available, it is not certain that enough qualified staff can be found. With half of the social/family workers without documented skills for the job, additional investment in the quality of family support workers will be key to raising the effectiveness of these services.

In May 2010, President Piñera announced the creation of an Ethic Family Income (EFI) for the poorest households, as an initiative to alleviate the consequences of poverty, complemented by initiatives to eradicate its causes, such as job creation, education quality improvements and strengthening of families. The EFI intends to raise the income of the poorest households to CLP 50 000 per capita, which would mean a 73% increase for average individuals in the 1st income decile.[3] Similar to the *Chile Solidario* programme, this new transfer is designed to be *conditional* on the compliance with a series of health, education, training and job-search requirements. In addition, a phase-out mechanism was announced for the cash transfers, so that the households would not lose the incentive to work.

The government is planning to enact the EFI law by March 2011, followed by gradual implementation. The instruments of this new measure are currently in a preliminary design stage; key parameters, such as the threshold to define the beneficiary population and what specific instruments will be used, are not yet defined. The commission is exploring the creation of new instruments to replace or modify existing ones, such as the Family Allowances, *Chile Solidario* payments and the subsidies to obtain drinkable water or electricity.

The commission has highlighted several issues that have yet to be clearly defined in the EFI instruments' design: *i)* the indicator to set the vulnerability threshold that determines who is eligible for the EFI; *ii)* the phase-out mechanism; *iii)* the instrument to measure family income (the current Social Protection Record is inadequate, as it measures vulnerability, not income; if Chile's Tax Service (SII) records were to be used, family records would have to be created, since the current tax records are limited to individual information of formal income); and *iv)* how to assess and supervise informal workers' income.

Other family and child-related support programmes

Childcare support became a priority on the Chilean social policy agenda in 2006. To fight poverty and promote child development, gender equity and equal opportunities (OECD, 2007e), childcare capacity was expanded. Spending on childcare and preschool education increased from 0.25% of GDP in 2005 to 0.44% in 2009.

The *Chile Crece Contigo* programme, created in August 2007, provides support to mothers and children from the fifth month of pregnancy until entry in pre-primary school (age four). The plan was fully rolled out by 2009 with all mothers and children in the target group (the 40% most vulnerable, scheduled to increase to 50% in 2010) having access to primary health care, additional health and nutrition support, psychosocial support and free childcare for children whose mothers work, study or are looking for a job. Supports touch all relevant aspects of the family environment, health, cognitive development and education. In 2009, a law that created the Social Protection Inter-sector System was enacted, making *Chile Crece Contigo* a permanent legal institution.

Between 1990 and 2005, 700 public childcare facilities for children under three years of age were created and are scheduled to exceed 4 200 in 2010, covering 85 000 children under three. Childcare facilities for children between two and three years of age currently cover 127 472 children. The 2010 budget includes funding for the creation of public childcare facilities with around 41 600 new places for children under four by the national childcare authority *JUNJI* (*Junta Nacional de Jardines Infantiles*), *Fundación Integra*, and local authorities under the aegis of *JUNJI* and *Fundación Integra*. The total 2010 budget of *JUNJI* and *Integra* is USD 495 million. In addition, USD 257 million is available in 2010 for the extension of pre-kindergarten and kindergarten in schools supervised by the Ministry of Education.

Coverage of childcare services for children under two years was 7.8% in 2009 which is well below the OECD average for children two and under of 30%. Coverage for children between two and four-year-olds it was higher at around 30.6%.

Poverty among the elderly and pension reform

The increase in prosperity has contributed to the decline in poverty among the population in general, as well as among the elderly. Minimum pension payments may not be high, but they compare well against the very low transfer payments to the working-age population. Households in receipt of a pension are unlikely to be extremely poor (only 1.2% of them), and the poverty rate among the elderly is 8.2%, compared with 15.1% of the population in general.

In 2006, about 75% of men and 60% of women age 65 and over received benefits accruing from contributory pensions, and 70% of these contributory pensioners received less than CLP 114 000 (USD 242, about 80% of the minimum wage). The 2006 CASEN survey showed that about 14% of men and 17% of women over 65 years of age received the minimum pension, and that in all, public pension payments constituted around 6.2% of household income. However, their distributional impact is low. Public pension payments are still dominated by the entitlements established under the old pension system, which are related to previous

salaries. Hence, the distribution of pension payments is relatively similar to the earnings distribution in terms of household income quintiles. The Gini coefficient of the distribution of old-age and widows' pensions paid by the State is 40.7%, only a few points below the Gini coefficient of the wage distribution. The Gini coefficient of the household income distribution with and without pensions paid out by the State is 55.9% and 58.1%, respectively (Larrañaga, 2009).

The pre-funded privately managed pension system of individual accounts, introduced in 1981, has performed well over the years. It has deepened Chilean capital markets and assisted economic development, and rates of return on investment have been higher than originally envisaged. But it has failed to achieve some of its objectives. Competition in the pension market is limited, and this has contributed to high administrative fees. Pension reform introduced in 2008 aims to generate more price competition by having the pension fund management companies (*Administradoras de Fondo de Pensiones*) compete for a share of the market (new entrants) rather than trying to stimulate competition within the market.

Arguably the biggest shortcoming of the private pension system is that it has failed to achieve coverage for the vast majority of Chilean workers. Many workers with patchy employment profiles contribute very little to the system, and contribution densities are particularly low among low-income workers with low levels of educational attainment, young workers, female workers and the self-employed. To address the problem of low pensions, a *basic solidarity pension* was introduced in 2008. At the same time, financial incentives were introduced to make pension saving more attractive for women and young workers, and to promote the development of voluntary pension saving.

By 2012, mandatory coverage of pension contributions will be extended to groups of self-employed workers. While the intention is sound, there are concerns that these initiatives may not be successful. For example, the implicit marginal tax rate of 30% on contributions may be a deterrent for many low-income workers to save for retirement, and some of the self-employed may stop reporting income to the tax authorities rather than contribute to a pension insurance scheme.

Preliminary estimates of the effect of the introduction of the basic solidarity pension suggest reform may lead to an increase of 11.5% in average income of the first household quintile and 9.5% in the first two quintiles, as well as a reduction of around two percentage points in the proportion of poor households (Larrañaga, 2009).

Conclusion

With strong recent economic growth, the incidence of poverty has declined markedly, but at 15% (according to national data), poverty it is still high and the income distribution remains wide. This has triggered a search for policy options that could generate more inclusive growth.

Chile's income distribution is the most unequal among the OECD countries. This must largely be attributed to a low level of employment and to a segmented labour market, both of which make it difficult to extend effective social protection to the entire population.

Social mobility in Chile is low. In order to promote equality of opportunity, there are a number of steps Chile should consider taking. The most important seems to be the reduction of different forms of inequality, including current income inequality and inequality in the access to quality education (see Chapter 4). The evidence from OECD countries also suggests that interventions targeted at improving early childhood outcomes are desirable.

There are many poor families in Chile who have income from work, and in addition to health, education and/or childcare support, there is growing pressure to improve the financial position of low-income families. With employment rates among the poorest 10% of households as low as 30%, compared with 70% among the richest 10% of households, and with low female employment rates, there is ample scope for mobilising labour supply among groups of workers currently under-represented in the labour market. The training and job-search requirements the government is planning to introduce in the new Ethic Family Income programme will promote the mobilisation of labour supply, provided that adequate assistance can be given to this disadvantaged group.

With limited spending on income support and little success in raising employment, *Chile Solidario* has not been very effective in reducing extreme poverty. There has been much emphasis on developing networks that help people help themselves. This is an innovative approach but it has limits. The existing service infrastructure has been unable to help many get into paid employment, which is a condition for any sharp reduction of poverty. Chile needs to continue its investment in the infrastructure of service provision (*e.g.* training of social workers and employment service staff).

The Chilean system is good at identifying needy clients. The Social Protection Record (FPS) – covering about 65% of the population – appears to have provided authorities with a good profile of low-income households. However, because the FPS scoring formula is not public, potential and actual clients cannot predict with certainty how their disposable incomes would change, for example, if a household member

takes up or quits a job. Moreover, the FPS is intended to measure household earning capacity, and does not focus on *current* income streams. Therefore, it is no surprise that FPS thresholds are discretionary and do not account for phasing out or gradually withdrawing income support. As social services increasingly become entitlements, it is important to measure the income of households entitled to social services more accurately. Government plans to adapt the FPS so as to accurately measure current income changes and to design supplementary tools to measure short-term income changes will help address this problem.

The government sent a bill to Congress in 2010 to redesign the Ministry of Planning's institutional framework and replace it with a new Ministry of Social Development. Achieving whole-of-government policy outcomes for social policy programmes will require effective collaboration and co-ordination on policy development, implementation and evaluation between stakeholder ministries and ministers, and with the new Ministry of Social Development. Thus, clear guidelines as to the role and responsibilities of the new Ministry must be developed, as well as communication of expectations for interaction between the new ministry and stakeholders (and *vice versa*). This will require strong leadership from the President's Office and the Budget Office and effective leadership as well within the new ministry to manage working relationships with stakeholders, to maximise collaboration efforts and to avoid duplication of work.

Notes

1. These poverty headcount ratios are the shares of the population living below the national poverty and indigence lines, which correspond to certain consumption baskets.

2. In 2009, Chile spent 11.7% of GDP on health, education, housing, culture and recreation, and social protection. Pension spending accounted for an additional 4.7% of GDP (*Estadísticas de la Finanzas Públicas*). Comparative figures for OECD countries are not yet available for 2009.

3. The average per capita income (including current monetary subsidies) in the 2nd income decile already reached the goal of CLP 50 000 per capita. Any additional public spending through EFI would probably affect only the lower part of the 2nd decile (Source: Mideplan, 2009 CASEN household survey, using May 2010 pesos: *www.mideplan.cl/casen2009/distribucion_ingreso_casen_2009.pdf*.

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Chapter 7

Enhancing the capacity of Chile's public administration

Main recommendations

Chile has the governance institutions in place to maximise the potential of its public administration and to deploy resources in pursuit of its economic and socio-economic aims. As it moves to modernise the state Chile should pay attention not only to structures and processes but also to planning horizons and co-ordination of actors to achieve effective and efficient policy design and implementation. To this end, it should:

- *Complement its short- to medium-term strategic planning mechanisms with longer-term planning, which can further increase preparedness for "discontinuous" events.*
- *Reinforce inter-ministerial co-ordination and incentives for programme- or planning-based policy approaches to increase synergy in the use of financial and human resources, and to optimise policy outcomes.*
- *Further enhance resource flexibility in budgeting, and consider a medium-term budget or expenditure framework to identify funding sources to implement or further build public policy programmes.*
- *Link staffing levels not only to budget availability but also to future needs to improve flexibility and competences in human resource management.*
- *Take a comprehensive approach to administrative simplification to facilitate growth of multiple sectors and minimise ad hoc ministerial initiatives.*
- *Ensure adequate time, resources and mechanisms to make proper use of information arising from citizen engagement, as a demand or "citizen" driven use of funds can improve policy outcomes.*
- *Be sensitive to the different roles of government and adapt reform approaches accordingly to improve sustainability. (For example, the government's role in product market or pro-growth tax reform is likely to differ from its role in education or healthcare or administrative reform.)*

Chile's public finance statistics place the government and public administration on solid financial ground to implement the current policy

agenda. This is evidenced by the fact that, relative to other OECD countries, Chile has successfully maintained low general government expenditure levels over the period 1995-2008 (Figure 7.1). It should be noted, though, that spending has increased strongly during the recession of 2008-09, and expenditure is somewhat underestimated relative to other OECD countries, as the main pensions system and parts of the health care system are private. Due primarily to high copper prices total revenues have expanded over the period 1995-2008 (Figure 7.2) and the government became a net creditor.

Finances alone, however, are not enough for success. A country's public governance and management practices, together with its public administration, play a critical role in promoting and supporting its ability to meet complex policy challenges, including sustained growth. Chile's strong governance institutions have helped establish a framework for economic growth and a leadership position over the past decades. The country's current economic slowdown, which is a result of external factors such as the global economic crisis, as well as internal dynamics, including a decline in productivity,[1] sets the stage for introducing policies to re-invigorate and diversify market approaches and enhance the business environment.

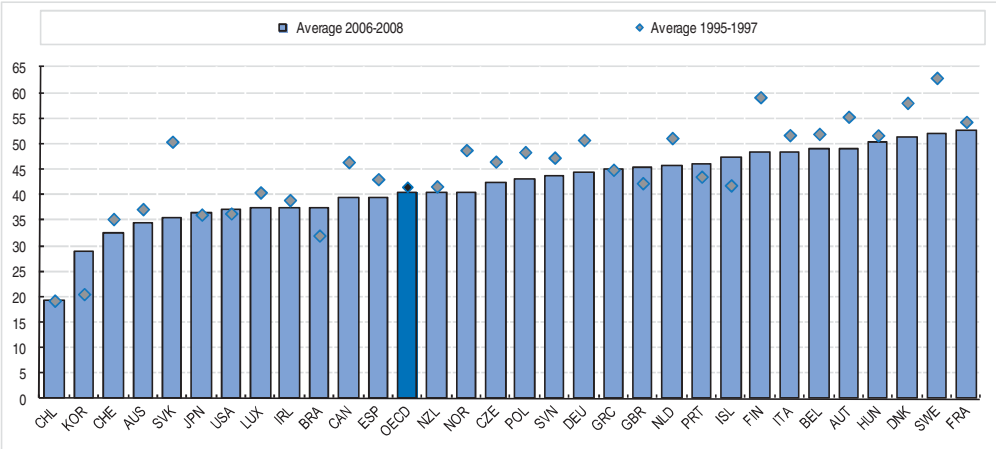
This context also provides the public administration with an opportunity to shape and implement lasting initiatives that advance the government's agenda, particularly in areas requiring horizontal and coherent policy initiatives, including raising employment levels and addressing internal security, social cohesion, democratic participation, health care and quality education. Seizing this opportunity requires an evaluation of where the government can capitalise on its strengths and where it needs to perform better. This entails longer-term perspectives in strategy formulation, as well as a continued focus on a capacitated and co-ordinated public administration, effective and efficient public spending, and an ability to create sustainable change.

Aligning government priorities and administrative capacity through strategic agility

Achieving Chile's comprehensive and ambitious policy agenda for the current presidential term will demand ensuring that both political and administrative actors are aligned. Building "strategic agility" through a balanced combination of strategic insight, collective commitment and resource flexibility can help accomplish this (see Box 7.1).

Figure 7.1. **General government expenditure in OECD countries**

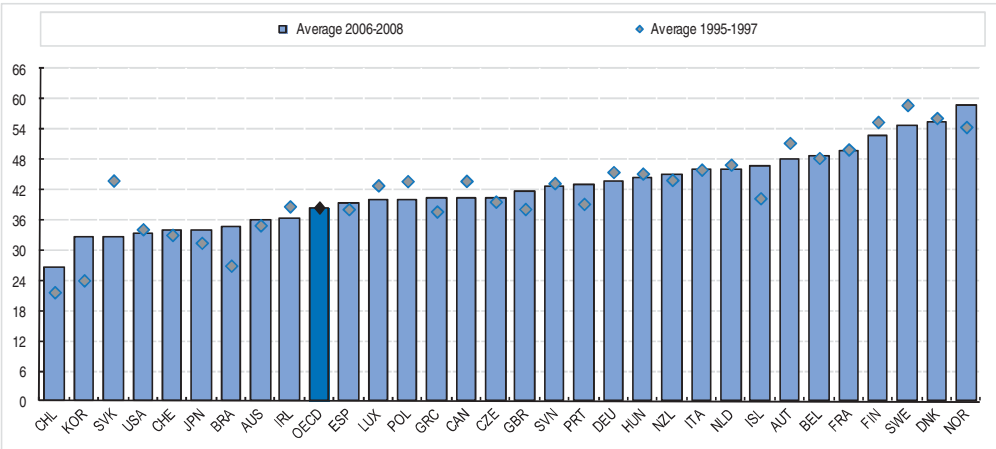
Percentage of GDP



Source: OECD (2010a), *OECD Factbook 2010: Economic, Environmental and Social Statistics*, OECD Publishing, DOI: *10.1787/factbook-2010-en*.

Figure 7.2. **General government revenue in OECD countries**

Percentage of GDP



Source: OECD (2010a), *OECD Factbook 2010: Economic, Environmental and Social Statistics*, OECD Publishing, DOI: *10.1787/factbook-2010-en*.

Box 7.1. **Building strategic agility: some key concepts**

Strategic agility is the ability of the government and public administration to anticipate and respond quickly to increasingly complex policy challenges, to determine at what level action is needed and to use the mechanisms most appropriate for achieving desired results.

The OECD has adapted the work of Doz and Kosonen (2008) for use in a public sector context in order to identify three necessary components for developing strategic agility:

- *Strategic insight* is the ability to understand and balance government values, societal preferences, current and future costs and benefits, and expert knowledge and analysis, and to use this coherently for planning, decision making and prioritisation.

- *Collective commitment* is adherence and commitment to a common vision and set of overall objectives, and their use to guide public actors' individual work, as well as co-ordination and collaboration with other actors (both inside and outside of government and across levels of government) as needed to achieve goals collectively.

- *Resource flexibility* is the ability to move resources (personnel and financial) to changing priorities if and as needed; to identify and promote innovative ways to maximise the results of resources used; and to increase efficiencies and productivity for both fiscal consolidation and re-investment in more effective public policies and services.

Source: Adapted from OECD (2010b), *OECD Public Governance Reviews: Finland 2010: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, DOI: *10.1787/9789264086081-en.*

Developing and articulating strategic insight: vision setting and collective commitment

Chile has clear and institutionalised mechanisms for setting its strategic vision and policy priorities. Among its primary tools are the *Programa de Gobierno* (Government Programme and its *Programación Gubernamental* (Government Programming). These have two additional advantages: transparency and accountability. The *Programa de Gobierno,* delivered as part of the Presidential Speech of May 21st, enables the government to be transparent about its policy priorities. This provides a forum for articulating the country's strategic direction in a manner that is accessible and clear to citizens, and enables citizens to hold the government accountable throughout the electoral term and at the next election. By articulating ministerial objectives and how they relate to programme priorities set by the president, the *Programación*

Gubernamental is a roadmap for ministries and agencies of how the country's strategic aims will be achieved sectorally. Published on line, these activities are available to citizens, thus promoting transparency. They also serve to hold the implementing body accountable both to citizens and to the government through an established monitoring system.

Chile's strategy setting covers a combination of medium-term (four-year) planning and short-term (one to two year) strategic objectives (see Table 7.1). Thus, prioritised objectives may change after 12 months, and there is no guarantee that a programme that is no longer part of a strategic objective will be permitted to take root. Care should be taken to ensure that government priorities requiring time for results to be apparent, for example, in education or policies linked to social cohesion, receive the same level of attention throughout the policy cycle regardless of their continued level of prioritisation in the annual *Programación Gubernamental*. Here is where policy planning over the short, medium and long term, with clear and integrated performance measures and evaluation mechanisms, can be valuable, as progress then may be seen over time.

Table 7.1. **Analysis horizons: strategic and decision-making needs by planning timeframe**

Analytical needs	Characteristics	Requirements	Examples
Foresight (Long term: >10 years)	Anticipation of and preparation for both foreseeable and disruptive /discontinuous trends and capacity needs; include future costs of today's decisions	Continuous scanning and consultation; pattern recognition; analysis of "weak signals"; futures studies; consensual views	Futures reporting; horizon scanning; long-term budget estimates; scenario planning
Strategic planning (Medium term: 3-10 years)	Anticipation of and preparation for foreseeable changes and capacity needs; prioritisation; include future costs in today's decisions; risk management	Analysis of historical and trend data; comparable information and analysis across government; consultation on values and choices	*Programa de Gobierno* at the beginning of a presidential term; medium-term budget frameworks; workforce planning; spatial and capital investment planning; innovation strategies
Decision making (Short term: 1-2 years)	Responsiveness; rapidity; accountability; ability to determine at what level decisions need to be taken	Quick access to relevant information and analysis; capacity for re-allocation; overview of stakeholder preferences	*Programación Gubernamental*; executive action; annual and mid-term budgets; crisis response

Source: OECD (2010b), *OECD Public Governance Reviews: Finland 2010: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, DOI: *10.1787/9789264086081-en*.

In the near term, Chile will need to ensure that its strategic capacity is matched by collective commitment. While a contract between the government and citizens, the *Programa de Gobierno* is also a political document. Therefore it risks being considered subjective and with limited "buy-in" rather than reflective of broader society. Here is where collective commitment becomes critical. Although not equated to consensus, collective commitment does require fostering an understanding among internal and external stakeholders as to the government's common vision. In the public sector, this is best realised by aligning incentives and values around overall strategic vision (OECD, 2010b).

In addition to accountability, the strength of the *Programación Gubernamental* is that it establishes the road for the public administration's execution of the government agenda and national objectives. The system is comprehensive and appears to be structured to support a "whole-of-government"[2] platform for implementation. In practice, however, ministerial silos are reinforced together with a project-based, rather than programme- or planning-based, implementation of approaches. This is compounded by ministries accustomed to building a portfolio of "approved-for-implementation" projects. While this approach can facilitate flexibility in prioritising project implementation, it can also result in inefficiencies, as the identification of project synergies that arise through inter-ministerial dialogue may be missed. The result can be an inefficient use of government funds, misplaced human resources and the development of infrastructure that is not aligned or associated with a broader vision. It can also be counterproductive to building collective commitment.

Developing and articulating strategic insight: the role of the centre and complementary actors

As an established co-ordination and monitoring body, the General Presidential Secretariat Ministry (SEGPRES) helps ensure the coherent design and implementation of government policies. Together with Chile's ministries and agencies, it creates a framework that can support developing, implementing, co-ordinating and monitoring of policy results.

Structurally, therefore, Chile is well positioned to effectively set and articulate its strategic policy aims, and harness the capacity of its public administration. Yet Chile faces co-ordination challenges that can affect a whole-of-government perspective. SEGPRES plays a critical role in co-ordinating and monitoring the government's programme of work. Such co-ordination plays an important role in building a "whole-of-government" approach to policy. Overall planning, however, is more sectoral which can reinforce vertical programming and a focus on a short-term programme of work. It can lead to a project-oriented approach and does not necessarily foster a medium- to long-term perspective promoting a coherent use of resources. This renders

SEGPRES's role even more pivotal and thus, inter-ministerial co-ordination needs to be enhanced and supported.

Chile should consider increasing its capacity in medium- and long-term strategic planning. This could help it prepare for unpredictable and/or "discontinuous" events (*i.e.* those not based on historic patterns). In addition, it could improve ministerial co-ordination in policy design and co-operation in policy implementation by promoting programme- and plan-based initiatives as a balance to those that are project based. This could capture the synergies that can be associated with policy design by ministries, including more efficient and effective use of resources, and promote greater cohesion in ministerial initiatives. Improving capacity in longer term planning and ministerial co-ordination would help the government achieve complex strategic aims that demand a multi-disciplinary approach, such as overcoming delinquency, which requires a concerted effort by various sectors, including the education, labour, health, security and social spheres.

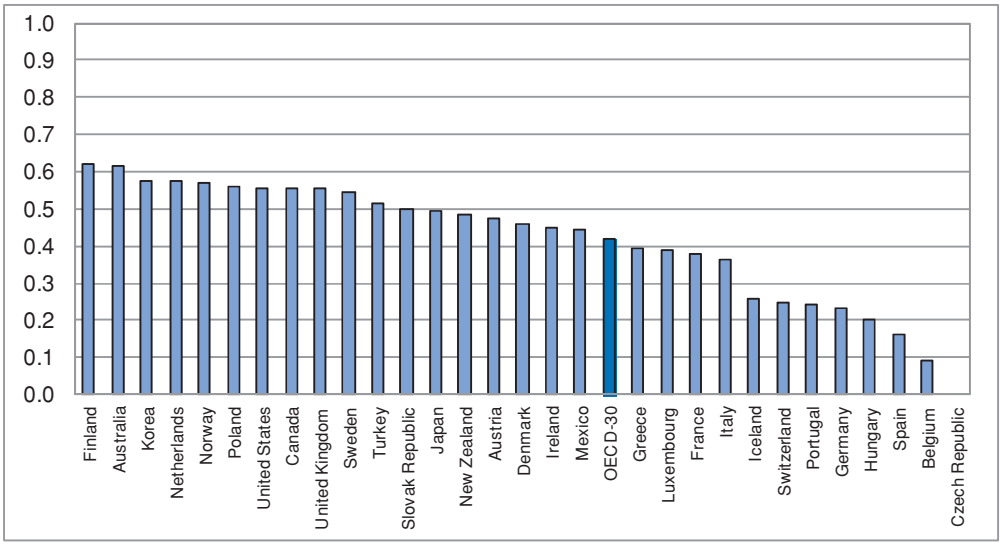
Efficient and effective public sector spending through resource flexibility

The importance of resource flexibility can be seen in Chile's response to the 2010 earthquake, as well as the mining accident that same year. Such flexibility enables the direction of human and financial resources to strategic priorities, identification and promotion of innovative ways to maximise the use of resources, and an increase in efficiencies and productivity to take the strain off of the budget and deliver more effective public services (OECD, 2010b). Public management tools, including budget practices, human resource management, regulatory management and citizen engagement, can all contribute to public sector effectiveness, efficiency and capacity through resource flexibility.

Budget management

Countries develop and use performance budgeting, which links funds to measurable results, to varying degrees. Figure 7.3 illustrates the degree to which central governments in OECD member countries have systems for developing and using performance information in the budget process. Countries with a higher score have created comprehensive, government-wide frameworks for developing performance information, integrating the information into budget and accountability processes, using it in decision making, and monitoring and reporting on results. However, this is not a measure of how successfully the systems are operating; nor does it indicate whether this information is used in decision making or whether it is aligned with budget allocation. Success is better evaluated by determining if reforms are achieving their stated objectives, which is not captured in the table (OECD, 2009a, 2010b).

Figure 7.3. **Use of a performance budget system at the central level of government, 2007**



Notes: Index goes from 0 (no performance budgeting) to 1 (high performance budgeting level). This index examines the degree to which OECD member countries have put a performance budgeting system in place. However, it does not measure how successfully these systems operate in practice.

Source: OECD (2009a), *Government at a Glance 2009*, OECD Publishing, DOI: *10.1787/9789264075061-en*.

Performance budgeting practices in Chile are advanced, which can help policy makers in informed, evidence-based decision making – assuming the information is used effectively. Such use in Chile might be hindered by the fact that there is no automatic link between performance information and appropriations. Rather, during budget negotiations with Congress, and between the Ministry of Finance and line ministries, performance data are used in conjunction with financial and other data. While the government does share performance information with the legislature, congressional use of such information has been limited.

There is a degree of "managed flexibility" in Chile's budget practices, permitting it to adjust financial resources (with certain restrictions) through cuts, cancellations or rescinding spending, once the budget has been approved by Congress. Thus, the ability of ministers to reallocate funds between line items with Ministry of Finance approval allows for a degree of sectoral discretion. However, establishing greater autonomy on the part of ministries in managing their budgets, particularly with respect to line item reallocations, could increase resource flexibility.

Another point to consider is the degree to which a medium-term framework is used in budget practices. Since 2002 Chile includes

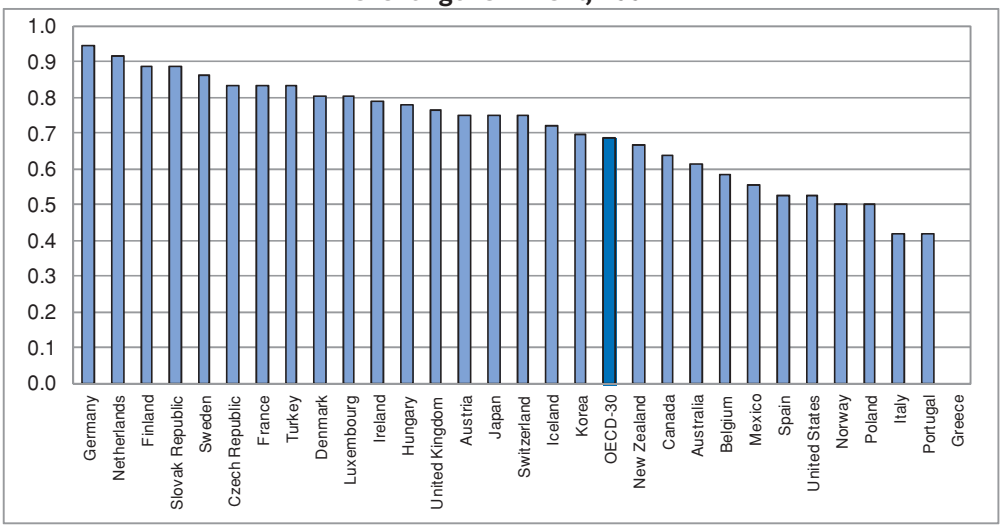
medium-term (three-year) fiscal projections in the Public Finance Report sent to Parliament as part of the budget process. This is at an aggregate whole-of-government level, and thus is not a developed medium-term framework as discussed below. As part of the fiscal rule there is also monitoring and reporting on contingent liabilities, although some have argued more could be added to this area (Dabán, 2011). The current macro-economic projections in the Public Finance Report are not as detailed or as integrated in the budget process as would be best practice. Medium-term frameworks should include rolling base line projections and/or ceilings based on both immediate spending expectations as well as demographic and other macro trends. The framework should be subject to stress tests and sensitivity analysis on an annual or *ad hoc* basis. For the estimates to be valid they need to be based on input from line ministries and should be updated in "real time" in the Ministry of Finance. The effect is for government and Parliament during the budget discussion to be able to have a full overview of the current fiscal direction and thus make appropriate tradeoffs in advance if needed. This provides a link between a fiscal rule and the annual budget process. An updated credible medium-term framework enables line managers to execute their programmes prudently in that the development in appropriations over the medium term are predictable thus ensuring more efficiency and effectiveness of spending. Figure 7.4 illustrates the use of medium-term perspectives in central level budget processes among various OECD countries.

Chile already uses a number of best practices in the budget process. Expenditure ceilings are annually set for both ministries and agencies in a top-down way. There are also mechanisms that permit increasing expenditures for initiatives that have been established in previous years and are being phased in. Additionally, the review of performance and results can lead to an adjustment in funding levels for certain programmes. Integrating these budget practices and procedures with a more robust medium-term perspective will thus be attainable for Chile within a relatively short period of time.

Human resource management

Resource flexibility includes ensuring that the public administration's key assets – its staff – have the capacity to implement the government's strategic priorities. This includes staff skills and training, leadership and mobility (OECD, 2010b). Among the challenges Chile faces in this arena is the ability to attract qualified staff, due in part to low remunerations for technically complex jobs.

Figure 7.4. **Use of medium-term perspective in the budget process at the central level of government, 2007**



Notes: Index goes from 0 (no MT budget strength) to 1 (high MT budget strength level). This index measures the extent to which countries have developed a medium-term perspective in their budget process. However, it does not evaluate whether this perspective has been effective in achieving budget outcomes such as fiscal discipline or allocative efficiency.

Source: OECD (2009a), *Government at a Glance 2009*, OECD Publishing, DOI: *10.1787/9789264075061-en*.

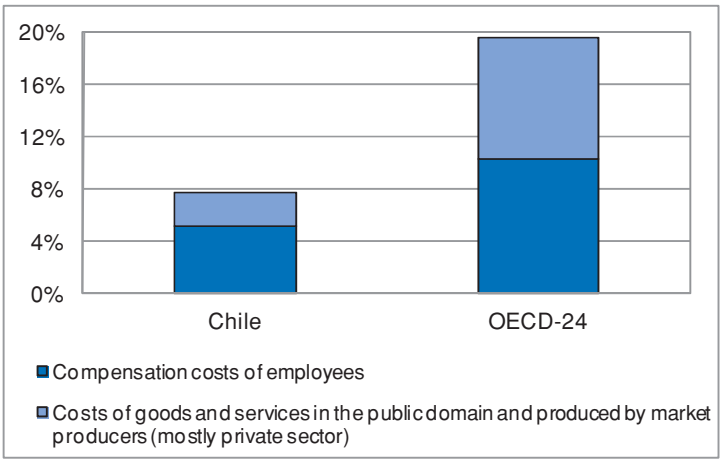
Chile's *planta, contrata* and *honorarios* systems of human resource management provide flexibility but also compound issues of professionalisation in the civil service. The *planta* system is predominantly career based and inflexible, extending at times to slightly over 50% of government workers. The *contrata* system extends to the remaining 50%. Employees hired under the *contrata* system are employed with one-year contracts, which can be renewed an unlimited number of times. The *contrata* system can make up for the inflexibility of the *planta* system. This is also true of the *honorarios* mechanism which was developed as a means to overcome the legal and practical rigidities of Chile's civil service system. While a multi-faceted system does provide for flexibility both in staff levels and in ensuring the right mix of skills and competencies, it can also mean easy loss of institutional knowledge, and inefficiency associated with a contract work staff, *i.e.* the risk that once they are familiarised and operational in their positions, they are the easiest to cut if and when necessary.

Chile may wish to consider different ways of building flexibility into its workforce in order to attract qualified civil servants and encourage accountability. The idea is not to emulate private sector practices, but rather to give public sector managers the same ability as their private sector peers to adapt working conditions to the needs of their organisation and to the merits and performance of individual

employees. Doing so would enhance the human resource flexibility of Chile's public administration.

Another consideration is the production costs in the public domain as a percentage of GDP. In Chile, these are significantly lower than the OECD average[3] (Figure 7.5). This means that Chile spends less in terms of direct and indirect public goods and services compared to other member countries. While more spending is not always the answer, the question to ask is: does this reflect a weakness in the provision of public goods and services by the public sector in terms of quality or availability, and can it be addressed at least in part through human resource management systems? The *contrata* system compensates in part for any gaps in the production of public goods and services. It reflects, however, "short-termism" focused on operational decisions rather than on long-term strategic workforce planning that considers the competencies and staff levels required to meet strategic priorities over time.

Figure 7.5. **Production costs in the public domain as a percentage of GDP**



Notes: The use of goods and services was taken from Government Finance Statistics of the IMF and was used as a proxy of costs of goods and services in the public domain and produced by market producers in Chile, Chile data refer to 2005 and OECD average refers to 2006. OECD average does not include Australia, Greece, Hungary, Iceland, Japan and Turkey.

Sources: OECD National Accounts Statistics, IMF Government Finance Statistics and Central Bank of Chile.

Regardless of turnover rates, the system's design limits flexibility in practice as it links workforce levels to budget availability, thereby restricting the ability to meet changing labour needs, and to detecting and preparing for future changes in the skills and competencies required

by individual organisations. Reforming the rules behind the management of the *planta* and *contrata* staff and linking staffing levels to future needs could help structure the workforce with the necessary skills and competences with a whole-of-government approach.

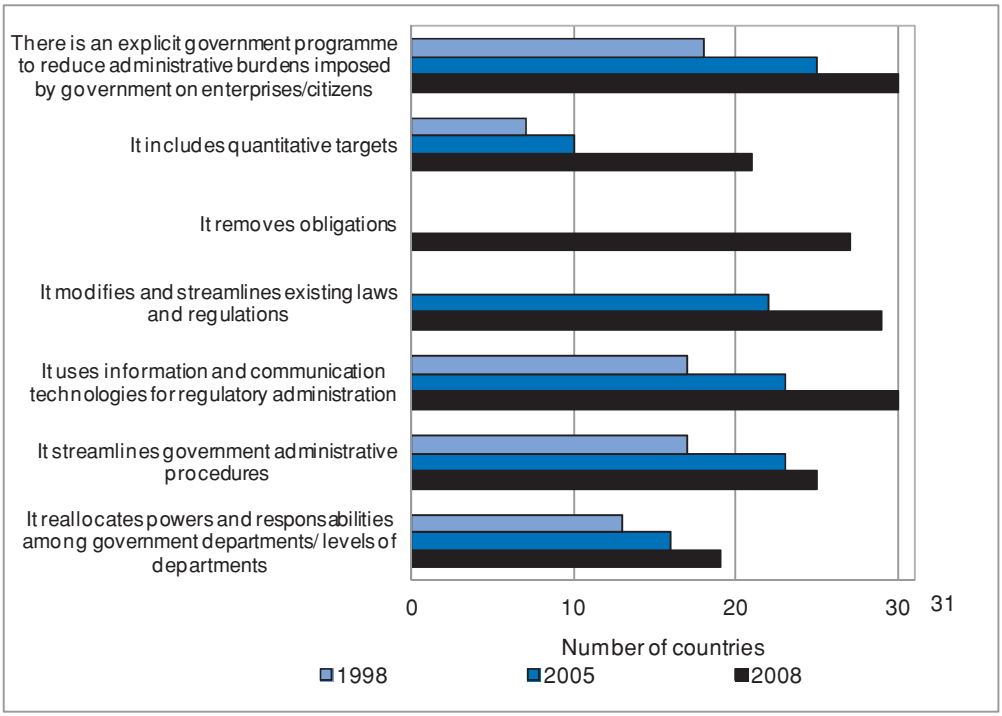
Regulatory management

One important regulatory management consideration, particularly given Chile's economic growth objectives, is promoting administrative simplification. Figure 7.6 provides some general characteristics of programmes adopted by different governments to reduce administrative burden. For many OECD countries, reducing the burden of government regulations on businesses and citizens is a significant part of their strategy to improve economic performance and productivity. "Red tape" can be particularly burdensome to small businesses, and in some countries it may result in greater levels of informal activity. Within the regulatory management strategies of OECD members, tools for administrative simplification have become central to improving administrative efficiency of regulations and reducing time and money spent on compliance. Member countries have taken numerous steps to reduce administrative burden, such as establishing "one-stop-shops" and undertaking programmes to review and reduce the number of licenses and permits required by the national government. Chile has focused its administrative simplification efforts on specific sectors, such as SMEs and international trade and health issues, rather than taking a comprehensive approach. This can limit the benefits associated with administrative simplification by favouring certain sectors, and can create administrative inefficiencies and incoherence if government institutions undertake such reform independently and/or on an *ad hoc* basis.

Public consultation in regulatory management consists of the interaction between government and citizens and other stakeholders in the creation or improvement of regulation. It is a key policy tool for improving the transparency, accountability, efficiency and effectiveness of regulation. Public participation in rule making can support better informed regulatory management and promote public trust in rules, thereby improving regulatory compliance (OECD, 2009a).

There are a variety of ways OECD countries, including Chile, undertake public consultation in the regulatory arena. In Chile, some of it is based on electronic applications targeting improved transparency via an electronic registry of regulations. Some of it also appears to be *ad hoc,* through working groups or informal consultation. While private sector consultation has been encouraged in the past, other stakeholders in Chile have not been as actively engaged. This can limit perspective and buy-in when developing and applying regulations. The lack of a strong institutional framework for systematic and generalised public consultation may contribute to this, and have its roots in traditionally low levels of citizen engagement.

Figure 7.6. **Characteristics of central government programmes to reduce administrative burdens, 1998, 2005 and 2008**



Source: OECD (2009a), *Government at a Glance 2009*, OECD Publishing, DOI: *10.1787/9789264075061-en*.

Citizen engagement

The relationship between citizens and governments has been expanding in OECD countries, with citizens participating as partners in the design, delivery and evaluation of government services. As policy issues become ever more complex, partnerships with citizens, business, civil society organisations (CSOs) and other stakeholders are needed to achieve whole-of-society objectives when tackling national and global policy problems. Engaging citizens and allowing them to actively participate with government in addressing these issues increases opportunities for strategic insight and is a critical step in shifting the focus of public administration towards a stewardship role (see Box 7.2) (OECD, 2010b, 2009a).

Participatory democracy is a key policy area of the Chilean government's agenda. Over the past decades, the country has made remarkable progress in introducing a series of legislative and policy measures that support transparent and open government. The practice

of engaging citizens in consultation and participation, however, is not yet widespread in Chile, and this may be due in part to discrepancies in the preparedness of ministries to open their policies to public scrutiny.

Box 7.2. **Citizen engagement: some key concepts**

Citizen engagement includes three areas: information, consultation and participation.

In citizen information, information is conveyed "one way" from the public administration to the public; there is no involvement of the public (*e.g.* public feedback is not required or specifically sought), and there are no mechanisms through which to respond. Examples include: access to public records, official gazettes and government websites.

In citizen consultation, information is conveyed "one way" from members of the public to the public administration following a process initiated by the public administration, but no formal dialogue exists. Examples include: public opinion surveys, comments on draft legislation, public hearings, focus groups, workshops/seminars, and comment and notice periods.

In citizen participation, information is exchanged "two ways", between members of the public and the public administration through a dialogue, where opinions of both parties are transformed. Citizen engagement also involves the "two-way" information flow between citizens and the public administration. Examples include consensus conferences, citizens' juries, dialogue processes and citizen fora.

When discussing citizen engagement in the context of public governance, the term "citizen" has a wide and all-encompassing definition which includes individual citizens, CSOs, businesses and municipal and regional authorities.

Governments can benefit from wider public input when deliberating, deciding and DOIng. In addition to helping governments to achieve greater strategic insight, effective citizen engagement can also facilitate:

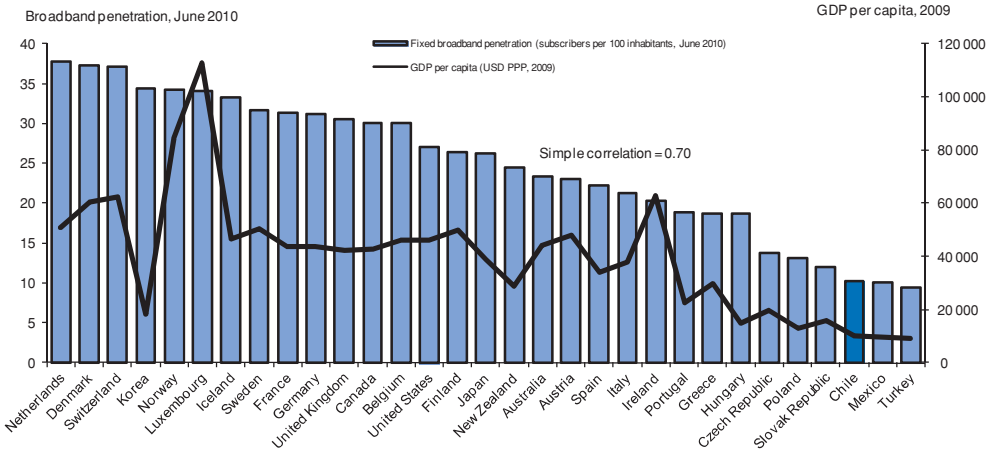
- greater trust in government;
- better outcomes at lower costs;
- higher compliance levels with decisions reached;
- equity of access to public policy making and services;
- leveraging of knowledge and resources; and
- development of innovative solutions.

Source: OECD (2009b), *Focus on Citizens: Public Engagement for Better Policy and Services*, OECD Studies on Public Engagement, OECD Publishing, DOI: *10.1787/9789264048874-en;* OECD (2010b), *OECD Public Governance Reviews: Finland 2010: Working Together to Sustain Success*, OECD Public Governance Reviews, OECD Publishing, DOI: *10.1787/9789264086081-en.*

Understanding when and why to engage citizens is a key component of participatory democracy. It can promote a feeling of being involved and increase buy-in on policy initiatives and programmes, thereby enhancing the possibility of policy or reform success. It is also at the centre of a closer relationship between citizens, businesses and the state. Citizens, however, want feedback on what happens following their input, and Chile must be prepared to invest the time and resources required to make proper use of information arising from consultative and engagement processes. This said, the investment may have significant value added, as it can be critical to ensuring greater trust in government and better outcomes through enhanced strategic insight (OECD, 2010b).

OECD countries use a variety of means, including citizen assemblies, panels, polling, petitions and town meetings, to build citizen engagement and participatory democracy. Often information on draft laws and initiatives under development is made available for public access and consultation via the Internet. Relying strictly on the Internet, however, is often insufficient, as the information flows can be in one direction only. In addition, the success of the Internet for citizen engagement depends on access by citizens to computers and networks, as well as to the type of information shared, how feedback is solicited, etc. While Chile is a leader in Latin America in terms of ICT readiness, it still lags behind other advanced countries in terms of connectivity. Broadband penetration per 100 inhabitants in Chile was 10.2 in June 2010 compared to the OECD average of 24.2 (Figure 7.7).

Figure 7.7. **OECD broadband penetration and GDP per capita**



Source: OECD (20010e), "OECD 2010 broadband penetration and GDP per capita", *www.oecd.org/dataoecd/21/57/39574824.xls*.

Citizen engagement can improve the effectiveness and efficiency of government by providing decision makers with insight into the needs, desires and mood of its constituents. In this way it can avoid making costly mistakes when developing and implementing initiatives such as large-scale infrastructure projects, changes in healthcare insurance schemes or social service funding. Engagement should, however, be in balance with the types of decisions that need to be made. Thus, consultation may not always be appropriate for short-term decision making because of the need for rapid response or the sensitivity of a particular topic. In such cases, however, it is important that decision makers have information regarding citizen preferences (OECD, 2010b).

Implementing and sustaining change

In any domain – be it economic, social, political or administrative – broad-based policy initiatives introduce change. Thus, government faces a series of challenges, especially with respect to scope, scale and complexity, time lags, co-ordinating among different levels, and a need to ensure the support of stakeholders who will be affected by the change. Adjustments to public sector practices in order to enhance efficiency and effectiveness, and the capacity to better achieve policy objectives, face the traditional obstacles associated with any reform, but also a series of their own special challenges. These include a lack of social demand for administrative reform; public resistance to forms of change; a requirement to "reform the reformer"; and managing the interdependence between political and administrative institutions and actors (OECD, 2010c). Efficient, effective, accountable and transparent public administration can boost legitimacy, trust and commitment to the economic and political reform agendas, as well as improve the quality of policy design and implementation. However, public sector reforms are often complex, unpopular, contested and risky. They require time to produce results and prove their benefit.

Administrative reform can benefit from a variety of tools (see Table 7.2). These may often be simultaneously applied, as reform processes are nonlinear and long-lasting, usually characterised by a planning phase, a project management phase and a sustainability phase.

Sustainability

The key challenge facing reform in any sector is reversibility. This can be caused by a change in political priority – leading to less political attention placed on the reform – or to a political decision made by a newly elected government to reverse the reform of the previous government. This may be managed at least in part through monitoring and evaluation. Effective mechanisms for *ex post* evaluation can help embed reform and also adjust them as necessary. Institutional solutions, either through existing or new institutions, are also valuable. Often,

putting reform in the hands of a leading and permanent organisation is the only way to avoid the reform process being captured by existing organisations and lobbies. This does not mean that the reform must be centralised. In fact, OECD studies indicate that the centralisation of strategic issues can go hand in hand with the devolution of responsibilities to line ministries (OECD, 2010c).

Table 7.2. **Public administration reform challenges and possible policy tools**

Key challenges	Possible policy tools
• Bridging information gaps and developing a clear roadmap with measurable intermediary targets and final outcomes. • Creating support for the reform among both citizens and civil servants. • Building on leadership and political commitment to the reform. • Overcoming resistance to change and creating a sense of ownership for reforms. • Capacity and knowledge. • Avoiding policy reversals. • Evaluating reform and assessing success.	• Independent systems of expertise and preliminary evaluations. • International organisations. • Public debates and consultation strategies. • Seize the moment: take advantage of crises. • Clear electoral mandates. • Compensating "losers" of reforms. • Implementing complementary reforms. • Contracts and experimentation. • Training plans and public administration schools. • Communication. • Evaluation mechanisms. • Independent and permanent institutions. • Ombudsmen and high-level committees.

Source: Adapted from Chapter 8, "Modernising Government" in OECD (2010c), *Making Reform Happen: Lessons from OECD Countries*, OECD Publishing, DOI: *10.1787/9789264086296-en*.

Sectoral responses in sustainable reform

Sensitivity to the role of government in various sectors can help increase the potential success of public policy and reform. For example, in some instances the state acts as a "referee", regulating activities of independent agents. This is the case in competition policy, labour and product market regulation. By contrast, in areas such as education and healthcare, the state is directly engaged in providing services to citizens, and thus its role in policy-setting reform will be different. Where change directly affects how the state functions, as with public administrative reform, there are some additional challenges, as the state is being asked to reform itself.

At the moment, Chile has several factors working to its benefit if it elects to undertake administrative reform as a means to achieve its economic and socio-economic aims. Among these is the fact that since administrative reform represents a break from accepted practices, policies and processes, it often helps to have a newly elected

government with a clear mandate for reform in place (OECD, 2010c). In addition, Chile has well-established and respected institutions that can serve as a platform for realising strategic agility. The challenge now is to ensure that decision makers at the political and administrative level have the resources, information and methods to systematically and coherently undertake the strategy setting, planning, implementation and consolidation of the government's agenda.

Notes

1. See Chapter 3 of this publication.
2. "Whole-of-government" is an umbrella term for the promotion of horizontal co-ordination and integration in policy design and implementation, as opposed to vertical silos.
3. The public domain includes goods and services produced by: *i)* government-owned or controlled organisations; *ii)* private actors when funded directly or indirectly by government for the delivery of goods and services, with a direct link between these goods and services and funding; and *iii)* monopolistic concessions of legal monopolies. For further information, see Pilichowski and Turkisch (2008).

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Chapter 8

Strengthening the financial system in Chile

Main recommendations

- *Ensure greater independence and transparency of the Superintendence of Banks and Financial Institutions, Superintendence of Securities and Insurance Supervisor, and Superintendence of Pensions.*
- *Take legislative action to establish group-wide supervision in the financial sector and expand oversight for significant non-bank credit providers.*
- *Make further progress in risk-management of pension fund administrators, and establish a system of risk-based supervision in the insurance and private pension sectors.*
- *Establish guidelines requiring insurers to assess the adequacy of reinsurers.*
- *Assess the impact of recent reforms on pension benefits and evaluate the need for further policy initiatives to raise pension savings and promote later retirement.*
- *Strengthen financial awareness and education in the area of credit, insurance and private pensions to enable individuals to make better decisions.*

Over the past 30 years, Chile's financial system has undergone significant development, with an increase in the number of participants, the variety of products, and market depth. Chile's financial system is now well-developed by emerging market standards, and even by the standards of many OECD members. This applies in particular with regard to the long maturities available in the fixed-income market, which has benefited from the development of the mandatory private pensions scheme. Chile's financial sector is compartmentalised, meaning that banks for example cannot do equities business or own insurance companies, although all activities can be done by separate companies under a common holding structure. Most financial institutions indeed form part of conglomerates.

Chile's financial system has performed relatively well in the context of the global financial crisis, especially if compared to many other OECD countries. No major banking failures were observed and markets recovered quickly after the initial uncertainty. This is in large part due to several aspects of Chile's conservative model of regulation, particularly its cautious approach to the introduction of new and complex financial instruments. The current move to consolidate credit information concerning banks and non-banks would enable informed credit ratings of retail consumers, and limit the potential negative impact on bank soundness.

In Chile, financial services are regulated and supervised by different institutions according to the type of financial service. The Superintendence of Banks and Financial Institutions (SBIF) and the Chilean Central Bank are in charge of banking, the Superintendence of Securities and Insurance (SVS) is in charge of securities and insurance, and the Superintendence of Pensions (SP) supervises the pension system and unemployment insurance.

The global financial crisis has had a limited impact on the insurance sector in Chile. The majority of Chile's insurers are foreign-controlled insurance undertakings, some of which were affected by the market turmoil. Credit risk stemming from the issuers of the instruments in which the insurance companies invested increased due to lowered credit ratings and losses in investments in structured credit instruments issued by financial companies operating at an international level. Other features of the Chile insurance market are high efficiency and active product development, largely reflecting the majority market share held by foreign-controlled insurers, and an attractive market in which new products related to pension systems can be piloted.

Chile has undergone some regulatory changes that have magnified market growth in insurance. The introduction of new distribution channels via *bancassurance* and department stores have resulted in an increase of gross premiums.

Chile has a long history of private pension provision and has been a model for pension reform in many countries. The private pension

system began operation on 1 May 1981 as a fully funded, defined contribution system in which pensions are based on individuals' savings accumulated during workers' lives. It is compulsory for all wage and salary workers and involves the mandatory payment of a percentage of gross earnings as contributions into a private pension fund selected by the individual from pension fund administrators (AFP) licensed by SP.

Pension regulation is comprehensive and generally well designed. Pension funds lost 14% on average in 2008 in the midst of the financial crisis, but rebounded in 2009.

The OECD has, in the course of Chile's accession process, made a number of recommendations intended to assist Chile in further strengthening the resilience of its financial system. For the most part, these recommendations go in the same direction as actions already under discussion in Chile, but have not yet been implemented. Chile's financial system is at a point where it can finally address these long-standing issues, and further modernise, while preventing the emergence of future vulnerabilities.

Enhancing the supervisory framework

Greater independence of the financial oversight bodies

In Chile, financial services are regulated and supervised by different institutions according to the type of financial service. The Superintendence of Banks and Financial Institutions and the Chilean Central Bank are in charge of Banking, the Superintendence of Securities and Insurance (SVS) is in charge of insurance, fund management, central securities custody, securities and commodities offering and trading, and the Superintendence of Pensions supervises the pension system and unemployment insurance.

Experience from other countries suggests that supervisory authorities, in the regular exercise of their functions, should be independent to avoid the risk of being subject to undue political pressures. This is reflected in the Basel Core Principles for Effective Banking Supervision's assessment criteria, which require, *inter alia*, that operational independence, accountability and governance structures of each supervisory authority be prescribed by law and publicly disclosed, that the head(s) of the supervisory authority could be removed from office during his (their) term only for reasons specified in law with the reason(s) for removal publicly disclosed, and that the head(s) of the supervisory authority be appointed for a minimum term.

In Chile, the process of appointing the heads of the three superintendences is similar. There is no fixed term for the mandate of the heads of the superintendences. Their mandate usually coincides with that of the President of Chile, who is responsible for choosing the

head, and can freely remove him or her. Resources are provided from the general government budget. While competence has not generally been an issue, greater budgetary and political independence of the superintendences would benefit their functioning and reputation.

Chile may thus consider whether it can further strengthen the independence of its superintendences by setting minimum terms for the head(s) of the supervisory agencies, and ensuring that the head(s) of the supervisory authorities can be removed from office during his (their) term only for reasons specified in the law. The appointment of the financial supervisors should best be carried out through a transparent and competitive selection process.

If the Financial Supervisory Commission (see below) makes recommendations to improve the independence of the superintendences, Chile should consider institutional arrangements that follow international standards and practice.

Developing group-wide supervision appropriate to the Chilean financial system

Whereas many financial services providers in Chile form part of groups and conglomerates, Chile does not yet have a system of consolidated supervision. Current efforts to enhance co-operation among supervisors, while welcome, may not be sufficient considering the risks that may build up in various parts of banking and other financial groups, including in groups comprising non-financial enterprises. While there is no evidence of significant problems in Chile, experience in other countries shows that the undetected build-up of risks in parts of a group can reach levels at which the stability of important financial institutions may be endangered.

The supervision of groups and conglomerates in Chile is complicated by the fact that they are supervised by various institutions, depending on the kind of services they provide. SBIF, SP, SVS and the Central Bank convene the Superintendents Committee monthly to co-ordinate the supervision of regulated entities. Chile also participates in supervisory colleges with other foreign supervisors for some of the international insurance groups to share information on the group's operations in Chile. The Superintendents Committee is designed to facilitate the flow of information among supervisors and with the Central Bank, including with regard to groups or conglomerates. It is unclear however to what degree the individual supervisors do have an adequate overview over the entirety of the activities of groups and conglomerates. The policing of the firewalls established to maintain the separation of activities has, for example, posed a challenge for the authorities.

There is no legislation that explicitly gives supervisors access to information about superior or parallel structures operating at the parent bank, although the SBIF has obtained such information and the SBIF,

SVS, and SP may share information about the entities they inspect, with the exception of those entities subject to banking privacy. The companies supervised by the SVS have to report whether they belong to a business group. If a company forms part of a corporate group (two or more companies), it has to identify all the persons and entities that form part of this group.

An essential element of banking supervision is that banking groups should be supervised on a consolidated basis, adequately monitoring and, as appropriate, prudential norms being applied to all aspects of the business conducted by the group worldwide. In the Basel Core Principles for Effective Banking Supervision's assessment criteria this is reflected in the requirement that the supervisor has the power to review the activities of parent companies and of companies affiliated with the parent companies, and uses the power in practice to determine the safety and soundness of the bank.

The OECD thus recommends that Chile establish a system of consolidated and group-wide supervision. This will ensure that supervisors will have the capacity to detect build-up of risks within complex groups and conglomerates. The Ministry of Finance has now established the Financial Supervisory Commission with high level experts as commissioners to design a proposal for integrated financial regulation. The Commission's role will be important in identifying the form in which Chile can best carry out consolidated supervision and address the independence of financial supervisors.

Whatever new institutional arrangement the Financial Supervisory Commission may recommend, every effort should be made to eliminate gaps in supervision and ensure that supervision is well implemented.

Improving financial education

Over the medium term, a financial education national strategy can strengthen the financial system by helping financial consumers make informed decisions. Chile has yet to establish a comprehensive national programme for financial education in the respective financial sectors, and the OECD recommends that Chile develop such a programme.

The level of financial education of Chile's population is still low in the credit sector, where intensification of financial education activities may help prevent problems such as over-indebtedness. Three governmental institutions perform activities regarding financial education and awareness regarding credit; SBIF, SVS and the National Consumer Service (SERNAC). A recently adopted legislation requires banks to offer two standardised loan products that would enable easier product comparison. This is an important step forward. In addition, it would be useful to widen the scope of information disclosure to ensure that consumers can make informed decisions on all financial products.

Chile has been endeavouring to promote enhanced risk awareness and financial education in insurance. For example, a public education campaign about the terms and operation of Chile's compulsory insurance for personal accidents caused by land motor vehicles has been beneficial. However, general risk awareness levels could be raised if SVS were to incorporate risk awareness and education in its general policy programme as well as promote targeted campaigns on specific insurances. SVS has norms and instructions on how insurers should deal with clients and the general public but there is no obligation to differentiate between quality and promotional information which could be misleading. SVS assesses risk factors in the insurance sector through surveys and complaints handled, which could be used to analyse the areas in which there may be educational needs.

Chile has launched some useful initiatives for improving levels of financial literacy on pensions recognising that under the Chilean pensions system, households bear most of the responsibilities for their future retirement income. In particular, Chile has founded the Pension Education Fund which provides financial support to projects, programmes, activities and educational measures about the pension system. This fund, managed by the Undersecretariat of Social Security at the Ministry of Labour, has had an initial focus on projects to raise awareness among employers and employees.

Modernising the banking and capital markets

The Chilean fixed-income market is unusual in that almost 90% of the market is inflation-indexed, almost always to the *Unidad de Fomento* (UF). There is no significant fixed-income market in Chilean pesos. Primarily as a result of inflation-indexing, local fixed-income instruments have yielded strong returns, reducing the relative attractiveness of equities. Stock exchange turnover is comparatively low, reflecting the predominance of buy-and-hold investors and the low float associated with conglomeration.

Foreign presence through direct investment in the financial sector is substantial, with foreign players operating mainly through subsidiaries. Whereas foreign participation in the equity market has risen somewhat from low levels, foreigners remain absent from the local fixed-income market. In the foreign exchange market, Chile requires transactions to go through the Formal Exchange Market (FEM), and forward transactions are mainly done through non-deliverable forwards (NDFs). Reforms were recently passed to allow international exchange of bank information for tax purposes.

Under Chile's deposit guarantee scheme, the Chilean government guarantees saving accounts and time deposits. This guarantee benefits individuals only, and covers 90% of the obligations that the financial system has contracted with an individual. The system is not pre-funded,

with coverage unlimited for demand deposits, and 90% for household savings and time deposits with a ceiling of UF 120 (approximately USD 5 140). Recent experience among OECD member countries indicates that low levels of coverage and partial insurance, with delays in repayment, may not be effective in preventing bank runs. Chile may thus wish to consider removal of the co-insurance component.

Chile's central bank enjoys a special independent status under the Bank's Constitutional Organic Law. Besides being responsible for monetary policy, the Central Bank is in charge of a number of specific regulatory tasks with regard to the banking sector, working together with the SBIF. Although most capital controls were abolished many years ago, the Central Bank still oversees the foreign exchange regulations and retains the power to impose capital controls. The international integration of Chile's capital markets remains low, with no international clearing and settlement arrangements available for the peso. Joining one of the international settlement systems would assist the internationalisation of the peso.

Chile's financial system is generally market-oriented and open, and Chile's market and regulatory structure has performed well in the context of the global financial crisis. At the same time, further upgrades of the regulatory regime could help improve efficiency and secure financial stability in the future. Chile has already taken a number of steps to address weaknesses of the regulatory regime and improve market standards. Several important reforms, however, are still in the planning stages. These should be adopted as soon as possible, taking into account the experiences of other countries, particularly in the context of the global financial crisis.

Whereas Chile implemented several capital market reform packages over the last few years in order to modernise and internationalise its capital markets, these have so far met with only limited success. Recent reforms (Capital Market Reforms I and II, MKI and MKII) were designed to improve both the attractiveness and the regulation of Chile's financial markets.

The third capital market reform (MKIII) took effect in August 2010, permitting exchange traded funds (ETFs) to be established and investment fund tax breaks to foreign institutional investors. The more significant changes may be allowing foreigners to issue securities and carry out transactions in pesos. While the UF has provided price certainty to Chileans in the past, the necessity of UF denomination may be less obvious in the current financial system. The reform requires banks and other lenders to provide consumers with simplified products, thereby enabling them to make more informed decisions. In addition, banks will be prohibited from selling tied products.

A new major reform package (The Bicentennial Capital Market Reform, MKB) has been launched involving a number of legislative initiatives. The Financial Supervisory Commission has an important role

in providing analysis on the institutional form in which Chile can best deliver financial regulation and supervision. In terms of regulatory framework, MKB proposes increasing the autonomy of SBIF, and moving towards a securities commission. Strengthening the independence of the financial supervisors should become an explicit objective of MKB. The open nature in which the public consultations have been carried out for the MKB are commendable, and should be applied throughout legislative process.

Improving oversight of the insurance sector

Chile's insurance sector has been steadily growing although the pace has been halting at times. The insurance sector is still small in terms of the overall financial system with assets at 18% of gross domestic product (GDP) compared to 51% of GDP for the pension fund sector.

While the growth in the insurance sector is mostly organic, that of the life sector reflects the inflow of funds from those retiring and converting their pensions into annuities. Chile's mandatory, defined contribution pension scheme requires workers to create individual saving accounts with pension funds that are mandatorily converted into annuities at retirement. Insurance companies offer the annuity products and voluntary pension saving products which have tax benefits.

Returns on equity for life insurers have been relatively high compared to non-life insurance companies in the past few years due to life insurers' investment in longer term assets. The fall in interest rates has favoured assets with longer maturity resulting in higher profits of life insurers.

Chile has taken positive steps to address weaknesses of the regulatory regime, improve market standards, and is responding to OECD recommendations. Many reforms, however, are work in progress and issues remain. Reforms in the financial system have been aimed at both encouraging competition in the voluntary retirement saving market, and creating a more flexible regulatory regime.

Recent reforms include:

- MK I and II, and MKB: Regulatory measures designed to encourage competition between banks, insurance companies and pension funds in their offering of voluntary pension fund savings (APV) products were carried out, and branches of non-resident insurers were allowed. Improvement of the governance of SVS has been proposed in the MKB reform package.
- Pension system related changes: Insurers can now offer products with a voluntary retirement saving element, and annuities are being offered through a new, more transparent bidding system.

As part of these changes, a bill has been presented to Congress which requires mortgage insurance to be subject to competitive bidding. While the legislative process will take time, some banks have already begun to implement this procedure which should decrease the commissions charged by banks.

The implementation of risk-based supervision will have an impact on the regulatory structure and approach, and affect the way solvency capital is calculated. This will be an important step to upgrade the prudential framework of Chile in the field of insurance. Some aspects of the reforms are in the legislature, and other parts require greater implementation measures. Chile is publicly consulting on new risk management rules that integrate the core principles of the International Association of Insurance Supervisors to support implementation of risk-based supervision.

Better corporate governance will be a focal point when implementing risk-based supervision. Chile is in the process of publicly consulting new corporate governance principles of insurers that broadly reflect the OECD's Guidelines for Insurers' Governance. This is an important step, and care should be taken so that the new rules are effectively integrated into the supervisory process.

Chile does not have a comprehensive framework that requires insurance companies to assess the adequacy of reinsurers. As part of the new risk-based supervisory approach, insurers will be required to assess the quality of reinsurance management. Chile should issue guidelines to establish a comprehensive framework requiring insurers to assess the adequacy of reinsurers.

Situated in one of the most seismically active regions in the world, Chile is exposed to major earthquakes and the heavy financial burden such catastrophes can impose on its economy. Over the last century, Chile has experienced more than a dozen major earthquakes, most recently the devastating 8.8 earthquake which struck the country on 27 February 2010. Insurance losses from this earthquake were the second largest ever recorded anywhere in the world.

Chile is considering ways to improve financial management strategies related to catastrophe risks. A comprehensive strategy would identify risks and vulnerabilities, promote risk awareness, enhance prevention and mitigation actions and design *ex ante* catastrophe risk compensation solutions, possibly including risk hedging in financial markets.

Strengthening the private pensions system

The administration of the pension funds is highly regulated to protect the interests of the members with a broad range of quantitative portfolio limits, including limits by issuer, risk and asset class. However,

since August 2002 fund members have been able to choose between five different portfolios differentiated by the proportion of their portfolio invested in variable income securities (such as equities).

The private pension system requires employees to contribute 10% of their total salary, plus administration charges and premiums for disability and survivors' insurance. All employees in the private and public sectors are required to participate. Although the scheme covers civil servants and other government employees, members of the armed forces are exempt as they have their own scheme. Participation is not yet mandatory for the self-employed, the unemployed, those in the informal sector or those who were covered by the old public pension system. A reform to the system in March 2008 requires all self-employed workers who receive income subject to income tax to make contributions to the compulsory pension system.

The AFPs must comply with a minimum investment return rule with regards to the pension funds they manage. The minimum required investment return is measured on the basis of the average real yield of all the pension funds of the same type. Benefits may be paid as annuities, programmed withdrawals or a combination of the two. Annuities are paid by life insurance companies while programmed withdrawals are paid directly by the AFPs.

In addition to the compulsory pension system, voluntary pension savings plans are offered by the AFPs and other authorised entities, such as insurance companies, mutual funds, and fund managers. The recent legislative change introduced an occupational pension plan called the Collective Voluntary Pension Saving or "APVC", allowing a contract between the employer and authorised institutions to manage voluntary collective pension saving funds.

Chile has a strong pension system and regulation is comprehensive and generally well-designed. Nevertheless, a few key reforms could further strengthen the system and help secure pension savings for Chileans. These might include:

- *Improving coverage of the system to the informal and self-employed sectors*: Despite the mandatory nature of the Chilean pension system, workforce coverage is not universal mainly due to the large informal and self-employed sector. The 2008 reform to extend the compulsory pension system to self-employed workers should alleviate the problem to some extent, but coverage of the informal sector remains sparse, and gaps in contributions, especially for women, remains a policy challenge.

- *Raising contribution levels and promoting later retirement:* The total level of mandatory contributions to the Chilean pension system is low by international standards. The government has introduced some measures to help alleviate this problem (for example, the solidarity pension and a pension bonus for women

for each child they have). Projections by the SP estimate an increase of benefits by 15% in real terms by 2015. Chile should assess the impact of recent reforms on the replacement rates that different kinds of individuals are likely to obtain and consider the need for and impact of other policy options such as increasing mandatory contributions and raising the retirement age.

- *Introducing risk-management requirements for pension funds:* Chile has quantitative investment regulations, which effectively drive investment decisions such as the extent of diversification in portfolios of AFPs. However, risk management processes are needed to manage and mitigate operational risks, and to complement investment regulations.

  Historically, the focus of the pension supervisor was largely driven by complaints. A new risk-based approach to supervision of the AFPs is currently being developed in Chile. This new approach involves a shift in the supervisor's focus from mainly following up on complaints to assessing the processes and controls used by AFPs to manage and control risk. This new supervisory focus is expected to be rolled out to all AFPs at the end of 2010 or the beginning of 2011. With the introduction of a more risk-based supervisory system, formal risk-management guidance from the pension supervisor is likely to be forthcoming.

- *Consider alternatives to the minimum investment return requirement*: Another regulatory concern is that the minimum investment return requirement encourages funds to invest in similar assets. Furthermore, the asset-weighted average to determine the minimum yield requirement gives the larger funds an advantage. Chile should consider possible alternatives to the minimum rate of return guarantee such as suitable market benchmarks and risk controls that take into account the retirement income objectives of pension funds. In this regard, it will be worth evaluating the experience of the exogenous benchmark established for the mandatory unemployment insurance fund.

- *Improving the governance arrangements of AFPs:* The governance requirements for pension funds in Chile are relatively strong. However, one major concern is that as AFPs are public, commercial companies, the board of directors has a fiduciary duty to the shareholders. While the AFPs must comply with pension regulations they have no fiduciary responsibility over the investment policy – beyond minimum return requirements – or the level of management fees charged to plan members. The system relies on information disclosure, competition among providers and individual choice to ensure that outcomes are in the best interest of beneficiaries. However, this assumes high levels of knowledge and interest among individuals.

There is no requirement for member representation on the governing body of the pension funds (*e.g.* through oversight committees) or their managing entities. This limits the extent of accountability to plan members, which is especially worrying in a situation where plan members bear all risks.

Chile should review the governance arrangements in the AFPs in order to assess whether the regulations and internal controls in place are sufficient to prevent conflicts of interest situations and promote practices among the pension fund administrators that are in the best interests of the plan members. Finally, Chile should consider reviewing the regulation of pension advisors to ensure that possible conflicts of interest are properly addressed.

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Chapter 9

Regional development policies: Co-ordination across levels of government

Main recommendations

- *Place-based policies should be promoted: the potential for regional growth will depend largely on how public policies adapt to the specific and varied characteristics and opportunities of the different Chilean regions.*
- *Improving access to infrastructure, basic services and telecommunications in rural areas and peripheral regions represents a potential source of growth that would increase the country's overall growth performance.*
- *To improve the prospects of rural areas, there is a need to shift from sectoral agricultural policies towards comprehensive rural development programmes.*
- *Chilean regions would benefit particularly from policies aimed at boosting productivity, such as those targeted at innovation and entrepreneurship, and at improving education and training.*
- *The technological upgrading of traditional industries for innovation-led growth can be a spur for regions like Valparaiso or Bio-Bio, and for the northern regions in which manufacturing is underdeveloped.*
- *Bottom-up diagnoses of regional productive advantages can help to find untapped regional resources for diversifying the economy. This would also make it possible to take account of territorial spillovers among sectors and regional dynamics.*
- *It will be important to give extended competences to regional governments to allow them to be active in the discussion, planning and co-ordination of regional development policies.*
- *The potential of the Programming Agreements (taking advantage of the recently approved Constitutional Reform on Regional Government and Administration) could be further developed. This multi-level contractual arrangement could help in the co-ordination of regional and sectoral priorities.*
- *Other mechanisms, such as capacity building, performance management systems and strengthened participation schemes, should be promoted in order to strengthen regional and local capacities and performance. Finally, there is a need to strengthen the governance structure of metropolitan areas to improve the delivery of key public services and promote an integrated urban system.*

Regional development in Chile: trends and challenges

Underutilised regional potential

At the national level, Chile's macroeconomic performance has been strong over the last two decades, but performance varies markedly among Chilean regions. Chile's regional disparities in gross domestic product (GDP) per capita are substantially larger than in most OECD countries (see OECD, 2009a). Such disparities are closely associated with labour productivity; lagging regions have lower productivity levels, lower tertiary enrolment rates and lower household income than the national average. The catching-up process is not occurring uniformly, causing imbalances and polarisation among regions, with three main characteristics: *i)* a wide gap between the mining-intensive regions of the North, such as Antofagasta and Tarapaca, and the Metropolitan Region of Santiago on the one hand, and the agriculture-intensive regions such as La Araucania, Coquimbo and Maule, on the other; *ii)* the concentration of business activity, firms and innovation in the Metropolitan Region of Santiago, which has 40% of the population and generates 48% of national GDP (Table 9.1); and *iii)* a lack of growth in key regions (some of the largest regions in economic and demographic terms, such as Bio- Bio and Valparaiso, have been growing more slowly than the national average both in aggregate and per capita terms in the past two decades (OECD, 2009a). To date, Chilean regions have not been able to fully utilise their assets and reach their growth potential, limiting national capacity for growth.

Table 9.1. **Basic regional data and indicators, Chile, 2009 or latest available year**

	Population[2] (Thousands)	Share of national GDP[3]	GDP per capita[4] (PPP)	Unemployment rate[5]	% poverty rate[6]
I. Tarapacá	307.4	3.9	15 308	5.7	15.7
II. Antofagasta	568.4	6.9	23 470	8.7	8
III. Atacama	278.5	2.0	13 911	9	17.4
IV. Coquimbo	708.4	2.6	7 033	8.1	16.6
V. Valparaíso	1739.9	8.8	9 722	11.2	15
RM Santiago	6814.6	48.3	13 573	9.8	11.5
VI. O'Higgins	874.8	4.0	8 711	9.4	12.7
VII. Maule	999.7	3.8	7 237	7.3	20.8
VIII. Bío-Bío	2023.0	10.0	9 415	11.3	21
IX. Araucanía	962.1	2.7	5 351	12.1	27.1
X. Los Lagos	825.8	4.9	7 824	7.8	14.2
XI. Aysén	103.7	0.7	12 780	4.6	14.8
XII. Magallanes	158.1	1.4	16 587	5.9	9.3
XIV. Los Ríos[1]	378.1	-	-	8.4	20.8
XV. Arica y Parinacota[1]	186.1	-	-	8.6	12.8

1. The regions of Los Rios and Arica Parinacota were created in 2007; the former belonged to Los Lagos and the latter to Tarapacá. There are not segregated GDP figures for these regions.
2. Estimated population at 30 June 2009 (Source: INE).
3. Provisional data for 2008 from the Central Bank of Chile. Calculation based on the subtotal regionalised national GDP. GDP data are based on the former regional structure (twelve regions plus the Metropolitan Region).
4. OECD calculations based on data from the Central Bank of Chile. Data for 2008 expressed in 2003 USD constant PPP. GDP per capita data are based on the former regional structure (twelve regions plus the Metropolitan Region).
5. Data from INE for 2009.
6. Data from MIDEPLAN, based on the 2009 National Household Survey (CASEN).

Infrastructure in Chile has improved greatly in recent decades, but interregional disparities remain significant. Chile's challenging geography – its length exceeds its average width by a factor of more than 20 and its topography is varied and, in much of the country, difficult – presents a number of challenges for developing and managing the national infrastructure and providing access to communications and basic services, especially in remote and peripheral regions. Under Chile's infrastructure concession programme, which started in 1993, the transport infrastructure network was substantially improved; however, connections to peripheral areas and remote regions still need to be improved.

Interregional disparities in access to telecommunications remain significant: while close to 50% of households in the metropolitan region or in the mining regions of Tarapaca and Antofagasta have Internet access (a figure close to that of some OECD countries like Hungary, Italy or Spain), only 15% of the households do so in Maule and Araucanía (two of the agriculture-intensive regions). These inequalities broadly correspond to disparities in GDP per capita. Improving access to telecommunications represents a potential source of growth. Finally, interregional disparities among urban areas in access to basic public services (water, sanitation and electricity) are not significant, but they are in rural areas. Rural localities in Araucanía and Bio-Bio are particularly deficient in services provision, while those in northern regions require better access to water (OECD, 2009a).

The major earthquake that hit Chile in February 2010 seriously damaged the country's infrastructure. Four of the most affected regions – Maule, Bio-Bío, Araucanía and O'Higgins – are also some of the regions that already had the most important infrastructure deficiencies in their rural areas. Araucanía, Bio Bio and Maule are the three regions with the highest poverty rates in the country. The government has made significant investments to rebuild after the earthquake and repair the worst of the damage.

From sectoral to territorial rural development

There is a need to shift from sectoral agriculture policies towards comprehensive rural development programmes. The agricultural sector is a significant contributor to regional output in various Chilean regions like O'Higgins, Maule, Araucanía and Los Lagos. However, most agricultural regions lag behind in economic growth and development. In addition, small-scale farmers have seen little change in their farm incomes, with most of their gains coming from off-farm opportunities (OECD, 2008, 2009a). Close to half of rural households in Chile are employed in non-agricultural activities, basically in manufacturing and services, which offer an alternative or complementary source of income. Yet, national policies remain focused on agricultural promotion. OECD governments are increasingly recognising the need to shift from

traditional rural sectoral policies towards comprehensive place-based approaches to rural development (OECD, 2006a). Emerging off-farm activities like the development of renewable energy or rural tourism would offer interesting alternatives to Chilean rural areas. Rural place-based programmes that consider agricultural and non-agricultural policies and the links between rural and urban areas would be better adapted to the diverse socio-economic characteristics and productive processes that affect the development of Chile's rural territories.

Inequalities in metropolitan areas

The high degree of inequality in the cities of Santiago, Valparaíso and Concepcion is of particular concern, given the large social costs. Greater Santiago encompasses 35 *comunas*[1] (communes) which are highly polarised in terms of poverty rates. This inequality is also present in household incomes and levels of education: Santiago's richest *comuna* has an average household income eight times that of the poorest, as well as higher levels of education. In addition, richer communes have better education coverage (especially in pre-primary and higher education) and better results on basic education performance tests. High levels of inequality and spatial polarisation within the metropolitan areas also challenge social cohesion and social stability. Initiatives in education and social policies aimed at reducing inequalities have had some effect, but need to be expanded. Municipal governments face several interrelated limitations affecting management of the devolved responsibility for primary and secondary education (see OECD, 2009a). Improving access to quality education for underprivileged segments of the population will be crucial for tackling the challenges of poverty and income inequality in Chile.

Regional diversity, but demographic and economic concentration

The structure, characteristics and assets of Chile's regional economies are particularly varied. Chile is over 4 300 kilometres long and has a wide range of soil types, climates and environmental conditions, ranging from deserts in the north to lakes, fjords and glaciers in the south. However, in demographic and economic terms, Chile remains very concentrated. With 40% of the Chilean population living in the Metropolitan Region of Santiago and more than 60% in Santiago, Valparaiso and Bio-Bio, demographic concentration in Chile is almost twice the OECD average (OECD, 2009a). Santiago has most of the political, economic and human capital; Chile´s innovation is concentrated there, as it is home to most of the country's high-quality tertiary education facilities. At the same time, the national economy depends heavily on a few sectors, mostly located in a small number of regions, which receive much of private and public investment. All these factors reinforce economic concentration and may cause regional imbalances to persist. Mining (18% of national GDP in 2008) and financial

services (15% of GDP) are concentrated in Antofagasta and Santiago, respectively. Antofagasta alone accounts for close to 50% of the value added in the mining sector; including Tarapaca and Atacama, the two other main northern mining regions, increases this share to more than 75%. Likewise, the Metropolitan Region accounts for 76% of value added in financial services, 46% of manufacturing and 64% of retail trade (Table 9.2).

Table 9.2. **GDP by selected sector/region, Chile, 2008**

Region	Mining	Financial services	Manu-facturing	Retail trade	Con-struction	Transport and communi-cations	Agriculture and forestry	Fishing
Tarapacá	**17.6**	1.2	1.5	6.1	2.7	2.8	0.5	10.0
Antofagasta	**49.2**	1.9	2.0	2.6	11.1	3.8	0.1	2.6
Atacama	**9.8**	1.1	0.3	1.1	3.9	1.0	2.0	3.4
Coquimbo	5.5	1.3	0.7	2.2	4.8	2.1	4.3	4.2
Valparaíso	5.1	5.2	**13.7**	5.2	10.8	8.8	11.7	0.9
Metropolitan region	4.8	**76.2**	**46.0**	**64.5**	**40.6**	**57.0**	13.8	0.0
O'Higgins	4.9	1.6	3.0	4.6	4.1	3.0	**22.0**	0.0
Maule	0.2	1.6	4.8	2.0	3.6	3.6	**14.5**	0.1
Biobío	0.5	4.6	**20.3**	4.5	8.8	7.6	**13.9**	**16.5**
Araucanía	0.2	1.6	2.6	2.1	3.4	2.2	6.7	0.1
Los Lagos	0.1	3.0	3.1	3.9	4.4	5.9	10.0	**45.2**
Aysén	0.4	0.2	0.2	0.3	0.9	0.6	0.3	11.1
Magallanes	1.8	0.5	1.8	1.0	0.9	1.7	0.2	5.8
Total	100	100	100	100	100	100	100	100
Share of each sector on national GDP	18.5	15.5	13.2	9.4	8.3	7.6	2.8	0.6

Notes: Regional GDP data by sector are expressed in constant 2003 prices; national GDP data by sector are expressed as a share of nominal 2008 prices. Data are preliminary figures of the Central Bank of Chile. Retail trade includes restaurants and hotels. Data for both Arica Parinacota and Los Ríos regions are included in Tarapacá and Los Lagos regions, respectively.

Source: OECD calculations using data from the Central Bank of Chile.

Diversifying Chile's productive base

Chile could benefit from greater sectoral and geographic diversification, while continuing to add value to established sectors to make them more competitive. Chile's lack of economic diversification and over-dependence on primary commodities make the economy vulnerable to sudden changes in international commodity prices and secular shifts in demand, despite the stabilising role of the structural fiscal rule, and may constrain long-term growth potential. At the same time, resource dependence raises environmental concerns: intensive agriculture in the centre and south, and forestry and salmon platforms in the south, lead to soil erosion, loss of native forests, a rise in the presence of pesticides and fertilisers in rivers, and contamination of water from the salmon industry. In the north, intensive copper production results in emissions of arsenic and carbon monoxide into the

air and water around the mines. OECD countries are generally much less dependent than Chile on natural resources.

Chilean regions need to transform static advantages into dynamic ones by producing more complex and higher value added goods in the sectors of specialisation. Science, technology and innovation policy can play a key role by exploring new products in emerging sectors and by making existing sectors more productive and efficient. The technological upgrading of traditional industries for innovation-led growth can be a spur for regions like Valparaiso and Bio-Bio, and for the northern regions in which manufacturing is underdeveloped. The mining industry could be the nexus of a broad set of diversified and interrelated services and manufacturing activities. Furthermore, as Chile develops higher skills and technology in resource-based sectors, it can transfer knowledge and productivity gains to other sectors.

The clusters of competitive potential identified by Chile's National Council for Innovation and Competitiveness (CNIC) are mainly in mature sectors linked to natural resources (like fish farming, copper mining and fruit), which have clear advantages. However, in defining the clusters, there was little bottom-up input, which can be an obstacle to further productive diversification and to taking full advantage of the regions' diverse potential (OECD, 2009a). Regional bottom-up diagnoses can help to find untapped regional resources for diversifying the economy. It would also make it possible to take account of territorial spillovers among sectors and regional dynamics.

The need for context-specific territorial policies

Enhancing the productivity and competitiveness of regions requires agile, place-based policies. Regional growth will largely depend on how public policies adapt to the specific characteristics, opportunities and needs of the regions. Targeted place-based policies if well designed can improve the quality of public investments. At the same time, territorial policies can exploit synergies and thus ensure that local potential is comprehensively addressed. Boosting regional growth through context-specific territorial policies will encourage all regions to use their assets to reach their growth potential, thus benefiting national growth.

Chilean regions would benefit particularly from policies aimed at boosting productivity, such as those targeted at innovation and entrepreneurship and at improving education and training. These areas have a strong regional dimension, given the heterogeneity of Chilean territories, where growth opportunities are tied to local conditions, and resources are often underutilised. At the same time, diversifying regional economic structures would benefit from regionally driven strategies, capable of mobilising regional assets.

Regional policies in Chile: mobilising innovation for regional development

Building a national consensus for innovation

During the last few years in Chile there has been a transition in the area of public policies for innovation. The creation of the National Council for Innovation and Competitiveness (CNIC) in 2005 helped provide a medium- and long-term view for the national strategy for innovation and competitiveness for 2006–20. The strategy takes a broad approach and identifies three main areas for action: human capital development, mission-oriented science and business innovation. Chile has increased the share of public resources allocated to support innovation: between 2005 and 2008, the innovation budget grew by 74% in real terms, although it is still relatively low by OECD standards (OECD and IADB, 2010).

Improving the participation of different stakeholders could strengthen the support for innovation. The experience of OECD countries shows that countries need to encourage the participation of different actors over time, thus advancing the process of consensus building. Identifying mechanisms for better and more effective participation of regional entities is a key challenge for the evolution of innovation policies in Chile. At the same time, involving representatives from academia and from the private sector in strategy planning exercises, a common practice in OECD countries, could help in designing instruments that better respond to the needs of beneficiaries (OECD and IADB, 2010).

Developing regional innovation systems

At present, Chile's innovation system is concentrated in the capital, to the detriment of regional innovation systems. Chile needs to move to a system that promotes regional-level innovation while maximising the diffusion of outcomes from the Santiago region. A specific challenge for developing a regional approach is the fact that innovation investment focuses strongly on public research and development (R&D), which tends to be carried out in the capital. Close to 40% of total R&D expenditure is carried out by universities, mainly located in Santiago: the two largest – the University of Chile and the Catholic University of Chile – account for a significant share of this R&D. Most private investment also goes to Santiago. Evidence from OECD countries suggests that the capacity of regions to support processes of learning and innovation is a key source of competitive advantage. This finding is complemented by academic research identifying the regional level as a key source of innovation (OECD 2007, 2009b, 2009c; European Commission, 2006).

In recent years, Chile has developed projects and programmes directed at strengthening the participation of regions in defining regional innovation and economic development policies. This is the case with the creation of the regional development agencies (ARDP). In 2006-07 the Chilean government established regional development agencies in order to move towards an integrated approach to regional productive development. The process was directed by the Chilean Economic Development Agency, CORFO. One of the main roles of the ARDP is to develop bottom-up regional agendas for productive development and innovation, and programmes for improved competitiveness (PMCs), based on regional assets, strengths and opportunities. In this process, the region and the various regional actors – public and private sectors, universities, civil society – become responsible for a long-term strategic view of the region's productive development. From 2011 the ARDP will be transformed into regional development corporations to progressively reduce their dependency on CORFO and increase their relationship with the Regional Council. The ARDP constitute a very important example of strengthening regional participation and public/private partnership in Chile. Other interesting initiatives include the regional allocation of the Innovation for Competitiveness Fund (FIC) and the Regional Scientific and Technological Centres of the CONICYT (Box 9.1). Some of these activities have been more successful than others; however, taken together they represent an important advance for strengthening the capacities for innovation at the regional level.

Improving vertical and horizontal co-ordination

Chile is gradually evolving towards a model which gives more "voice" to regions. Clearly, there is a need for better horizontal[2] and vertical[3] co-ordination, including clarification of institutional responsibilities at the regional level in the area of innovation, and of the relationship between the ARDP and regional governments. In OECD countries, different levels of government are involved in innovation policy, and sometimes the level of sub-national spending on innovation can be significant (for example, in Germany and Spain). It is important, therefore, to manage the overlaps and gaps and to ensure synergy in the inevitable competence-sharing arrangements. Incentives are needed for both ensuring a coherent innovation policy and helping regions select the most appropriate strategies. The ARDP represented a crucial effort to build capacity in the regions in production, development and innovation, with strong support from the centre, which is to be gradually reduced. Regional development agencies are a common institution in OECD countries (*e.g.* Canada and the United Kingdom) to support co-ordination and public-private partnerships in local economic development.

Box 9.1. **Strengthening institutional capacities for innovation at regional level**

Regional allocation of the Innovation for Competitiveness Fund (FIC)

The FIC was created in 2006 as an instrument to channel financial resources from the royalties in the mining sector towards innovation. Starting in 2008, 25% of the Fund's resources were allocated on a regional basis. The regional government, taking into consideration the national innovation strategy, the corresponding regional development strategy, the strategic innovation agenda and the plans for improving competitiveness of the regional development agencies, will define the use of these resources. The projects must focus on science, applied research, innovative entrepreneurship, specialised human resources formation and development, or the transfer and diffusion of technology. Finally, the resources must be transferred, through agreements, to CORFO, Innova Chile, CONICYT, state universities or those recognised by the state, and/or technological scientific centres of excellence.

CONICYT regional scientific and technical Centres

In 2000, CONICYT launched a regional programme on science and technology, supporting the establishment of 11 scientific and technological centres in 11 regions to stimulate the development of centres of excellence in disciplines or specific areas of research that are consistent with regional assets and advantages. The initiative is managed in conjunction with regional governments, universities and the private sector. However, few projects have been undertaken so far, and they represent a modest share of CONICYT's total budget (2.9% for 2008).

Source: OECD (2009a), *OECD Territorial Reviews: Chile 2009*, OECD Publishing, DOI: *10.1787/9789264060791-en;* OECD and IADB (2010), "Strengthening Institutional Capacities for Innovation Policy Design and Implementation in Chile", *http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=35166758*.

Local capacity to assimilate knowledge spillovers

As examined at the 2006 OECD Rural Conference in Edinburgh (OECD, 2006b), innovation should involve investing in local capacity to assimilate knowledge spillovers. This links directly to investing in education and human capital in rural areas. Peripheral localities and rural areas in Chile need to have greater access to quality education, research and vocational training opportunities to improve their development potential. Further measures could include: improvements in work training programmes, bridging education and local labour markets, and creating regional learning centres to cover education needs in targeted areas.

Regional development and governance in Chile

Chile is a highly centralised state. It is currently divided into 15 regions, 13 of which were created three decades ago and 2 at the beginning of 2007. The regions are subdivided into 52 provinces, which, in turn, are subdivided into communes (*comunas*) which are under municipal administration (*municipalidades*)[4]. Each administrative level has delegated functions.

The regional level has two categories of actors: deconcentrated[5] and decentralised. The former are representatives of the national government and include an intendant (the direct representative of the President of the Republic in each of the regions), ministerial regional secretaries (SEREMIS) and regional representatives of the national public agencies (Corfo, INDAP and FOSIS, among others) involved in delivering key public services. The decentralised regional government consists of the intendant and the regional council (CORE). The intendant heads the regional council, acting both as the main representative of the central government and as co-ordinator of regional policies. The CORE supervises, has decision-making, regulatory and supervisory powers, and is responsible for approving the region's development plans and its budget, which must be in line with the country's national development policy and the national budget. A reform is under way to elect regional councillors directly through democratic election. The main functions of the regional government are to: *i)* define and take investment decisions regarding use of resources from regional public investments, especially from the National Fund for Regional Development (FNDR)[6]; *ii)* design programmes and policies for regional development and productivity; *iii)* approve the regional development plan; iv) advise municipal governments; *v)* build and administer the paving of sidewalks and roads in rural areas; and *vi)* carry out various tasks related to land management, human settlements and infrastructure equipment.

Municipal governments (*municipalidades*) are autonomous legal entities with their own assets. They are governed by a mayor, who heads the local administration, and a municipal council, with decision-making, regulatory and supervisory functions. Both the mayor and the council are directly elected by citizens for four-year terms. Municipal governments have the following exclusive functions: the design, approval and modification of the municipal development plan; the municipality's planning and regulation and the preparation of its zoning plan; promotion of local development; enforcement of public transport; and enforcement of norms for construction. Local governments also have shared functions that include: public health, education, culture, citizen safety, work training and economic development, tourism, public transport, traffic regulations and construction of social housing development and sanitary infrastructure.

Chile has a very low degree of fiscal decentralisation compared to other OECD countries. Only Greece, New Zealand and Luxembourg have

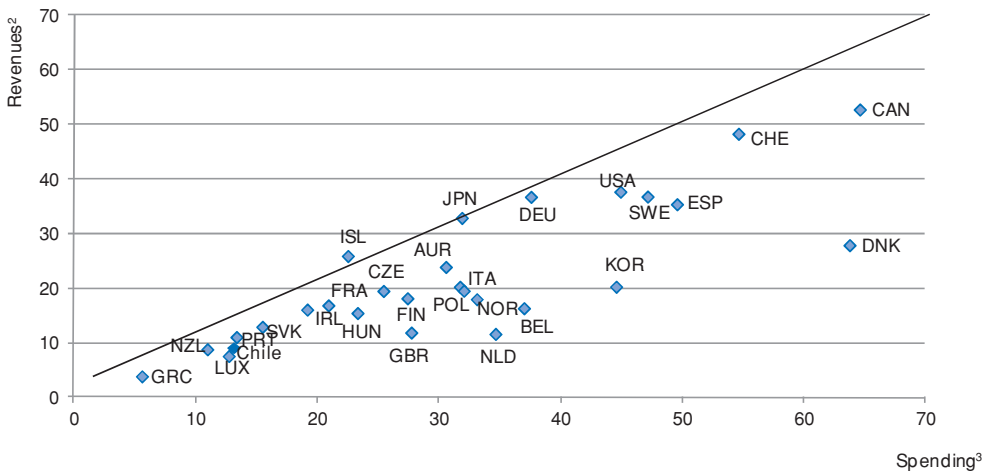
less sub-national fiscal autonomy than Chile. Sub-national revenues in Chile account for only 8.1% of total government revenues and sub-national expenditures amount to 13.2%, figures well below the respective OECD averages (see Figure 9.1). Under the tight administrative, fiscal and regulatory framework of the central state, sub-national actors remain largely controlled by national guidelines.

Recent reforms to decentralise the administrative system

Several administrative functions have been transferred to the regional and local level in recent years, including responsibility for regional planning, which passed from the National Planning Ministry (Mideplan) to the regional governments, and the establishment of new regional planning divisions within regional governments. A recent reform, in the final stages of approval, will endow with legal status partnerships between different *municipalidades*. This is likely to favour the creation of associations between localities with common characteristics and the presentation of multi-municipal investment initiatives. Decentralisation reforms in Chile are part of a trend common to most OECD countries.

Figure 9.1. **Fiscal decentralisation in OECD countries, 2008**[1]

Share in general government revenues and expenditure



1. Or latest year available: 2005 for Chile, Korea, New Zealand and Poland.
2. Excluding transfers received from other levels of government.
3. Excluding transfers paid to other levels of government. Figures for Chile are estimates based on IMF, *Government Finance Statistic Yearbook*.
4. The share of sub-national revenues is expressed in percent of total government mainland revenues.

Source: *OECD National Accounts* (database); US Bureau of Economic Analysis; Chile: IMF, *Government Finance Statistic Yearbook*.

Sub-national capacity building and performance measurement

Investing in capacity building and performance measurement will be crucial in preparing sub-national governments to carry out efficiently their newly devolved competences, and will help to dispel one of the fears of opponents to these reforms, *i.e.* that sub-national public officials lack the capacity to carry out a broader mandate. Different programmes have been undertaken by the Under-secretariat for Regional and Administrative Development of Chile (Subdere) to improve the skills of local and regional public officials. Chile has also implemented several performance management programmes based on indicators, such as the Management Improvement Programme (PMG) and the Municipal Services Accreditation System. These programmes include monitoring and certification processes, and the use of indicators and training programmes that support municipal and regional governments to improve the capacity and responsiveness of their administrations.

Many OECD countries have introduced performance management and indicator systems to monitor public service provision and encourage capacity building at lower levels of government. Two interesting examples of such systems are Australia's Review of Government Service Provision, a comprehensive assessment that provides performance information on 14 areas of public service; and Norway's KOSTRA system, which collects and disseminates information about local government performance. Such benchmarking systems also provide information that can be used to evaluate the efficiency of sub-national budgets. However, observations from several OECD countries reveal that, apart from mechanisms to strengthen performance and improve local officials' skills, building capacity in the context of administrative decentralisation clearly benefits from the progressive involvement of sub-national governments in public affairs, in a framework of "learning by doing".

Reforms adopted following the OECD Territorial Review

On 16 October 2009, Chile approved a Constitutional Reform on Regional Government and Administration (Law 20.390). The OECD Territorial Review's recommendations were considered an asset in approving this constitutional reform.

- The Territorial Review recommended moving towards a solid regional governance structure and reinforcing the role and position of the regional council as a more autonomous unit. The Constitutional Reform included direct election of regional councils, creating a democratically elected body to manage regional development, and the election of presidents of the regional councils. A subsequent law will regulate the precise functions and attributions of the president of the council.

- The Territorial Review recommended strengthening multi-level governance arrangements, and reinforcing the Programming

Agreements (*acuerdos de programación)* to move towards multi-annual budgeting and multi-level planning. The Constitutional Reform included the institutionalisation of the Programming Agreements as binding contracts between one or more regions, ministries, municipalities or private institutions.

- The Territorial Review recommended establishing a governance system for metropolitan areas in order to ensure co-ordination in the delivery of key public services across the communes of the functional metropolitan areas. The Constitutional Reform recognises (for the first time) metropolitan areas as institutional entities; the precise definition of the characteristics and governance structure of these areas will be defined in a subsequent law.

Strengthening the institutional framework at the regional level

Chile still requires a stronger institutional framework at the sub-national level to bring together and co-ordinate the different local players and the various programmes and instruments designed to promote territorial development. Most municipal governments currently have neither the resources nor the incentive to invest in local economic development initiatives. Additionally, a co-ordinated local governance structure will be needed, especially in big cities like Santiago, to improve the harmonisation of different sectoral policies in the metropolitan area (*e.g.* housing, land use planning and economic development) and to improve co-ordination in the delivery of key public services (especially public transport) across several communes within a city. The recognition of metropolitan areas within the constitutional reform (Law 20.390) will be developed in a subsequent law. This offers a great opportunity to develop an efficient metropolitan governance structure for Chile.

The strengthening of regional governance will involve important challenges: it is critical to give expanded responsibilities to regional governments to allow them to be active in the discussion, planning and co-ordination of regional policies. In parallel, there needs to be more institutionalised co-ordination between regional governments, line ministries and public agencies. At the same time, the investment process will need to be adapted to a territorial logic that makes it possible to finance integrated, multi-sectoral initiatives and a multi-annual budget planning framework.

The strengthening of the Programming Agreements is a good first step in co-ordinating regional and sectoral priorities and responsibilities for regional economic development. OECD governments use multi-level governance arrangements to improve the efficiency of relations between various levels of government in the formulation of public policies. Finally, the recently approved reform for the direct election of regional councils and the election of a president of this regional body could be

the starting point for reinforcing the councils' role, position and autonomy and increasing both motivation for regional development and accountability in regional policy making.

Notes

1. *Comunas* (communes) are managed by *municipalidades* (municipal governments).
2. This co-ordination is needed among the various national agencies offering innovation-related programmes.
3. It is also needed among national and regional agencies, as well as regional universities and research centres.
4. *Municipalidades* may administer a group of *comunas*. In Chile there are currently 346 *comunas* and 345 *municipalidades*.
5. Deconcentration occurs when the central government disperses responsibilities for certain services to its regional branch offices, with no transfer of authority to lower levels of government (SIGMA, 2006).
6. One of the regional government's main roles is to oversee annually determined national transfers for regionally decided investments (mainly the FNDR), most of which finance local initiatives. While the regional government is an actor in the assignment process, allocation of the resources is regulated by the national budget law.

Further reading

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Chapter 10

Chile going green

Main recommendations

- *Further integrate environmental objectives in sectoral policies (mining, forestry, tourism, energy, agriculture, aquaculture and transport) in order to achieve green growth.*
- *Formulate a national greenhouse gas (GHG) mitigation strategy with emission reduction targets and action plans for key sectors; phase out fuel subsidies (including tax credits and exemptions) and introduce carbon pricing as the most cost-effective way to deal with GHG emissions from power production, transport and industry.*
- *Implement fully the National Strategy for Integrated River Basin Management to improve public sector co-ordination in water management. Re-assess river flow standards to ensure that they are adequate and complied with.*
- *Complete implementation of National Biodiversity Strategy and Action Plans, devote adequate resources to meet the target of protecting 10% of all significant ecosystems in Chile and devise mechanisms for providing payments for ecosystem services.*
- *Further reduce the environmental impact of the mining sector (e.g. air pollution by SO_2 and arsenic, water pollution, abandoned sites and tailing dams); use economic and other instruments to address pollution concerns, pursuant to the polluter pays principle; and give special attention to small and medium-size mining enterprises through technological, financial and consultancy assistance.*
- *Increase the financial contribution of the mining sector, among other things to support long-term investment in human, environmental and social capital; consider a mechanism for more effective capture of resource rents associated with mineral exploitation.*
- *Use economic instruments more widely to complement the command and control measures the country uses in its environmental policies, including by reviewing the tax system and ensuring that it better reflects the true cost of environmental externalities.*
- *Ensure that the new institutional framework facilitates effective implementation of OECD legal instruments related to environment, in particular those related to waste and chemicals; complete the implementation of the National Policy on Chemicals Safety and the Integrated Solid Waste Management Policy; and ensure enactment and enforcement of a new Law on Waste.*

Over recent decades, environmental problems in Chile have been closely related to rapid export-led economic growth. While economic development has been supported by sound macro-economic and social policies, it has put considerable pressure on natural resources, particularly in booming sectors such as mining, forestry and aquaculture. Environmental policies have been strongly influenced by concerns over human health (*e.g.* with regard to poor air quality in the Santiago Metropolitan Region[1] and around copper smelters in northern Chile) and international trade (Chile exports principally to OECD countries). Implementation of environmental policies does not seem to have diminished the country's international competitiveness; in a number of sectors, rigorous compliance with demanding environmental standards is seen as necessary for the penetration of Chilean products in OECD markets.

Since the 1990s, Chile has expanded implementation of environmental policies concerning air, water, biodiversity and waste management, with innovative instruments (*e.g.* rights trading) and successful reforms (*e.g.* in water services). However, further integration of efforts to protect the environment in other sectors such as energy, mining, agriculture, forestry, transport and tourism remains a challenge. In order to achieve green growth, efforts are needed to promote policies for the "greening" of these economic sectors and to achieve cost-effective responses to environmental challenges. Economic forces and changes in these sectors influence environmental conditions and trends, and hence can enhance or diminish the benefits of environmental policies.

Health and environmental concerns in export markets will continue to drive environmental progress in Chile, including further reductions in air emissions (*e.g.* from industry, energy production and transport) and continued improvement in water-related infrastructure and domestic and industrial waste management. Nature and biodiversity should increasingly be protected as assets for the national and international recreation and tourism industries. Further compliance with OECD standards and legal instruments is needed, in particular related to waste management, control of transboundary movements of hazardous wastes and chemical safety.

Institutional and policy framework for environment and natural resource management

Even before its accession to the OECD, Chile participated in the OECD Environmental Performance Review of the country in 2004–05. Since then, Chile, and the National Environment Commission (CONAMA) in particular, has taken important steps to strengthen its environmental policy and institutional framework, which is based on the 1994 General Environmental Framework Law. The OECD accession process further

promoted the reforms related to environment. A new Ministry of Environment and its subordinate agencies (*Servicio de Evalución Ambiental* and *Superintendencia del Medio Ambiente*) were established in 2010. This new institutional framework will allow the Chilean government to allocate the relevant responsibilities in an efficient way to better serve environmental policy reform.

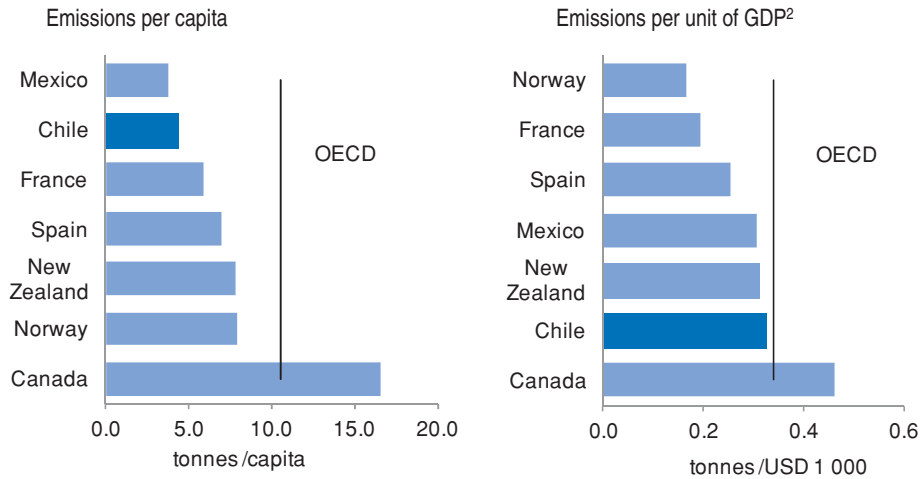
The basis of the environmental policy and legal framework is well established in Chile. While the focus in the recent past has been on development of plans and strategies targeting specific environmental areas, in the coming years policy reform should focus on strengthening the implementation of these plans, enforcement of legislation and ensuring that the new institutional framework facilitates effective implementation of the OECD legal instruments, in particular those related to waste and chemicals, but also those related to strengthening standards, Environmental Impact Assessment (EIA) and Integrated Pollution Prevention and Control (IPPC) systems, and expanding the use of economic instruments.

Climate change

Chile is vulnerable to climate change. The rate at which the country's glaciers are melting has increased in recent years, and water resources and export-oriented agribusiness are expected to be negatively affected by climate change. As adaptation to climate change is a relatively new challenge, Chile could benefit from OECD analysis and opportunities for exchange of experiences among countries on how best to incentivise cost-effective adaptation across a range of sectors.

The country's carbon intensity, at 0.33 tonnes of CO_2 per unit of gross domestic product (GDP), is in line with the OECD average, and its CO_2 emissions per capita are below the OECD average (Figure 10.1). In absolute terms, however, Chile's greenhouse gas (GHG) emissions in the past 15 years have grown rapidly (Figure 10.2), at one of the highest rates, along with those of China and India. The main drivers include an increase in automobile use and an increased reliance on coal in recent years, resulting from disruptions in imported gas supplies from Argentina. Chile, along with two other OECD member countries, Korea and Mexico, is not an Annex I (industrialised) country under the UN Framework Convention on Climate Change. As such, Chile has no legally binding emission limits specified under the Kyoto Protocol.

Figure 10.1. **CO_2 emissions[1] intensities, 2008**

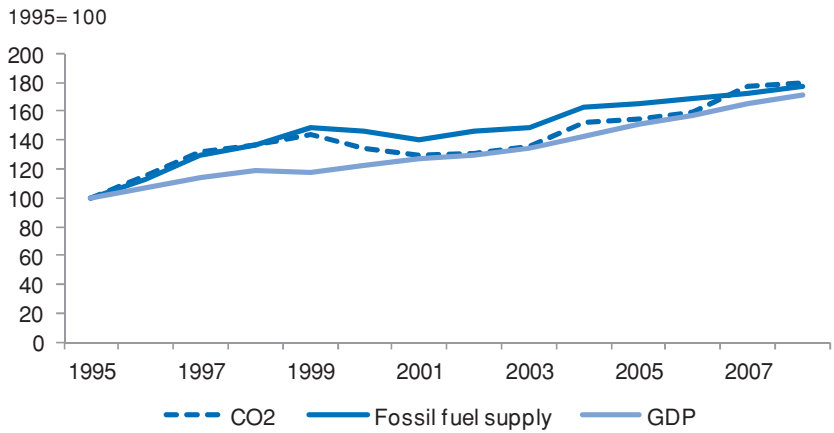


1. CO_2 emissions from energy use.

2. GDP at 2005 prices and purchasing power parities.

Source: International Energy Agency (2010a), *CO2 Emissions from Fuel Combustion 2010*, OECD Publishing, DOI: *10.1787/9789264096134-en*; IEA (2010b), "World energy balances", *IEA World Energy Statistics and Balances* (database),.DOI: *10.1787/data-00512-en* (Accessed on 17 March 2011); OECD Economic Outlook 87 database; OECD Economic Outlook 88 database.

Figure 10.2. **Chile's CO_2 emission trends, 1995-2008**



Source: OECD-IEA (2009), "CO2 Emissions from Fuel Combustion".

The need to better prepare the country to cope with climate change and to contribute to the global efforts in this area led Chile to draw up a National Climate Change Strategy in 2006 and the 2008–12 National Plan of Action on Climate Change. The Action Plan does not specify goals or commitments in terms of GHG emission reductions, but does set broad objectives to carry out research on: *i)* adapting to the impacts of climate change, *ii)* mitigating GHG emissions, and *iii)* building and promoting capacity to address the issue. The Plan focuses on water resources, biodiversity, human health and coastal infrastructure, as well as tackling climate change in the forestry, agriculture, mining and fishing industries. In July 2009, a Council of Ministers for Climate Change was established, comprising the Ministers of Finance, Environment, Energy, Foreign Affairs, Agriculture and the Presidential Secretariat. Chile has agreed to the Copenhagen Accord, and in August 2010 submitted information on its nationally appropriate mitigation actions to achieve a target to cut emissions by 20% from Business-as-Usual in 2020, to be listed in Appendix II of the Accord.

Mitigation measures outlined in the Action Plan focus on renewable energy and energy efficiency that will, if well implemented, help to "green" the energy sector. These include the earmarking of over USD 10 million for biofuels research, a USD 400 million government guaranteed fund for investments in renewable energy and energy efficiency technologies, and a Renewable Energy Center with a budget of over USD 1 million. This is also consistent with the energy security objective of diversifying energy sources and encouraging the use of non-conventional renewable energy with the targets of 5% and 10% of the electricity sold from renewable sources, respectively, by 2014 and 2024. Furthermore, a tax on biofuels was eliminated in 2007 and a new energy law that promotes renewable energy was adopted in 2008 and is being implemented. The government is promoting the installation of solar thermal systems for public, commercial, household and industrial buildings, as well as a subsidy for the construction and retrofitting of energy-efficient public housing. Reflecting a recommendation from the 2005 OECD *Environmental Performance Review* of Chile, cost-benefit assessments of the policies being used or proposed to reduce emissions and incentivise the development of renewable energy capacity would be useful to ensure that emissions reductions are achieved at the lowest cost. OECD analysis on identifying and implementing cost-effective policy mixes could provide relevant insights.

In order to assess options for GHG mitigation, emissions from copper mining are being measured annually, and emissions from agricultural and forestry exports (including production and transportation) are estimated. In the area of transport, an incentive scheme for the acquisition of hybrid vehicles has been introduced and a labelling system to inform consumers of CO_2 emissions for new vehicles has been proposed. And infrastructure and safety measures are planned to allow for increased use of bicycles.

Chile has participated actively in the Clean Development Mechanism (CDM), with some 40 projects completed since 2004. They range from landfill methane gas capture to a nationwide energy efficiency CFL light bulb installation project, agricultural methane capture and a wind energy project, yielding some USD 300 million in traded carbon credits for Chilean enterprises.

Policy options for further progress

As an OECD country, Chile should consider taking actions and making commitments on climate change similar to those of other OECD and Annex I countries. The National Action Plan on Climate Change contains useful analyses and a course of action. The government could go further by formulating a national GHG emission mitigation strategy and sectoral level plans, including for the electricity, industrial, transport and forestry sectors**.** With the enhanced capacity and information base, and the plans and strategies being developed under the 2008–12 Action Plan, Chile should be able to map out how such emission reduction targets would be achieved.

Like many other countries, Chile faces the difficult challenge of balancing economic growth, energy security and environmental objectives. Partly in response to Argentina's almost complete cessation of gas exports due to its own energy shortages, Chile is currently committed to building new coal-fired power plants.[2] Investment in these plants is expanding at a much faster rate than investments in renewable energy capacity. According to the New Guidelines for Energy Policy presented to President Bachelet by the Minister for Energy in 2009, coal will account for 25% of Chile's electricity supply by 2020, and annual emissions will rise fourfold by 2030. Moreover, some recent measures, such as the fuel tax exemptions and the injection of USD 1 billion into a fuel price stabilisation fund (*Fondo de Estabilización de Precios de Combustibles Derivados de Petróleo*) in 2008 (which was phased out as of June 2010), have not helped to encourage the move away from the use of fossil fuels. Chile has no fiscal measure to make polluters pay for the social costs associated with coal use. As a result, Chile should phase out inefficient and environmentally harmful fuel subsidies as recommended by the OECD and the G20 (even if these subsidies are meant to reduce fuel price volatility, they de facto lower energy prices). Price bands could be helpful in stabilising fuel prices as long as they work in both directions and do not deviate from international prices for overly extended periods. However, they are inefficient in meeting social objectives as richer households are more likely to benefit from them due to their higher energy use and motor vehicle ownership. Instead, social goals are more efficiently achieved through direct and targeted cash transfers to low income families, and such measures are also not environmentally harmful as they do not interfere with price signals linked to fossil fuel consumption. Chile should also promote carbon pricing as the most cost-effective way to deal with GHG emissions from

power production, transport and industry. Carbon pricing (*e.g.* via carbon tax or emissions trading) allows polluters to adopt the most cost-effective means to achieve emissions reduction compared to regulatory approaches such as technology standards (OECD, 2008, 2009b). In the absence of phasing out fossil fuel subsidies and carbon pricing, Chile's GHG emissions are likely to grow.

Water management

Chile faces major competition for water resources. While the country has abundant water resources overall, the mismatch in the locations of available water resources and economic activities means that several regions face severe scarcity. Water pollution is also an important challenge, mainly due to untreated urban and industrial sewage discharges, farming in rural areas and, in the North of the country, mining activities. The country is also exposed to droughts and floods that are likely to become increasingly frequent due to climate change.

Policy options to address water resources management

Chile has a long-standing system of tradable water rights. Despite several reforms, this system has yet to achieve its objective of allocating water to its highest value use while protecting water ecosystems. A penalty on unused water rights has been introduced to reduce "water hoarding", but many farmers still hold surplus water rights to use in case of drought. Reducing the restrictions on trading in water rights has the potential of allocating limited water resources to their most productive uses after allowing for environmental considerations. Facilitating trade would allow prices to better reflect the relative scarcity of water resources. However, experience with water markets is still relatively limited throughout the world. Analysis of how to best design water allocation mechanisms would be a fruitful area of OECD work, where the Chilean experience could contribute meaningful best practices, particularly in the context of Chile's proposed constitutional reform of freshwater rights.

Economic instruments such as charges, fees, taxes and tradable permits could also be used to address water quality problems. Some OECD countries have introduced pollution charges for direct discharges into water bodies, and there is growing experience with tradable pollution permits (such as in New Zealand and the United States), including for non-point sources, from which Chile could learn. Several OECD countries have introduced taxation of farm inputs, particularly Nordic countries; others, such as Denmark and the Netherlands, have experience with the use of economic instruments to penalise the use of farm nutrients and other agrochemicals in order to improve water quality.

Chile is paying increasing attention to the environmental dimension of water management. These efforts should continue and expand. In addition to the on-going upgrading of ambient water quality standards and its link to water pollution permits, Chile should consider putting further effort into ensuring that minimum river flow standards are adequate, and enforced. In this regard, the Australian experience of buying back water rights to achieve environmental goals could be useful for Chile. The environmental impacts of hydropower generation could also be more closely monitored and assessed.

Implementation of OECD legal instruments related to water management and further strengthening water management in Chile require improved co-ordination among the many public institutions involved in the management and environmental protection of water resources. Even if Chile remains a highly centralised country with the regional economic agenda still largely decided by the central government, local authorities should have a role to play in the decision-making process related to water. This raises significant challenges in terms of vertical and horizontal co-ordination, despite the existence of specific mechanisms such as the inter-ministerial committee on water policy.

Chile's participation in on-going OECD work on water governance has revealed that the obstacles to effective co-ordination among water authorities lie in the mismatch between available funding and administrative responsibilities at central government level, the lack of monitoring and evaluation of the results of national water policies and a lack of staff and time, as well as difficulties involving sub-national governments and citizens in the design and implementation of water policies. There should be a swift and full implementation of the 2007 National Strategy for Integrated River Basin Management (ENGICH) .To improve public sector co-ordination, it should involve relevant actors and adopt a territorial approach that takes into account geographical consideration (rural, metropolitan, island and mountainous areas).Chile may want to draw on the EU experience in this area (Directive 2000/60/EC) and also on a forthcoming OECD report on water governance that analyses how to identify and address governance gaps in the water sector.

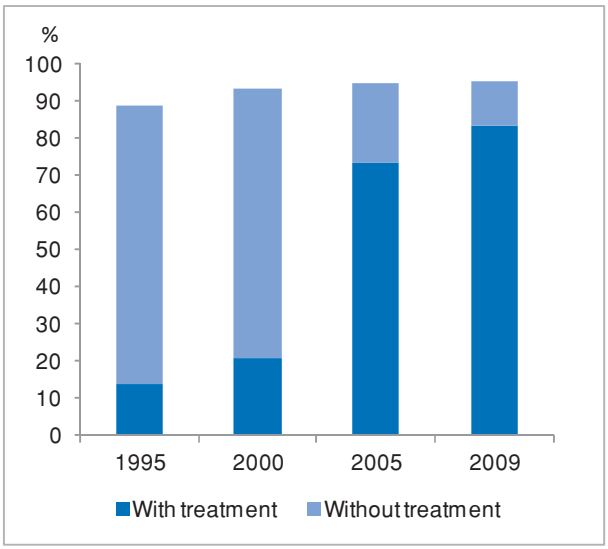
Managing water and water pricing at the river basin level, including decisions on how best to finance environmental activities, would clearly help to reduce costs. For example, integrated policies facilitate the comparison of the costs to consumers of cleaning up downstream water with the costs of discouraging pollution upstream. Integrated policies also facilitate cost recovery. Supervising water supply operators provides the river-basin authority with a wealth of information on the costs of upstream pollution, which they can use to estimate the rates at which pollutant releases should be charged. Moreover, integrated management makes it easier to add pollution-based charges to water bills.

Provision of water supply and sanitation services

Chile enjoys a high level of coverage and quality with respect to water supply and sanitation services. Almost 100% of the urban population has access to drinking water and as of 2007 about 82% of it was connected to a sewerage network with treatment (Figure 10.3). This is the result of a modern and effective institutional and policy framework that was made possible by a proactive process of privatisation of water utilities initiated in the late 1990s. The framework combines: *i)* high-quality regulation; *ii)* water operators (in most cases private sector providers) being allowed to recover the full cost of service provision, thereby enabling investment in assuring coverage and quality of service; and *iii)* an innovative system of subsidies targeted to poor consumers to ensure affordability. Nevertheless, the Chilean authorities recognise that the renewal of water supply and sanitation infrastructure is a major challenge. As a result, water loss from supply systems (due to leaks and unmetered uses) exceeds in many cases the 15% benchmark established by the water regulator. Recovering fully the capital and running costs of water services should allow for necessary investments in water infrastructure. Internalising scarcity and environmental costs in water pricing would create additional incentives to use water efficiently while improving the quality of environmental protection.

Figure 10.3. **Urban population connected to sewage networks in Chile, 1995, 2000, 2005 and 2009**

% of national population connected



Source: OECD Environmental Data: Compendium.

Biodiversity and nature protection

Chile's biodiversity is unique: it includes a large number of endemic species due to its geographic situation, isolated by the Andes, the Pacific Ocean, the Atacama Desert and the polar region. As a result of its different latitudes, from sub-tropical to sub-antarctic, the country boasts a large variety of ecosystems. It is estimated that Chile's biodiversity includes more than 29 000 species.

Overgrazing, invasive species and urbanisation have all contributed to the destruction of habitats. Major hydroelectric dams and the development of coastal areas for tourism are severe threats to the Chilean Winter Rainfall-Valdivian Forests (*Bosque Lluvioso Templado Valdiviano*), a biodiversity hotspot.

In 2003, Chile adopted a National Biodiversity Strategy, and in 2005 the country adopted specific policies on endangered species, protected areas and wetlands. Natural resource laws and regulations governing relevant sectors incorporate sustainable management provisions, as do the plans for tourism development. Chile has designated for legal protection almost one fifth of its territory. In early 2011, the creation of a Biodiversity and Protected Areas Department within the new Ministry of Environment has been proposed, with the aim to strengthen the management of protected areas and to foster recovery of threatened species and eradication of invasive species. In addition, private interests (non-governmental organisations, companies and individuals) manage almost 17 000 square kilometres (equivalent to about 12% of state protected areas) for conservation purposes. Progress has been made in recent years in setting up and consolidating a knowledge base on nature and ecosystems.

Policy options for further progress

Notwithstanding the measures taken to date, nature protection has not been given enough emphasis or resources to deal with long-term threats to Chile's biodiversity. Much remains to be done to ensure that the protection and sustainable use of biodiversity is fully integrated into sectoral policies (*e.g.* tourism, forestry and agriculture). Further efforts are needed to attract commitment from other sectors in order to integrate biodiversity policy objectives into their programmes. For example, policies do not adequately acknowledge the value of natural resources and biodiversity as vital assets for the tourism industry, or make the most of tourism's potential to contribute to the financing of nature protection.

The absence of effective arrangements for land use planning, other than sectoral planning mechanisms, leaves habitats outside of legally protected areas vulnerable. Many native forests are not protected and

continue to be degraded by fires of human origin and illegal cutting of valuable species.

Despite the high overall ratio of protected areas, many significant ecosystems and habitat types are under-represented, and the national target of protecting 10% of all significant ecosystems by 2010 will not be met. Despite improvements in recent years, nature and biodiversity protection and its enforcement are still underfunded. One way to generate finance is through more extensive use of payments for ecosystem services, which, among other things, have been the focus of the work of the OECD Working Group on Economic Aspects of Biodiversity. As a new member country, Chile could benefit from exchange of best practices with OECD countries, particularly in the area of payments for ecosystem services. Plans to remove legal and regulatory barriers that prevent income generation in this area need to be pursued.

Greening economic sectors: the case of mining

Mining has historically occupied a special place in Chile's economy; over the period 2004-08, it accounted for about 18% of GDP and around 50% of total exports (goods and services). Chile produces a wide variety of minerals and is the world's biggest producer of copper. The mining sector has grown rapidly in recent years, and output has more than tripled since 1990. Copper production is capital-intensive but still employs 1.2% of the total labour force.

Key environmental challenges for the sector include intensive water and energy use, as well as significant emissions of air and water pollutants. Sulfur emissions from copper smelters have long been a high-priority environmental problem due to the serious consequences for human health and the environment, affecting not only surrounding natural ecosystems but also agricultural production.

In Chile, air pollution control in the mining industry has relied on meeting ambient air quality targets. Areas where these targets have been exceeded are declared "saturated", at which point they are legally required to implement a plan to improve air quality within 90 days. This was the case in the early 1990s for all areas surrounding state-owned smelters. Since then, the air clean-up plans have set sulfur dioxide (SO_2) and particulate matters (PM10) emission reduction targets for key copper smelters. As a result, Chile has reduced emissions of sulfur oxides (SOx) from copper smelters by over two-thirds, set standards for arsenic emissions and improved energy efficiency.

Efforts have also been made to address some extremely severe cases of water contamination from large-scale mining. For decades, tailings (waste) from some major mines were discharged directly into the sea or rivers, leaving deposits of sandy silt containing copper and other heavy

metals, which have contaminated some marine species. Since 1970, the construction of dams to contain tailings has been regulated, and progress has been made in treating mining wastewater before it is discharged into surface waters, to meet emissions standards issued in 2000 and 2002.

For some time, the mining industry has used Environmental Impact Assessments (EIAs). The country's largest mining companies, including state-owned CODELCO (the world's largest single producer of copper), apply internationally certified systems or their own systems of corporate environmental management. Large mining companies have engaged in voluntary Clean Production Agreements (*Acuerdos de Producción Limpia*, APLs), which cover mine closure, efficient use of energy and water, sewage and waste management, and acid water drainage.

Policy options for further progress

Notwithstanding improvements in recent decades, mining activities still cause the bulk of SO_x emissions in Chile and arsenic emissions in several regions. Particulate emissions need to be further reduced and water use efficiency increased in the sector. Mining competes with agriculture and human consumption for increasingly scarce water resources. Many abandoned tailing dams in Chile are in deficient/unsatisfactory condition, and much mining wastewater from large companies remains untreated. There is inadequate information about soil contamination from heavy metals and toxic contaminants generated by mining activities. Pursuant to the "polluter pays" principle in the Environmental Framework Law, Chile needs to further reduce the environmental impact of the mining sector from SO_2 and arsenic air pollution, water pollution, abandoned sites and tailing dams through the use of economic and other instruments to address pollution concerns. With respect to abandoned sites and tailing dams, the ongoing efforts to improve the information base to regulate mine closures (*cierre de faenas*) and remediation liabilities for abandoned mines are steps in the right direction.

While large mining companies have made progress in environmental management as part of their efforts to strengthen competitiveness, small and medium-sized mining companies often fail to comply with regulations. Special attention should be paid to these enterprises through technological, financial and consultancy assistance and improved relationships with the largest mining firms. Chile should advance the campaign to sign APLs with small-scale mining companies to improve environmental and safety standards, with specific goals, actions, time-lines and performance indicators.

Progress towards the greening of the mining sector will require achieving an appropriate balance among economic, environmental and social considerations. Chile could, for example, increase the financial contribution of the mining sector, among other things, to support long-

term investment in human and social capital. This could be done through mechanisms for more effective capture of resource rents associated with mineral exploitation. The introduction of a system of resource rent tax, as applied in a number of other OECD countries including Norway, the United Kingdom and Australia, would be a longer-term option for achieving this goal, while balancing the need to maintain incentives for investors. The 2006 introduction of a mining tax (*Impuesto Específico a la Actividad Minera*) is a step in the right direction.

Market-based policy instruments for green growth

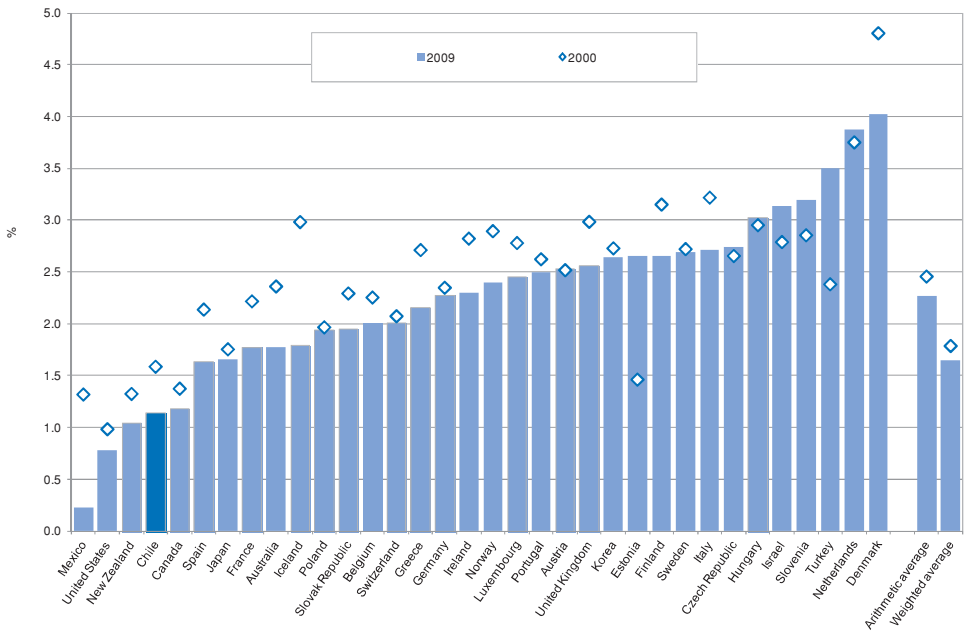
Economic or market-based instruments, such as taxes, tradable permits or user fees that take into account the environmental cost implicit in the production or use of certain goods or services, are generally more cost-effective than regulatory or command-and-control approaches to environmental policy. In the 1990s, Chile was a pioneer in the use of tradable permit mechanisms, such as nationwide trading of water rights (1981), tradable particulate emission permits in Santiago (1992) and individual transferable quotas for some fish species (1992). These programmes have provided invaluable experience, not only for Chile but also for many other OECD countries, and can be first steps towards wider or more active markets. On the scale that they are currently being deployed, however, the efficiency gains from using economic instruments to achieve environmental outcomes in Chile remain small.

Policy options for further progress

Broader use of economic instruments could complement the command and control measures the country uses in its environmental policies, in order to enhance economic efficiency. Environmental taxes in the energy and transport sectors were designed with little attention to their environmental impact. Revenues from environmentally related taxes in Chile as a share of GDP are low, compared to most OECD countries, and this share has declined significantly since 2000 (Figure 10.4). Chile could increase these tax rates and apply such taxes to a broader spectrum of tax bases. This would not only discourage polluting activities, but would also represent a potentially significant source of additional fiscal revenues. Chile should review ways and means of better integrating environmental concerns into fiscal instruments and policies.

Figure 10.4. **Revenues from environmentally related taxes as share of GDP in Chile, 2000 and 2009**

% of GDP



Notes: For Greece, data is for 2000 and 2008.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Source: OECD/EEA Database on Instruments for Environmental Policy.

Conforming to OECD standards: waste and chemical management in the context of legally binding Council decisions and Council recommendations

Waste management

About 90% of total waste generated in Chile goes to landfill. No programme or organisation at the national level has been established for the separate collection of municipal waste with a view to recycling. However, in urban areas, an informal separate collection is carried out by the urban poor. Recycling on an industrial scale is still limited due to the absence of large "official" recycling markets and lack of recycling

infrastructure. The present lack of policy measures and economic instruments, such as a landfill tax or deposit refund system, reflects the low priority the government has given waste management issues. However, Chile is improving the situation through the implementation of its Integrated Solid Waste Management Policy, which also includes a Waste Minimisation Strategy.

In order to meet the OECD standards ensuring environmentally sound management of all waste, the new Law on Waste, expected to be issued in 2011, will extend the government's waste policy to non-hazardous waste, which has not been covered by any legislation. This new law is expected to further promote waste prevention and minimisation, facilitate the establishment of a recycling infrastructure and introduce the Extended Producer Responsibility (EPR) principle.

Finally, a major challenge for Chile in the area of waste involves compliance with OECD requirements on transboundary movement of waste, in particular those destined for recovery operations. Chile needs to develop or modify its legal framework to implement the OECD requirements, which are legally binding for all OECD countries and allow trade in waste in an economically and environmentally effective manner. These fundamental requirements include, for instance, common definitions for waste and hazardous characteristics, the use of OECD specific lists of waste to be controlled or not controlled, the application of specific control procedures and the use of financial guarantee requirements. In the accession process Chile has shown its willingness to comply with the OECD requirements in this field and plans to put in place the necessary instruments in the near future.

Chemical safety

A National Policy on Chemical Safety in Chile was adopted in November 2008 and signed by 14 sectoral ministries. The general objective of the policy is to reduce risks associated with the handling of chemicals throughout their life cycle in order to protect human health and the environment. The policy's Plan of Action takes into account the Strategic Approach to International Chemicals Management (SAICM) and fulfilment of Multilateral Environmental Agreements (MEAs) ratified by Chile, such as the Rotterdam, Stockholm and Basel Conventions. It also includes actions specifically designed to implement the OECD legal instruments on chemicals, which contain requirements and practical recommendations to governments to reduce risks posed by chemical production, transport, storage, use, trade and disposal; avoid technical barriers to trade; and ensure the public's right to know.

Chile's Policy on Chemical Safety is co-ordinated under a National Environmental Management System. However, the involvement of many ministries and agencies in the regulation of chemicals and the enforcement of environmental regulations creates a challenge for Chile in effectively implementing this policy. This is especially the case for the

systematic investigation of existing chemicals, the development of strategies for reducing risk posed by lead, and the disclosure of and easy access to non-confidential information, such as material safety data sheets or risks associated with chemical industries.

Further efforts are needed to include Integrated Pollution Prevention and Control (IPPC) principles in Chile's waste and chemicals management policies and to ensure that the upcoming institutional reform gives impetus to IPPC implementation in Chile.

Notes

1. In early 2011 Chile enacted an ambient air quality standard for PM2.5. The standard was set on a level with that of many OECD countries (20 ug/m3 annual average).
2. In early 2011 Chile strengthened the air emission standards for new coal-fired plants.

Further reading

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Chapter 11

Diversifying exports and improving competitiveness

Main recommendations

In order for incomes in Chile to catch up with the OECD average, there is a need for rapid export growth, which will in turn require progressive improvements in competitiveness and a diversification of the country's export base.

There are continued opportunities for leveraging Chile's natural resource endowments, most notably through the increased provision of associated services, such as engineering and business services. These services could also form the basis for new, unanticipated sources of opportunity.

Numerous regulatory barriers continue to inhibit trade in services. Participation by Chile in an OECD project to record such regulatory barriers and measure the restrictiveness of trade in services would be valuable in indicating reform priorities.

Chile also needs to overcome a range of supply side constraints, where it does not achieve OECD best practice. Important areas include education and human capital, innovation, internal competition and labour market regulation. Existing policy recommendations in these areas could in future be tailored to the needs of specific export clusters.

Since Chile's return to democracy 20 years ago, the economy has grown more rapidly than any economy in Latin America. Per capita income has more than doubled and extreme poverty has been almost eradicated. Despite this progress, per capita income is still less than half the OECD average, and at the average rate prevailing in the decade preceding the global economic crisis, it would take around 30 years to catch up with the current average OECD per capita income.

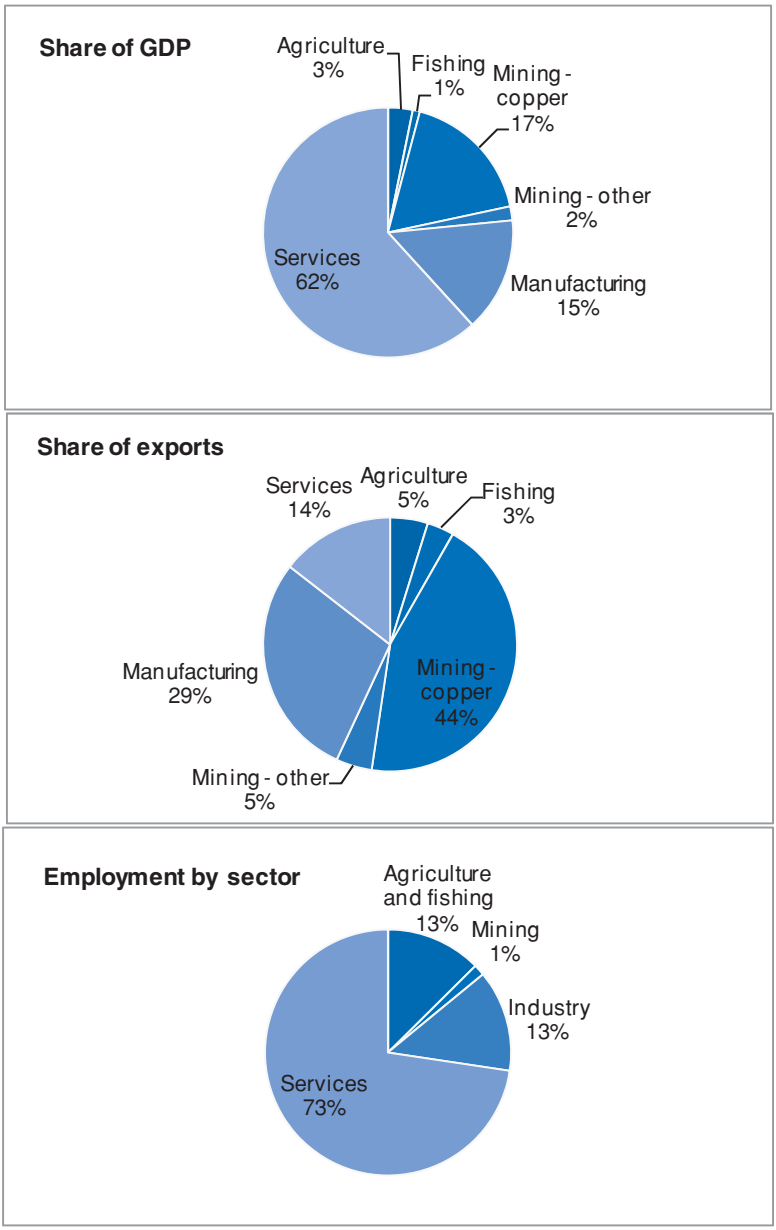
Underpinning this strong economic performance have been sound macroeconomic management, institutional and structural reforms, prudent management of natural resources (principally copper) and openness to trade. With trade liberalisation, the economy has become progressively more open, with a ratio of trade (exports plus imports) to gross domestic product (GDP) of about 80% – higher than the average for any region, except east Asia.

For progress to be maintained, exports will need to continue to grow rapidly. In recent decades, the country's export performance has been based on natural resources, with copper and agricultural products dominating export revenues. Copper revenues were buoyant in the years preceding the global economic crisis, and opportunities for adding value in the agricultural sector have been successfully exploited (notably in wine and salmon). Over the coming decades Chile will need to build on these successes, diversifying its export base and finding new areas of competitiveness. Chile has a service oriented economy and there is a particular need to increase the export orientation of this part of the economy.[1]

The structure of Chile's economy and exports

Chile's mining sector, which is dominated by copper, accounted for around 19% of GDP over the period 2004 to 2008 (Banco Central de Chile) (Figure 11.1). Over the same period, the sector accounted for around 49% of total exports (goods and services). Agriculture and fisheries are also highly export oriented and account for just 4% of GDP, but around 8% of total exports. The country's manufacturing sector is relatively small, given Chile's level of development, with a share in GDP of just 15%. Manufactures account for 29% of exports, but around half this share comes from agro-food products. The share of services in GDP is almost two-thirds, but services accounted for just 14% of exports between 2004 and 2008. Many services are inherently less tradable than primary or manufactured products, but even so this share is lower than for other mineral rich countries such as Australia, New Zealand and Norway.

Figure 11.1. **Sectoral shares of GDP, exports and employment in Chile, average 2004-08**



Source: Banco Central de Chile.

The capital-intensive mining sector creates relatively few jobs, accounting for just 1% of employment. By contrast, agriculture accounts for 13% of employment, partly due to the existence of a low-productivity, semi-subsistence farming sector that is not integrated with markets, and partly because the agro-food sector creates a number of unskilled and low-skilled salaried jobs.[2] This is a similar share to that in Mexico, which has a comparable per capita income.

Industry and services account for 13% and 75% of employment, respectively (shares that are closer to the corresponding fractions of GDP). Both categories contain a wide range of skill levels. Employment growth in the service sector has included relatively high-skilled and well-paid jobs, for example in finance, where growth has been facilitated by increased education attainment of the young population. At the same time, however, population growth and the release of labour from agriculture have led to employment growth in sectors with modest average wages, for example commerce, tourism and construction (OECD, 2010a). A major priority is to raise labour productivity in both sectors, and with it potential real incomes.

Over the past decade, the composition of exports has changed little. Even by the standards of natural resource abundant OECD countries, Chile's exports of goods remain heavily concentrated in mining and natural resource-intensive products, with relatively little development of high value manufactures or service activities. Chile's specialisation pattern partly reflects its pattern of comparative advantage and a strategy of trade liberalisation and export-led growth over the past three decades. However, it also reflects a slowdown in innovation within the global technology frontier, as the number of newly discovered products added to the Chilean export basket over the past decade has been below that expected for a country of Chile's income per capita (OECD, 2010b).

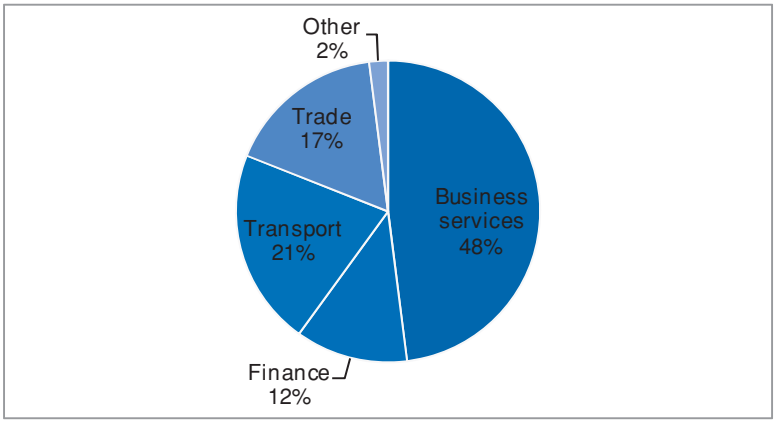
Partly owing to this pattern of export specialisation, the "sophistication" of the Chilean export basket is lower than in other emerging and OECD countries, including natural-resource exporters, in the sense that Chile exports the types of products associated with countries at lower income levels (OECD, 2010b). As Chile seeks to raise per capita incomes, this sophistication will need to increase.

One possibility is to develop new exports of manufactures. A high share of Chile's exports remain concentrated in primary products (mainly copper) and resource-based manufacturing. The share of non-resource-based manufacturing is low – at any level of technological sophistication – relative to the control group of other resource-abundant OECD countries (OECD, 2010b). The growth of processed agro-food exports has made an important contribution to Chile's overall economic performance. However, this sector, and manufacturing more generally, remain impeded by a number of constraints, which are discussed in the next section. Overcoming these constraints could have important spillover benefits in terms of fostering exports of other manufactures.

An even more important way of maintaining export growth is via services. Services are important to Chile's economy, but exports are relatively modest, even in areas that are inherently more tradable, such as tourism and financial services.

Services are an essential part of the mining sector, or "cluster". The services cost share of intermediate inputs in mining is 42% compared to an industry average (all goods-producing sectors) of 30% (calculated from OECD Input-Output Database; Chile mid-2000s). Figure 11.2 depicts the composition of intermediate services inputs in the mining sector. Clearly, business services account for the largest share.

Figure 11.2. **Shares of intermediate services used in mining in Chile, mid-2000s**



Source: OECD Input-Output Database.

Business services are an important source of competitiveness for exporting industries in general, and for natural resource extracting industries in particular. For instance, state-of-the-art engineering contributes to lower cost of exploration and extraction while reducing environmental damage, while a host of other business services contributes to better supply chain management, compliance with standards in export markets, as well as marketing and product differentiation. Financial services are also an important part of the cluster. Mining investments are bulky, while revenues are cyclical and volatile, and both features generate a demand for financial services to manage the flow of funds over time.

There are potential service opportunities in agribusiness and food processing, as consumers become more concerned about the environmental and health impacts of what they consume. Adoption and compliance with private and public standards alike, together with marketing, can underpin the shift from producing low-margin

commodities to higher-margin differentiated products. A recent example of this development has been in the pork and poultry sector, where Chile cannot compete with Brazil on price alone, but can secure niche markets in Asia with added value (for example, supply specific cuts of meat to restaurants and supermarkets). Both private and public sectors played an important role in the development of Chile's wine and salmon sectors. The government provided a stable macroeconomic environment, training, access to credit and research and development (R&D). Substantial inflows of foreign direct investment (FDI) provided access to international distribution networks, facilitated the adoption of most recent technologies and helped in the upgrade of infrastructure and public services (transport, logistics and communication). In the case of wine, a move into higher quality market segments was assisted by government R&D, the adoption of quality standards and by collaboration of producers and government agencies (such as the export promotion agency PROCHILE) in promotion and branding strategies (Brooks and Lucatelli, 2004; OECD, 2004).

Elements of a strategy for export diversification

As Chile seeks to diversify its exports and thereby maintain the momentum of export growth, it needs to identify areas of opportunity and address the constraints that limit the realisation of those opportunities.

In general terms, a strategy for export diversification can focus on three elements. The first involves building on existing areas of comparative advantage, further leveraging export opportunities generated by mining and other natural resources. A second, related, approach is to identify specific sectoral clusters where there is evidence that Chile has an inherent comparative advantage which it could exploit further. A third approach is to foster the business environment more generally so that not only are existing exports promoted but new, perhaps unanticipated, exports may also spring up. In practice, Chile has combined all three elements, providing some direction but falling short of attempting to "pick winners".

At each of these strategic levels, there are constraints to competitiveness in international markets of varying degrees of importance. Below we discuss the specific constraints faced by the natural resource sector, by other clusters and by those that inhibit export development more generally. On the demand (trade policy) side, these include market access limitations. On the supply side, potential impediments include a lack of internal competition, perhaps arising from regulatory ("behind-the-border") limitations on trade. They also include a range of structural limitations in the areas of education and human capital, labour market regulations and innovation systems. Some specific priorities are discussed below.

Building on natural resource exports

As noted earlier, Chile's mining sector uses services quite intensively. The competitiveness and sophistication of mineral-related services could be developed through further trade and product market liberalisation and investment in human capital. Endowed with a diversified services supplier base, the mining cluster could enhance and develop skills and technology on an international scale. Furthermore, the skills developed could be applicable to a wider range of business activities.

There are several examples of mineral exporting countries becoming exporters of mineral-related services, in areas such as exploration, engineering and construction. In the United Kingdom, for example, the highest service export intensity is found among oil and mining companies.[3] Australia, Brazil, Canada and Norway are among the ten largest exporters of engineering services in the world and all have a high share of minerals in GDP and exports.[4]

A typical pattern of internationalisation of mineral-related services is via the integration of local services suppliers into the global supply chains of major multinational minerals and related services companies operating in the home market. There have also been several examples where a local mineral company has expanded over time into international markets and has been followed by local services suppliers. In Norway, for example, the export share of sales from the petroleum related supply industry, of which the technical services are the most important, increased from 29% to 46% between 1995 and 2005.[5]

Likewise, the Brazilian oil industry has developed international state-of-the-art technology in deep-water drilling. Petrobras, the major oil company, is active in 27 countries, and internationalisation of related services has followed in its wake. Other examples are South Africa's mining companies, which have become major multinationals. One of the world's largest mining companies, BHP Billiton, was created through a merger between a South African and an Australian mining company. Australia is also an example of a natural resource rich country that has become a world leader in natural resource based industries and services.

Chile has been highly successful in developing its agribusiness sector. In a recent review of agricultural policies, OECD commended the way in which Chile has provided essential investments that help raise agricultural competitiveness and protect the country's environment and natural resource base. At the same time, the OECD review suggests the need for a more systematic evaluation of policy performance (OECD, 2008a). A number of constraints to competitiveness are identified, corresponding to those identified in the analysis of agriculture-based clusters (see below) and those considered to impede labour productivity more generally.

Identifying clusters for export development

Following a series of studies by the Boston Consulting Group (BCG), Chile's National Innovation Council (CNIC) has identified eight clusters with high growth potential (relative to the degree of intervention required). Five of these are based on natural resources (mining, aquaculture, processed food, fruit growing, and pork and poultry) while three are service based (tourism, offshoring and financial services). For each cluster, interviews were conducted in order to produce an "agenda" for action. These agendas involve overcoming the constraints to value creation, and are summarised in Table 11.1 (OECD, 2009).

Common constraints appear in the areas of innovation and R&D, regulatory processes (including trade restrictions), education and human capital, and the attraction of FDI. In each of these areas, OECD has made general policy recommendations, which could be tailored to the needs of specific development clusters. A danger of selective intervention in clusters where Chile already has, for the most part, experienced relatively successful development is that the government may erroneously target areas where the private sector is itself capable over overcoming coordination issues (see Chapter 3). However, the CNIC proposals mitigate this risk by focusing on providing improved framework conditions.

The development of clusters could extend beyond those identified by CNIC, to the extent that there are other services that could build upon Chile's experience in the mining and agribusiness sectors, and help promote a gradual diversification of the country's export base. Injecting public support into "new" clusters" runs the risk of "lock-in" failures. These risks can be partly offset by establishing performance targets, reviewing support periodically (and withdrawing it if targets are not met), and planning for the eventual replacement of public support by the private sector.

An area where further development could enhance valued added is professional business services, in particular engineering. A more open market in professional services could shift the focus of regulation from engineers and engineering firms towards product and process standards, adopting international standards wherever feasible. This would introduce more competition in service sectors without compromising environmental, security and social standards. At present, Chile maintains a number of trade restrictions for professional services. For instance, it scores significantly above the OECD average on the product market regulation (PMR) index in professional services, which constitute a significant share of total business services.[6] In engineering, there are high barriers to entry through an onerous licensing system and procedures for recognition of engineering degrees from abroad, as well as restrictions on advertising; this results in less competition in the sector, to the detriment of downstream industries. Furthermore, it has been demonstrated that such behind-the-border restrictions on trade in

services not only impede foreign suppliers from entering the market, but also prevent local service suppliers from becoming competitive in export markets (OECD, 2008b). Chile may also consider expanding the recognition of engineering degrees from abroad, *e.g.* by joining the Washington Accord and/or the APEC Engineer Agreement.

Table 11.1. **Chile's National Innovation Council's cluster agendas**

Mining. To maintain a position of global leadership in mining and to promote links among members of the cluster:
- Promote networking among the members of the cluster.
- Develop a knowledge management system for the cluster.
- Promote innovation in the sector, ensuring that R&D incentives are competitive.
- Evaluate specific incentives for mining exploration.
- Assist in the development of suppliers to the mining industry and promote inward investment by such firms.
- Assess the usefulness of creating test centres to assist in developing goods and services for mining.

Aquaculture. To be the worldwide leader in production of salmon and to diversify into other species and products:
- Develop foods for different species to be farmed.
- Identify and develop options of new non-salmon species.
- Improve hygiene.
- Improve and/or implement environmental control mechanisms.
- Modernise the regulatory framework of the sector.

Tourism. In order to turn Chile into a well-known and prestigious destination with strength in niches such as eco-tourism, adventure, cruises, etc.:
-Improve the positioning and international tourist promotion of Chile.
- Increase the number of destinations and encourage the development of more tourism products.
- Improve the quality of the education and level of qualifications of people who work in tourism.
- Adapt the regulatory framework and marketing of the sector.
- Improve linkages within the cluster.

Processed foods. In order to consolidate Chile's position as a producer of high added value foods:
- Extend the systems for market intelligence and market development.
- Promote the image of Chile as a food exporter.
- Improve production capacity, enhancing co-ordination between producers of raw materials and food processors and transferring new technologies to small and medium-sized companies.
- Focus and increase investment in R&D.
- Improve institutional linkages within the sector.

Offshoring. In order to become the regional leader in high added value offshoring services:
- Develop human capital in areas of interest for offshore services.
- Provide education relevant to the needs of offshore services.
- Attract FDI and embed foreign companies in Chile's economic fabric.
- Improve linkages within the cluster.
- Adapt the regulatory and legal framework to the needs of the cluster.

Pork and poultry. In order to maintain high rates of export growth:
- Improve productive capacity (the SAG institute for agriculture and forestry should tackle the future needs of the sector in the areas of qualifications, certification and inspection of export plants).
- Increase the interaction between the private sector and the research sector in order to stimulate applied R&D.
- Increase capacity for the diagnosis and monitoring of diseases.
- Proactively manage the relations with the countries to which pork and chicken products are exported.
- Compile information on the world market, related to health and food safety.

Financial services. In order to strengthen the Chilean financial sector, building from a domestic platform to become a possible regional centre:
- Increase the proportion of the population having access to banking services, developing the use of instruments for payment
  and a universal system of credit rating.
- Further expand the derivatives market.
- Develop more progressive investment rules.
- Reform the tax system.
- Increase the qualifications of professionals in the sector and institute a national system of certification for finance professionals.

Fruit growing. In order to maintain Chile's worldwide leadership in primary fruit growing:
- Further market development, promoting Chilean fruit exports and strengthening Chile's image as a food exporter.
- Increase capacity, developing specific lines of credit for the sector and improving manpower productivity.
- Adapt the labour legislation to the specificities of the agricultural
  sector.
- Develop R&D programmes for the sector.
- Develop infrastructure.

Source: OECD (2009b), "Chile's National Innovation Council for Competitiveness: Interim Assessment and Outlook", April 2009, *www.bligoo.com/media/users/3/181209/files/18813/CHILE_COUNCIL_FINAL.pdf*.

Further possibilities exist in the *retail sector*. Recent research has demonstrated that major international retailers could become an important marketing channel for local manufacturers and agribusinesses. There are several examples of local suppliers to multinational retailers becoming global suppliers to the same retailer over time (see *e.g.* Coe and Hess, 2005; Javorcik, Keller, and Tybout, 2006). In Chile, there is some evidence that this sector is marked by a lack of price competition relative to a comparator group of other resource-rich OECD countries (Schwellnus, 2010).

Developing new export opportunities

A number of constraints to the further development of existing export sectors and new clusters have been identified.[7] While some are specific, there are commonalities that cut across several sectors and are of potential benefit to all new sources of export growth. These include the need to strengthen innovation and R&D, to further improve regulatory processes (including standards in agribusiness sectors), to improve education and the broader development of human capital, to reform labour laws and to attract FDI. In some of these areas – notably human capital (low levels of education), labour market flexibility and entrepreneurship and innovation – Chile performs poorly relative to other OECD countries. Redressing these weaknesses is part of the general prescription for improved productivity and achieving sustained income growth; it is also essential for the more specific task of improving (and finding new areas of) export competitiveness.

Overcoming constraints to improved competitiveness and export diversification

Trade policy

Chile's trade policy is liberal and fundamentally non-discriminating across sectors. In 1990, the new government inherited a standard uniform MFN (most-favoured-nation) tariff of 15%, which was lowered to 11% in 1991 and then reduced progressively to 6% by 2003. As a complement to unilateral reforms, the government has brokered a series of trade agreements that, by offering better than MFN access, have further reduced the degree of protection. With the majority of trade now covered by regional agreements, applied tariffs average around 1%. Agricultural markets are important to Chile, and market access for agro-food products has been a major concern. Globally, tariffs on manufactures are relatively low, having been reduced by successive multilateral agreements, first at the GATT (General Agreement on Tariffs and Trade) and then at the World Trade Organization (WTO).

However, services are still not effectively covered by WTO provisions on market access and national treatment provisions. Thus, out of

620 possible commitments on market access in the General Agreement on Trade in Services (GATS), 532 are unbound as far as Chile is concerned.[8] At the same time, Chile has engaged in a large number of regional trade agreements (RTAs), most of which include services. These go far beyond Chile's commitments in the GATS, by adding new commitments in terms of sectors and modes and deepening the commitments already bound in the GATS. The most liberal RTA contains as many as 404 new commitments, while all RTAs to which Chile is a partner deepen the commitments that Chile has made in its GATS schedule.

Whereas service trade liberalisation through RTAs is useful in ensuring reciprocity and a level playing field, Chile could also further unilateral liberalisation, particularly in sectors where its market is more restricted than the OECD average, notably professional services. Furthermore, preferential market access and national treatment measures included in RTAs could be applied on an MFN basis and, in due course, committed to in the GATS.

The OECD Trade and Agriculture directorate is currently developing a regulatory database on a number of service sectors, and Chile has recently been included in this project. The database will be a valuable source of information in its own right and will form the basis for the calculation of trade restrictiveness indices in services. This project will help identify best practice in services trade policy. Further cooperation with Chile on this major undertaking will be highly valuable.

Another possible area for reform is Chile's intellectual property legislation. The OECD Trade Committee noted that Chile has a system of intellectual property rights that is well developed from a legal perspective. Significant amendments and modifications have been made in recent years to bring the system closer to the international norms. Nonetheless, a recent OECD study noted that there remains some scope for progress with respect to administration and enforcement of intellectual property rights (OECD, 2009a). One important concern is the rate of piracy in copyrighted goods and counterfeiting of trademarks. Experience suggests that linking international cooperation with domestic measures can enhance effectiveness in this area. A further area of concern is the intellectual property rights regime for pharmaceutical and agrochemical products, notably with respect to the use of test data and the approach to granting commercial authorisation for generic products. In addition, OECD considers that Chile would benefit from enhancement of its domestic capacity to produce and employ intellectual property, a shift that may require further development of human capital and improved economic incentives for the private sector (OECD, 2009a).

Education and human capital

OECD has identified education policy and human capital formation as major bottlenecks for productivity growth in Chile. Weakness in this area is specifically identified by CNIC as an obstacle to the development of three non-resource based clusters: tourism, offshoring and financial services. It is also a clear impediment to the development of business services based on Chile's natural resources, which are highly skills based. For example, while school enrolment has increased significantly, Chile's population age 25 to 64 years still has only ten years of schooling on average, compared with an OECD average of 12 years. Programme for International Student Assessment (PISA) scores for 15-year-olds reveal that Chile's student performance ranks 33rd out of 35 member and accession countries. There is also a high degree of inequality in educational attainment, with wide differences in performance between the public, subsidised private and fully private sectors of the education system (OECD, 2010a) and unequal outcomes across socio-economic groups. Fundamentally, the availability of a skilled workforce influences firms' capacities to adopt new technologies and organisational or marketing innovations. Raising the qualification level of the Chilean workforce, including through improving and expanding vocational education and training (VET) and lifelong learning, may also foster mobility from low-productivity jobs to higher-productivity jobs (Schwellnus, 2010).

Labour market flexibility

Chile's employment protection legislation is less rigid than in the median OECD country. However, inside-the-frontier innovation and the shift of resources into higher-productivity activities are held back by high severance pay, which can lock workers into low-productivity jobs in traditional activities. Even when higher-productivity and higher-wage opportunities emerge, workers may prefer to stay in a low-productivity occupation if they expect to receive severance pay in case of dismissal for economic reasons. Recent empirical evidence shows that restrictive employment protection legislation, including high severance pay, can reduce firms' speed of adjustment to shocks, thereby lowering aggregate productivity growth. Recognising the importance of labour productivity improvements for sustained income growth, OECD has made a wide range of recommendations for reforms of Chile's labour market and social policies (OECD, 2010a).

There are concerns about the impact of stringent labour regulations on the demand for labour in agriculture-related sectors, where wages are an important part of total costs – over 60% in the case of horticulture. In particular, there are concerns that the labour market could be harmed by regulations maladapted to the special case of rural and farm employment: seasonality, instability and fluctuating farm labour demand. Moreover, labour regulations affect the formal market and,

indirectly, the informal market. A more efficient labour code would help incorporate a larger share of workers into the formal market (Valdés and Foster, 2007).

Innovation

Despite recent reforms, there remain a number of weaknesses in innovation policy. This is perceived to be a continuing problem for the development of natural resource clusters (mining, processed foods and fruit processing). R&D is mainly financed by the government and carried out in universities and public research institutes. With the caveat that data on the composition of R&D spending in Chile after 2004 are not available, only around 46% of R&D is financed by industry as compared to an OECD average of more than 60%.

The OECD notes that Chile's innovation on the global technology frontier ("on-the-frontier" innovation) as measured by patent registrations is low, which is to be expected for a country at Chile's income per capita level. However, on-the-frontier innovation will become increasingly important as Chile grows richer, and an appropriate innovation framework will help avoid the risk that low levels of innovation create a drag on future productivity growth. A more immediate concern is the slower pace at which new products have entered the Chilean export basket, with Chilean exports remaining much more concentrated than in other resource-rich OECD countries, such as Australia, Canada, New Zealand and Norway.

Internal competition and entrepreneurship

In several sectors, Chile's competitiveness is undermined by a lack of internal competition, manifested in high mark-ups and high degrees of market concentration. In all industries except mining, price-cost margins are higher in Chile than in the comparator group of Australia, Canada and New Zealand (Schwellnus, 2010). Price-cost margins are even higher in the manufacturing sector, which is open to international trade, and in the retail sector, which has a reputation of being competitive (see, for instance, EIU, 2008). But the largest differences can be found in transport and telecommunications and in other services, which mainly includes business services.

Chile's relatively small size may naturally inhibit competition, but there is also evidence of weak competition policy, including a lack of monitoring of mergers and acquisitions. Strengthening the enforcement of competition law is particularly important to increase competitive pressures in the services sectors, which face no import competition (OECD, 2010b).

Regulation

Regulatory barriers in Chile have impeded entrepreneurial activity and the reallocation of resources from low-productivity activities to innovative and productivity-enhancing activities. Areas of deficiency identified by the OECD include high start-up costs, inefficient bankruptcy procedures and strict regulations of retail and professional services (OECD, 2010b).

Policy recommendations and priorities for future work

For the past 20 years, Chile has enjoyed strong economic performance thanks to sound macroeconomic management and a commitment to trade openness. As Chile is a small country, openness to trade has been essential for economic growth and development.

While formal trade barriers have for the most part been dismantled, there are numerous regulatory (behind-the border) barriers that continue to inhibit trade, particularly in services. Since the development of trade in services is the key to export diversification and sustained income growth, these barriers could become progressively more important as Chile seeks to diversify its export portfolio.

The OECD Trade and Agriculture directorate is currently developing a regulatory database for a number of services sectors, and Chile has recently been included in this project. The database will provide direct information on regulatory barriers and will also form the basis for the calculation of trade restrictiveness indices in services. This project will help in identifying best practice in services trade policymaking. Further cooperation with Chile on this major undertaking will be highly valuable.

In recent decades, Chile's export growth has leveraged on the country's endowment of natural resources, chiefly copper and productive agricultural land. There are continued opportunities for such leveraging, notably by developing associated services, although there are also likely to be diminishing returns within the primary sectors. The development of related skills and competencies (*e.g.* in engineering or financial services) may pay off in other sectors. Some of these have been proposed as development clusters (tourism, offshoring, financial services) but there may be others. Some of the risks of targeting such clusters can be contained by having government interventions focus on basic framework conditions, so that private sector initiatives are not crowded out.

OECD has produced a range of advice on how supply-side constraints to competitiveness can be overcome. These include policy recommendations in areas where Chile typically does not implement OECD best practices, notably education and human capital, innovation and regulation (such as labour laws). By following these

recommendations, Chile can help further its aims of diversifying exports and improving competitiveness. The OECD can also work with Chile to ensure that its existing policy recommendations are further refined to address specific sectoral concerns.

Notes

1. Recent cross-country panel studies find that diversification has a positive effect on per capita income growth (Hesse, 2009; Ledermann and Maloney, 2009). Feenstra and Lee (2004) find that export product variety explains 13% of productivity gains in a sample of industrial and developing countries. Meanwhile, Herzer and Nowak-Lehnmann (2006) show that past export diversification has boosted GDP growth in Chile. Hausmann *et al.* (2007) show that increased export sophistication has positive effects on subsequent GDP growth.

2. Note that the definition of agricultural employment extends to salaried agricultural workers, who may in some cases work in agro-food companies producing exports of manufactures. In general the definition of agriculture may not be the same for purposes of measuring GDP, exports and employment.

3. A recent study finds that mining firms that engage in exports have, on average, an exports of services over turnover ratio of 63%, whereas the average for all firms that export services is about 30% (Breinlich and Criscuolo, 2010).

4. See Cattaneo, Schmid and Engman (2010). The authors caution that data on engineering services are sparse and some possibly important traders, notably China are missing in the data. The data are from 2006.

5. See for instance Konkraft Report No. 4 (2008), a report submitted to Intsok, the Norwegian agency for internationalisation of the oil and gas sector (in Norwegian).

6. The PMR index numbers range between 0 and 6. The higher the score, the more restrictive the regulation.

7. These areas of weakness are also commonly identified through survey-based approaches, including the World Economic Forum's Global Competitiveness Index, and the World Bank's Ease of Doing Business Survey. In the Global Competitiveness Report of 2009–10, the most problematic areas for DOIng business are identified as: labour restrictions (29% of responses), inefficient government bureaucracy (21%) and inadequately educated workforce (13%). In the World Bank's latest survey of Chile's investment climate, the country does well in some areas (paying taxes, protecting investors), but badly in others (*e.g.* getting credit and closing a business).

8. There are 155 sectors and four modes of supply in the GATS, which add up to 620 possible commitments.

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Chapter 12

Making the most of an open foreign investment regime

Main recommendations

The objectives of investment policy and investment facilitation efforts should be to:

- *Preserve a favourable investment regime by introducing periodic regulatory assessments to ensure that regulations continue to meet their intended purposes.*
- *Improve foreign direct investment (FDI) statistics and ensure that information is available to support policy formulation and appraisal.*
- *Review existing investment incentives in the light of current policy priorities and the potential for introducing new instruments to promote greater linkages of FDI with the broader economy.*
- *Streamline and clarify the roles, structure and interrelations among the various agencies involved in investment promotion and facilitation to establish their responsibilities in carrying out the functions of image building, investment targeting, linkage promotion and policy advocacy.*

An open investment regime and a robust regulatory and institutional environment have supported foreign direct investment (FDI) in Chile and made it an important driver of economic growth. The stock of FDI has tripled over the past decade. There are no prior-approval or screening requirements for FDI, and foreigners are legally granted the same treatment as nationals. Moreover, strong macroeconomic performance, strong and stable institutions and a generally friendly regulatory framework have enhanced the attractiveness of Chile as an FDI destination. As a result, Chile boasts one of the highest ratios of FDI to gross domestic product (GDP) in the OECD.

Nevertheless, FDI remains heavily concentrated in natural resources, potentially limiting beneficial spill-over effects on the broader economy in terms of innovation and productivity. Better data is needed to appraise the impact of FDI in specific sectors and efforts underway to improve data quality and coverage will aid in supporting the appraisal of linkages between FDI and the domestic economy.

Chile's approach to investment incentives has been broadly aligned with recognised best practices, eschewing specific incentives to attract FDI and/or special tax regimes, in favour of transparency and predictability. Chile already benefits from an open FDI regime, a solid regulatory framework and strong participation by foreign investors. In this context, investment facilitation policies can help fully exploit the potential benefits of foreign investment. Promoting linkages and targeting investments can help, but must be done right. Meeting that challenge will require a new approach to investment promotion and facilitation.

To meet this new challenge, government agencies involved in investment promotion and facilitation may need to adapt. The main instrument of investment facilitation, the DL600 contract, was introduced at a time when foreign investors still faced uncertainties for repatriation of capital and tax treatment, but is probably no longer needed. As Chile's macroeconomic and fiscal framework improved markedly over the past two decades, fewer and fewer investors sign DL600 contracts. As a result, investment facilitation in Chile could turn to face the challenge of fully exploiting the benefits that FDI can bring by enhancing linkages with the domestic economy. At an organisational level, better coordination may be needed to avoid duplication of tasks and clearly assign responsibilities for country image building, investment generation, linkage promotion and policy advocacy. Furthermore, the resources and skills needed to carry-out new investment facilitation tasks will call for adaptation of the relevant agencies to focus more on policies to attract investments from aboard with potentially strong spill-over effects and to strengthen their linkages with the domestic economy. These investment targeting policies can be useful to enhance the absorptive capacity of the domestic economy, but risks to public resources of targeting specific sectors and firms should be borne in mind. Chile's has distinguished itself by avoiding the pitfalls of

special incentive schemes for foreign investment and any new programs should carefully balance costs and benefits.

Keeping markets open to foreign direct investment

Chile's liberal approach to the participation by foreigners in the economy is reflected in the absence of a specific law concerning foreign investment and of trans-sectoral restrictions, such as prior approval or screening requirements.[1] The principle of national treatment is incorporated in Chile's Constitution, which guarantees both Chileans and foreigners the right to develop any economic activity, provided applicable legislation is observed and such activities are not contrary to public morals and order, or to national security interests.

Restrictions on foreign entry apply only to a few sectors (air and maritime transport, radio broadcasting and fishing vessels) and rules for granting of concessions make no distinctions between nationals and foreigners, ensuring openness to foreign investors in sectors such as mining (accounting for around one-fifth of GDP) and telecommunications, in which a concession is required.[2] Chile is open to foreign investment in the financial sector. Branching is allowed in banks and insurance, but establishment of all other types of financial institutions requires incorporation in Chile.

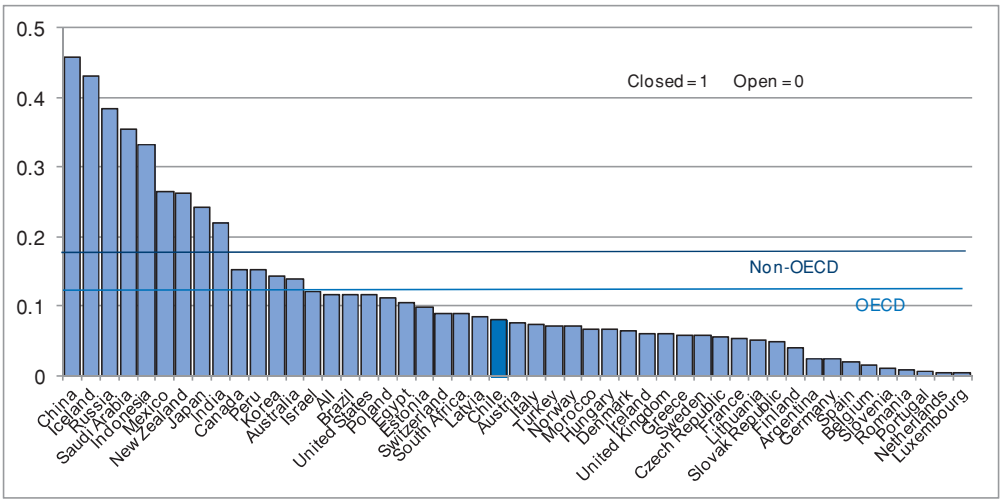
Chile's openness to FDI is reflected in its score on the OECD FDI Restrictiveness Index, which assigns higher numbers to regulations that are discriminatory towards foreign investors.[3] The overall score is lower for Chile than for the average of OECD countries (see Figure 12.1), and restrictions tend to fall into sectors that also are more restricted in other OECD countries.

FDI rules are a critical determinant of a country's attractiveness to foreign investors, and Chile has benefited from low restrictiveness. Indeed, Chile's FDI performance has been somewhat better than that of countries with a similar degree of restrictiveness, suggesting that other factors have also been at play (see Figure 12.2).

Natural resource endowments have played a role, as mining has been the main recipient sector by far, with one third of total inflows over the period 1990–2008, followed by electricity, gas and water supply (22%), financial services (13%), manufacturing (12%) and communications (10%). However, more in-depth analysis of the distribution of FDI and its impact on specific activities is needed to assess the importance of resource endowments. In natural resource based activities such as fish farming and fresh fruits, Chile has been successful in moving from mere resource extraction to activities with higher value added. Furthermore, more and better data are needed for such analysis, in particular regarding the distribution of FDI inflows by sector, as currently data coverage is partial.[4] Chilean authorities have established a timetable for

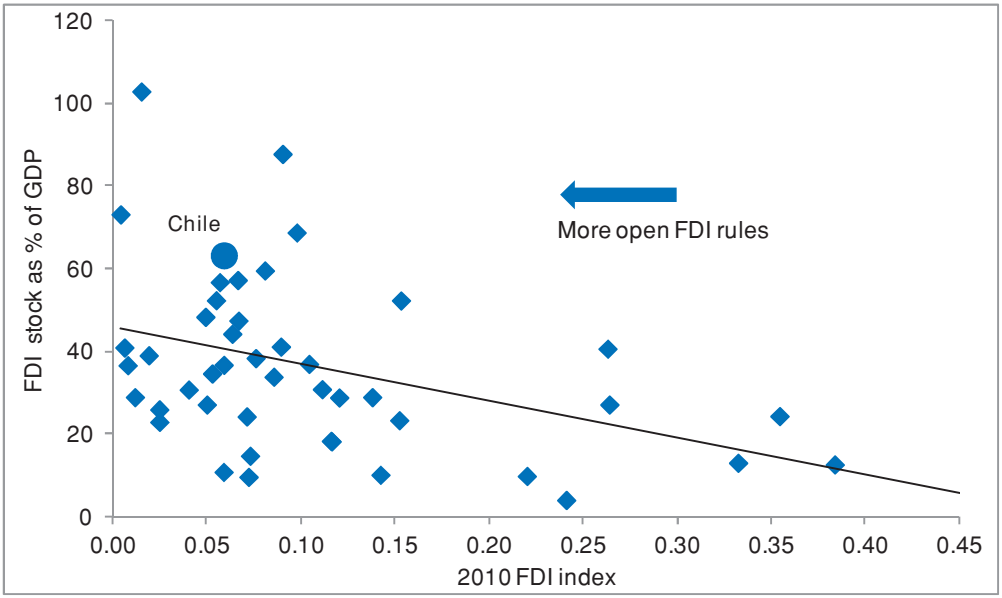
full implementation of the 4th edition of the Benchmark Definition of FDI, which will bring their FDI statistics up to international standards.

Figure 12.1. **Country scores for the 2010 FDI Restrictiveness Index**



Source: Kalinova, B., A. Palerm and S. Thomsen (2010),"OECD's FDI Restrictiveness Index: 2010 Update", *OECD Working Papers on International Investment*, No. 2010/03, DOI: *10.1787/5km91p02zj7g-en*

Figure 12.2. **Country scores for the 2010 FDI Index and FDI Performance**



Source: Kalinova, B., A. Palerm and S. Thomsen (2010),"OECD's FDI Restrictiveness Index: 2010 Update", *OECD Working Papers on International Investment*, No. 2010/03, DOI: *10.1787/5km91p02zj7g-en*

Ensuring a favourable regulatory and institutional framework

The attractiveness for foreign investors of an environment of strong economic growth and stability has been complemented by the strength of the broader regulatory and institutional framework and by public policies that have sought to ease the regulatory burden on business and accommodate Chile's increasing international economic engagement.

In recent years Chile has improved the framework for intellectual property rights (IPRs) and for competition policies. During the past decade, legal, administrative and institutional reforms have been introduced and international engagements have been entered into to provide protection for IPRs. Chile's open environment for foreign investment is also supported by competition policies, which have promoted economic efficiency to maximise consumer welfare in the long run. To fulfil its stated purpose of promotion and defence of free market competition, Chilean competition law has a broad scope of application and, in general terms, there are no exclusions or exemptions required or authorised under it or under any other regulation. The competition regulations apply to nationals and foreigners, private and public entities, and goods and services. There is no special treatment for state-owned or managed enterprises, as these entities are subject to enforcement under the same terms applicable to private enterprises. In addition, the law explicitly forbids the granting of concessions or authorisations by the government that could create a monopoly, unless specifically allowed by law.

Foreign investors, once established in the country, benefit from legal protection of property rights. Private property rights are fully protected under the Constitution and property may be expropriated only pursuant to specific constitutional provisions: expropriations may be executed only by a law approved by the legislature, on grounds of public benefit or national interest, and the expropriated parties have the right to compensation for material damage, which is to be established by mutual agreement or by ruling issued by the courts.

To ensure transparency and accountability in the making and implementation of laws and regulations affecting foreign investment, mechanisms are in place to provide for public consultation prior to regulatory changes. The Chilean Constitution establishes that all actions of the state are public; thus all procedures must be made public, including the process of preparing new legislation. Furthermore, the Law on the Basis of Administration of the State provides that, prior to the issuance of regulations, all regulators have the obligation to publish the proposed regulations on their website and receive comments and petitions.

There are several features of Chilean legislation that further protect interests of investors and the public at large. The use of "silence means

consent" in administrative procedures was introduced by a legislative change in 2003. Recent reforms to financial legislation have expanded its use to the approval of licences in banking, insurance and pension fund management. Furthermore, investors have recourse to judicial redress if they think that a decision by an authority has affected the exercise of legal rights.

While Chile still has to make more progress on the development of periodic regulatory impact assessments to ensure that regulations continue to meet their intended purposes and are proportionate to the objectives pursued, authorities maintain an active exchange of information with interested parties regarding the regulatory framework, which allows them to evaluate the costs and benefits of measures taken.

Avoiding the pitfalls of special incentives

Tax incentives in Chile do not, in general, distinguish between foreign and domestic owned enterprises. This principle of non-discrimination is set out in law. Chile has made efforts to simplify, unify and eliminate special incentives schemes. Remaining incentives schemes that benefit only foreign investment comprise Decree Law 600 (DL600), Foreign Investment Capital Funds (FICEs), the Investment Platform Law, the Program for Hi-Tech Investment, and facilities for financial market and real estate investments by non-residents.

The special and voluntary regime of DL600, administered by the Foreign Investment Committee, offers foreign investors the option to enter into a legally binding contract with the Chilean State that provides guarantees regarding taxation and transfer of capital and profits. The DL600 does not provide "tax breaks" or "tax holidays", but are intended to provide a stable tax horizon, acting as a form of "tax insurance" to lock into the specific tax provisions prevailing at the time the investment is made. Furthermore, investors acquire a right to remit profits at any time; subject to a one year lock-in to repatriate capital. These guarantees have lost their appeal in the context of greater fiscal stability and the current regime of complete freedom of international payments and transfers. The share of FDI projects covered by DL600 has gone down from over 95% before the removal of exchange controls in 2001 to less than 10% in 2007. The Foreign Capital Investment Funds (FCIFs) have provided a similar system for portfolio investments in Chile.

The Investment Platform Law aims to promote Chile as a regional base for multinational companies, by providing tax-free status to earnings from international (non-Chilean) operations. At the same time, there are provisions designed to avoid Chile becoming a tax haven and to prevent domestic entrepreneurs from eluding the payment of domestic taxes. The Chilean operations of these companies are taxed under the regime that normally applies to foreign investment.

The Program for Hi-Tech Investment seeks to attract foreign investment in high technology projects in Chile by providing subsidies for pre-investment costs and human capital development. To qualify, investments must promote the development and use of new technologies in the fields of information and communication technology, biotechnology, new materials, electronics and engineering in processes. Also eligible are firms that use new techniques when producing or adding value to abundant natural resources. The subsidies come from the budget of Chile's development promotion agency, the Corporation for Fostering Production (Corfo).

Enhancing investment facilitation

Chile's investment regime is a noteworthy example of application of some of the basic tenets of the OECD's *Policy Framework for Investment* (PFI) (2006a) regarding investment promotion and facilitation.[5] However, the framework for investment facilitation in Chile may still be overly geared towards issues that are no longer the main priority for public policies. An assessment of what is being done would help develop reform proposals of policies and agencies, in order to align them with priorities for public policies in this area. The PFI provides an aid that can help guide such an assessment. The text of the PFI on investment promotion and facilitation and the nine questions on this topic are presented in Box 12.1. *The PFI: A Review of Good Practices* (OECD, 2006b) presents related recommendations and country experiences; they have been used to inform the discussion on certain key issues for the case of Chile.

A sound, broad-based business strategy is the starting point for investment facilitation. The PFI's Annotations point to the role of specific measures to promote and facilitate investments "within the context of, and not to substitute for, broader policies for improving the investment environment". Chile has a favourable business climate and solid institutional framework that could be complemented by measures to highlight profitable investment opportunities and help identify local partners, while avoiding the pitfalls of special incentives.

Structure, role and legal status of the investment promotion agency (IPA). In the case of Chile there are several agencies involved: the Foreign Investment Committee, the Investors Relations Office of the Ministry of Finance and CORFO – Chile's development promotion agency. The Foreign Investment Committee is Chile's IPA. It also administers the old DL600 regulations that played an important role in facilitating foreign investment when Chile still had exchange control regulations in force.

Box 12.1. **Policy Framework for Investment: investment promotion and facilitation**

Investment promotion and facilitation measures, including incentives, can be effective instruments to attract investment, provided they aim to correct market failures and are developed in a way that can leverage the strong points of a country's investment environment.

1. Does the government have a strategy for developing a sound, broad-based business environment, and within this strategy, what role is given to investment promotion and facilitation measures?

2. Has the government established an investment promotion agency (IPA)? To what extent has the structure, mission and legal status of the IPA been informed and benchmarked against international good practices?

3. Is the IPA adequately funded and is its performance in terms of attracting investment regularly reviewed? What indicators have been established for monitoring the performance of the agency?

4. How has the government sought to streamline administrative procedures to quicken and to reduce the cost of establishing a new investment? In its capacity as a facilitator for investors, does the IPA take full advantage of information on the problems encountered from established investors?

5. To what extent does the IPA promote and maintain dialogue mechanisms with investors? Does the government consult with the IPA on matters having an impact on investment?

6. What mechanisms has the government established for the evaluation of the costs and benefits of investment incentives, their appropriate duration, their transparency and their impact on the economic interests of other countries?

7. What steps has the government taken to promote investment linkages between business, especially between foreign affiliates and local enterprises? What measures has the government put in place to address the specific investment obstacles faced by SMEs?

8. Has the government made use of international and regional initiatives aimed at building investment promotion expertise, such as those offered by the World Bank and other intergovernmental organisations? Has the IPA joined regional and international networks?

9. To what extent has the government taken advantage of information exchange networks for promoting investment?

Source: OECD (2006a), *Policy Framework for Investment*, OECD Publishing, DOI: *10.1787/9789264018471-en.*

In addition to these agencies, in November 2009 a new non-profit organisation (InBest) was formed under the advocacy of the Ministry of Finance with the aim of promoting the Chilean market's strengths and advantages in financial services before the international financial community. InBest is also a permanent communication channel for non-Chilean investors, the most important Chilean securities' issuers and other participants in the Chilean capital markets, including governmental authorities.

Streamlining and clarifying the roles and interrelations among the various agencies is an important element in establishing their responsibilities in carrying out the functions of image building; investment generation; linkage promotion and policy advocacy.

For IPAs that are starting their investment facilitation efforts, image building and the dissemination of information may be important first steps. Understanding what an investor may be seeking and the advantages the country may have to offer is a first step. IPAs of countries such as Chile that are already significant FDI recipients can focus on other tasks, including investment facilitation and policy advocacy.

The trend among IPAs regarding investment facilitation has been to focus more on targeting of investments, rather than on granting of special incentives (OECD, 2006b, p. 36). Such targeting of industries or individual firms may bring benefits, but also entails risks, not least because picking winners has always proven difficult and giving preferences to firms may have negative implications for competition.

Identifying the country's advantages and market opportunities is a first step in developing a sound pro-active strategy. In the case of Chile, where FDI has been closely linked to natural resource endowments, there may be opportunities for FDI into new sectors in which foreign investors' potential for innovation can help open new clusters of activity. The opening of such new investment areas may require a specific role of the IPA in identifying opportunities and in acting as an advocate for putting in place regulations and public goods needed to support a specific activity.

Targeting investment opportunities and linkage promotion can also help in this context, if properly done. Such efforts can reduce the cost of gathering information about opportunities for investors, bringing to the country technology and international linkages that are not available locally. Local cost discovery can be a barrier to the unleashing of investment opportunities (see Hausmann, Hwand and Rodrik, 2005). Investment targeting can play a role in overcoming these barriers. However, to be effective, it requires having the capacity to identify those "particular advantages that the broader international investment community might not be aware of" (OECD, 2006b, p. 36).

Resources needed by IPAs and monitoring of performance. The structure and functions of the Foreign Investment Committee in the past have been largely structured around its role as administrator of DL600 contracts. These duties include the registration of investments and follow-up on contractual obligations. These tasks are quite different from those of investment promotion, linkages and advocacy for FDI within government that been mentioned above. Efforts to further pursue investment targeting by Chile's IPA, the Foreign Investment Committee, are likely to require different skills and talents.

To be successful, IPAs need funding; they also need links with the centre of government and private sector visibility to be effective. In Chile there is the further need for a clear cross-agency coordination regarding strategies and priorities with other relevant government agencies such as Corfo, Chile's development promotion agency, which has responsibility for the Program for Hi-Tech Investment which provides funds for pre-investment studies, project start-up and investment in fixed assets and human capital.

The IPA as an advocate for FDI. The PFI also points to the role of the IPA within government. While Chile does have public consultation mechanisms for the development of all laws and regulations, there can be an added benefit of having the IPA operate as an advocate for FDI issues within government. This is particularly important in the context of efforts to target investments that can open up new areas of opportunity that do not yet exist in the country. The new activities may generate specific needs in terms of training of workers or use of infrastructure; they may also call for new regulations or standards needed to support the new activities.

Periodic assessment of incentives. On the use of incentives, Chilean practice has been closely aligned with PFI recommendations on good practice. Chilean law excludes the possibility of granting more privileged tax treatment to foreign investors. The absence of special incentives for foreign investors can be counted as one of the most noteworthy aspects of Chile's investment regime, one which bolsters the overall coherence of the policy framework. Special incentives frequently distort broader incentive structures while bringing meagre benefits. By focusing on enhancing the overall institutional and regulatory framework, countries can boost both the absolute amount of dollar inflows and the impact those investments have on economic and social well-being.

Furthermore, Chile adhered in 1997 to the Decision on International Investment Incentives and Disincentives by which adhering countries recognise the need to give due weight to the interest of other adhering countries affected by laws and practices in this field; endeavour to make measures as transparent as possible; and are prepared to consult one another on the above matters.

As a result of efforts to simplify, unify and eliminate special incentives, Chile maintains few and limited schemes that benefit only

foreign investors. Of those that remain in force, the DL600 and the FCIFs did play a prominent role as a means of mitigating risks faced by foreign investors regarding changes in tax treatment and/or repatriation of capital. The latter were important in the period during which Chile still maintained exchange controls and faced less certain fiscal prospects than today. However, investor interest in these schemes has diminished over the years.[6]

The Chilean authorities' policy is to ensure that special tax and other incentives to attract investment are subject to periodic net cost-benefit assessments and that they are not maintained for longer periods than necessary. This item acquires particular relevance in the context of more pro-active investment-targeting efforts, as it provides a means to contain the downside risks of such policies. *The PFI: A Review of Good Practices* (OECD, 2006b) provides a checklist for incentive policies that can be used to carry out such assessments.

Facilitating linkages. Facilitating linkages is one way for governments to increase the absorptive capacity of the economy to benefit from technology transfer from foreign enterprises, and the PFI calls for an examination of government action in this area. Education and training to meet the evolving skills of industry have worked better than performance requirements or direct technology transfer obligations (OECD, 2006b, pp. 43-44). More flexible systems have replaced performance requirements to stimulate linkages with the local economy and SMEs, including programs that provide incentives to foreign investors to engage in capacity building among local suppliers.

Building linkages between the domestic economy and foreign firms is important, but potential risks should not be overlooked. Policies to enhance the absorptive capacity of the domestic economy through training and human capital development are superior to "picking winners" and to direct technology transfer requirements.

Using international resources. International initiatives provide governments with a wide array of resources to build investment promotion expertise and access to information networks to promote linkages between domestic and foreign business partners. The full use of these resources can greatly expand local capacity in enhancing investment facilitation and promotion.

The PFI: A Review of Good Practices stresses the positive role of investment promotion and facilitation measures when multinational enterprises are slow to spot profitable investment opportunities or hesitate before using local suppliers. It also points to the importance of focusing on existing investors, by learning from the problems they face and being an advocate for change within government, as much as of attracting potential new investors. Targeting of investment should be based on a sound assessment of advantages and opportunities, as well as of underlying risks. The impact of FDI on the broader economy is a matter of inflows as much as it is about linkages and "[l]inkages depend

first and foremost on the quality of local human capital and on the domestic policy environment" (OECD, 2006b, p. 48).

Notes

1. Chile does maintain a national security-related measure regarding the acquisition of real estate by foreigners in certain geographic areas.
2. There is an exception to this rule in the case of certain mining activities, for which prior authorisation is required because of national security concerns.
3. The FDI Index looks at the four main types of restrictions on FDI: foreign equity limitations; screening or approval mechanisms; restrictions on the employment of foreigners as key personnel; and operational restrictions such as on branching, capital repatriation or land ownership. For further details, see Kalinova, Palerm and Thomsen (2010).
4. There are two sources of FDI data: the Central Bank of Chile and the Foreign Investment Committee. The Central Bank provides estimates of total net flows of FDI in Chile and of net flows of Chilean direct investment abroad, as part of the procedures to compile balance-of-payments data. Sectoral and country breakdowns in the Central Bank data are currently available only for outflows. The Foreign Investment Committee maintains a record of all foreign investments covered by DL600 contracts, and these records provide the only source of information currently available regarding the country of origin and the sector of destination for inflows. However, as the share of total FDI coming into Chile under this type of contract has diminished, the coverage of this source has deteriorated substantially.
5. See OECD (2006a). Chile was one of the co-chairs of the task force that developed the Policy Framework for Investment, bringing together the experiences of some 60 governments and in collaboration with the Investment Committee and 9 other OECD bodies (the DAC, the Trade Committee, the Competition Committee, the Committee on Fiscal Affairs, the Steering Group on Corporate Governance, the Education Committee, the Employment, Labour and Social Affairs Committee, the Working Group on Bribery in International Business Transactions, and the Public Governance Committee). The World Bank, UNCTAD and other international organisations, as well as non-governmental organisations, participated in task force meetings and provided input.
6. In November 2010, the Foreign Investment Technical Committee was established to co-ordinate the activities of the various entities that deal with investment promotion in order to generate a unified

strategy. The committee is presided by a respresentative of the Foreign Investment Committee and brings together representatives from InvestChile Corfo, Direcon and ProChile.

Further reading

Hausmann, R., Jason Hwand and Dani Rodrik (2005), "What You Export Matters", *NBER Working Paper* 1905.

Kalinova, B., A. Palerm and S. Thomsen (2010),"OECD's FDI Restrictiveness Index: 2010 Update", *OECD Working Papers on International Investment*, No. 2010/03, DOI: *10.1787/5km91p02zj7g-en*

OECD (n.d.), "Policy Framework for Investment: Users' Toolkit", *www.oecd.org/investment/pfitoolkit*.

OECD (2006a), *Policy Framework for Investment*, OECD Publishing, DOI: *10.1787/9789264018471-en*

OECD (2006b), *Policy Framework for Investment: A Review of Good Practices*, OECD Publishing, DOI: *10.1787/9789264025875-en*.

Chapter 13

Measuring progress and well-being: New concepts, new policies

Main recommendations

It is recommended that the government of Chile:

- *Contribute to expand the scope of the "measuring progress" agenda to the needs of emerging countries, by participating in OECD fora and helping to identify issues deemed to be of special salience for these countries, and measurement approaches appropriate for their needs.*
- *Consider the establishment of a national roundtable on measuring progress – involving academic circles, civil societies and regional organisations – to identify the most pressing issues faced by the country, assess the adequacy of available measures and develop a policy-oriented program on measuring progress that could be included in the work plans of the National Statistical Institute and relevant government bodies.*

The quest for reliable statistics that reflect people's living conditions better than gross domestic product (GDP) is not new. Clearly, policy makers have never focused single-mindedly on maximising GDP growth; they rather seek to enhance the overall well-being of citizens, today and in the future, taking into account a broad range of factors. However, the extent to which governments and public policies are successful in balancing different dimensions of well-being depends on the availability of reliable measures for tracking their developments, as well as statistical evidence of what really matters to citizens.

Well-being is a complex concept. Dictionary definitions differ, but they generally contain notions of prosperity, health and happiness. Well-being is not something that one can give a precise number to. Numerical indicators relevant to measuring the different components of well-being exist, and it is plausible to argue that the well-being of society as a whole has risen or fallen if a set of outcome indicators moves in a given direction. However, when these indicators move in opposite directions, it is not possible to say if well-being is being enhanced or reduced, unless all indicators are expressed in a common metric.

This chapter looks at the implications of focusing on well-being as a paradigm of progress. It reviews different approaches to its measurement and highlights their relevance for assessing progress in Chile. It looks at *monetary* and *non-monetary* measures of well-being that are either already available in the statistical system or that could be developed on the basis of well-established methods.

Enhancing the metrics of progress

The OECD, as many other organisations, has typically measured material living standards in terms of the level and growth rate of GDP. However, for a number of years there has been evidence of a growing gap between the image conveyed by GDP data and the perceptions of ordinary people about their living conditions. While this gap was already evident during the years of strong growth and good economic performance that characterised the early part of the past decade, the financial and economic crisis of the past few years has further amplified it in several countries.

The gap between macroeconomic evidence and people's perception of their own living conditions does not normally result from low quality of official statistics, but rather from inappropriate use of certain statistics. In particular, a statistic that is designed for a specific purpose (*e.g.* measuring the volume of economic production) is not well suited for other purposes (*e.g.* assessing living conditions or social well-being). When GDP data are used as a sufficient metric for performance, this can lead to biased analysis, wrong policy targets, gaps with citizen's perceptions and, finally, mistrust by ordinary citizens of official statistics and policy makers. Remedying the misleading use of existing statistics is

of crucial importance for the credibility and accountability of public policies and for the very functioning of democracy.

Ten years ago, the OECD began to address the inadequacies of official statistics to assess the progress of societies. OECD reports have discussed the limits of GDP as a welfare measure, and several "At a Glance" publications have brought together a wealth of information (on education, health, the environment, governance and society) to complement simple comparisons of GDP per capita. More recently, *National Accounts at a Glance* highlighted the role of complementary indicators of living standards, such as household disposable income and consumption expenditures, which are available within the System of National Accounts (OECD, 2009). Better methodologies have been developed to measure the volume of government services provided to individuals (such as education and health care services) based on outputs rather than inputs (Schreyer, 2010), while inequalities in income and wealth have been at the centre of the report *Growing Unequal?* (OECD, 2008).

Three OECD world fora were convened to discuss the statistical and policy implications of a new approach to societal progress (Palermo, Italy, in 2004; Istanbul, Turkey, in 2007; and Busan, Korea, in 2009). These fora gathered political leaders, scientists, national chief statisticians, policy makers and social actors. It is against this background that a Global Project on Measuring the Progress of Societies was launched in 2008, based on a partnership of national and international organisations and hosted by the OECD.

In 2007, at the initiative of the OECD, several leading international organisations jointly adopted the Istanbul Declaration on Measuring and Fostering the Progress of Societies. This declaration stresses the need to:

- undertake the measurement of societal progress in every country, going beyond conventional economic measures such as GDP per capita;
- enhance 'a culture of evidence-based decision making to increase the welfare of society';
- strengthen citizens' capacity to influence the goals of the societies they live in; and
- increase the accountability of public policies.

Further impetus to the Measuring Progress agenda was given by the Commission on the Measurement of Economic Performance and Social Progress – the so-called Stiglitz-Sen-Fitoussi Commission – convened by French President Nicolas Sarkozy in 2008 (Stiglitz *et al.,* 2009). The Commission – in which the OECD participated and provided a significant contribution – concluded that a broad range of measures are needed to determine people's well-being and societal progress, and that these measures should be used alongside standard economic statistics such as GDP.

A paradigm shift

Measuring progress requires looking at not only the functioning of the economic system but also the diverse experiences and living conditions of people. This is important, as there may be large differences in how economy-wide measures of economic production and of household income evolve over time. It also requires measuring people's full economic resources: not only their income but also their assets and consumption expenditures, as well as the in-kind services provided by governments, such as health and educational services. These resources should also include the services that households produce for their own use, such as the care they provide to children and the frail elderly.

Further, economic resources, while important, are surely not all that matters for the quality of a person's life. Also important are people's feelings, their health conditions and competences, the quality of their daily activities of work and commuting, the conditions of their housing and of their local environment, their participation in political life and the responsiveness of public institutions to their demands, their social connections and the various risks (both personal and economic) that shape their feelings of security, such as unemployment. To duly capture well-being, statistical systems should also measure various forms of inequality (in income, wealth, health, education and political voice), and pay special attention to the conditions of those people who accumulate several disadvantages or handicaps.

Finally, what also matters is whether well-being and progress can last over time, *i.e.* sustainability. This requires preserving a broad range of capital stocks and enhancing their returns. This implies limiting our debt to nature and the biosphere as well as investing in human capital and in those intangible assets that drive technological improvements. To that end, better metrics are needed on how our production and consumption patterns affect environmental stocks, domestically and globally, as well as appropriate measures of skills, knowledge and innovation.

The shift of the paradigm of progress, from economic production to well-being, is of universal scope. The agenda of measuring progress is not driven only by the concerns of rich countries. Rather, it can and should contribute to the attainment of the Millennium Development Goals, and to enhance policies that address the major challenges faced by developing and emerging countries, such as inequities and social cohesion. Recent analysis of well-being in Latin America (IADB, 2008; Graham and Lora, 2009; Rojas, 2010; ECLAC and Latinobarómetro, 2010) proves that this work is both feasible and relevant. Building on this pioneering work, the international measuring progress agenda should aim to create a continuum of indicators of well-being and progress, which could be adapted to different development patterns.

Monetary measures of well-being

Monetary measures of well-being include both those directly available in the National Accounts for the economy as a whole and for households, and those that could be developed to capture the influence of other components (such as household production, leisure time and income distribution) in money terms.

GDP and other National Accounts indicators

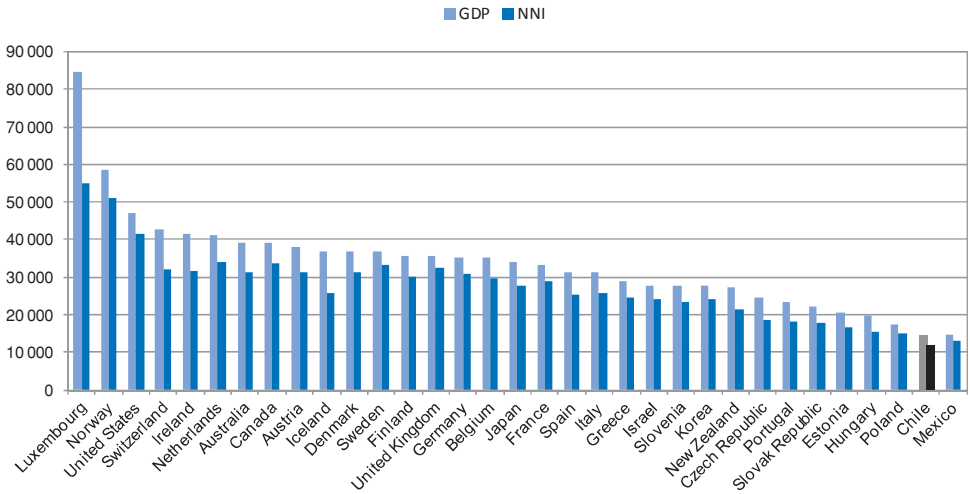
Economists often assess well-being through measures of GDP per capita. GDP is a measure of the value of goods and services produced within a country in a given time-period. Hence, it is mainly a measure of economic production (that takes places within the "production boundary" of the System of National Accounts), rather than of the economic well-being that people derive from it. There are two main reasons for distinguishing between production and well-being. The first is that some of the activities included in GDP may reduce people's well-being (as in the case of higher transport costs due to higher congestion and longer commuting), or remedy some of the social and the environmental costs associated with economic production (as in the case of environmental protection expenditures). The second reason is that people's well-being depends on factors that go far beyond their income and that are omitted by economic accounts.

Within the National Accounts framework, however, better measures of people's material living standards than GDP exist, even if data availability and reliability restrict the scope for cross-country and inter-temporal comparisons. One such measure is national income. While GDP is a production concept, the way that it is constructed makes it equal to the total income earned in the production process. Some of this income is paid to non-residents, while residents receive some income from production in other countries. GDP can be adjusted for net income from abroad to arrive at the concept of gross national income (GNI), which is more relevant for the well-being of residents of a country.

GDP also makes no allowance for the using up of capital goods during the production process. An allowance for depreciation of capital can be subtracted from GDP and GNI to arrive at the corresponding net concepts of net domestic product (NDP) and net national income (NNI). For the majority of OECD countries there is little difference between NNI and GDP per capita relativities expressed at purchasing power parity (PPP) rates (Figure 13.1). The difference is close to 20% in the case of Chile but higher in other OECD countries. These differences are also significant for many developing and emerging countries characterised by a significant presence of multinational enterprises in their territory (whose profits are then transferred abroad) and of immigrants working abroad (who transfer part of their income to their country of origin in the form of remittances).

Figure 13.1. **Gross domestic product and net national income per capita in Chile, 2008**

USD current prices and PPPs



Source: OECD, *National Accounts of OECD Countries*.

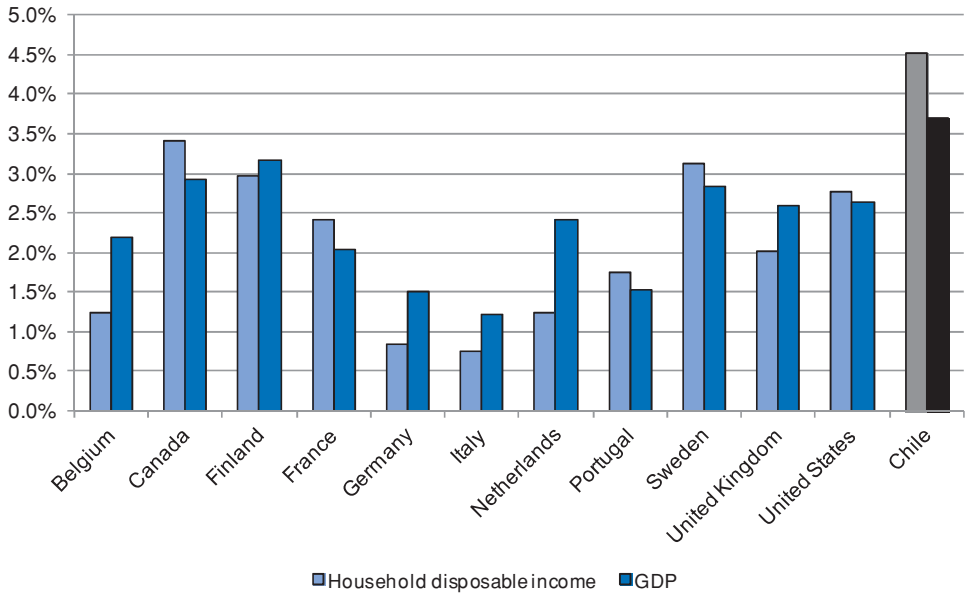
Even per capita NNI, however, is a poor proxy of the economic resources available to individuals. A better measure is the income from all sources available to households after they have paid taxes and, ideally, after including the goods and services that they receive at subsidised rates from the government and non-profit institutions (consideration of the value of these in-kind services leads to the concepts of adjusted disposable income and actual consumption expenditures). For all OECD countries, household disposable income per person is lower than per capita GDP, and per capita household consumption levels are generally lower still.

Across countries, there is a reasonably close correspondence between household disposable income (in particular when including publicly provided in-kind services), consumption and GDP per capita. There are, however, more significant differences when looking at changes in household and economy-wide measures of economic resources. For half of the countries (including Chile) shown in Figure 13.2, household disposable income increased more quickly than GDP over the past decade, while the opposite patterns (lower growth in household income than in GDP) is evident for other countries. This latter pattern typically reflects a shift towards higher company profits. As households are the ultimate owners of companies, a faster growth of business income should increase household well-being (through higher asset values), an effect that is not taken into account in National

Accounts measures of income. However, increases in asset values and company profits benefit a relatively small share of households. This highlights the importance of moving from measures of average income to measures that account for inequalities in households' conditions.

Figure 13.2. **Household disposable income and GDP in Chile in real terms, 1998-2008**

Average annual growth



Source: OECD National Accounts.

Accounting for other components of well-being within a monetary framework

The determinants of individual and societal well-being go beyond production and consumption of economic resources. As a result, several approaches have tried to extend monetary aggregates to other dimensions that have value for individuals and communities. While, at this stage, few estimates are available for Chile, illustrative calculations for other countries (although based on controversial assumptions) highlight the importance of some of these factors.

Government services to households

The services that governments provide to households for their own use, such as education and health, are included in measures of GDP but not in those of household disposable income. These services are large in scale but are also poorly measured, and their valuation is typically based on the costs of the inputs used to produce them rather than on the value of the output produced. Productivity change in the government sector is ignored, implying that measures of GDP growth are underestimated when productivity in the public sector rises. Cross-country comparisons of GDP growth are also affected when statistical offices follow different methodologies to measure changes in the volume of these services. For example, the difference in GDP growth rates between the United Kingdom and the United States from 1995 to 2003 would be reduced by half had the United Kingdom continued to rely on the input-based valuation for public services that is still used in the United States (Atkinson, 2005).

Better measurement of public services provided to households is critical for measuring well-being. This requires information that is detailed enough to avoid mixing up genuine changes in volume of these services with compositions effects; for example, the observation of higher average spending per student may reflect either higher unit costs (*i.e.* lower volumes) or a larger share of students taking more expensive courses (*i.e.* higher quality). Comparing the production of government services across countries also requires developing suitable PPP for these services. Improving the measures of these government services is especially important when moving from economy-wide measures to measures that are specific to the household sector, *inter alia* because these services are an important channel through which governments affect how economic resources are distributed among the population (OECD, 2008).

Household production

The production boundary of the National Accounts includes the goods that households produce for their own use, but excludes most of the services that households produce for their own use (with the exception of imputed rents, *i.e.* the services that households who own their primary residence are assumed to pay to themselves). This exclusion is important, as changes in women's labour force participation imply that many of the services that people received from their family in the past (such as care) are now purchased in the marketplace. In theory, a shift in the locus of production should not affect measured economic output unless these services are now produced more effectively than before. In practice, current measurement conventions lead to changes in measured GDP, whether or not the efficiency of production has changed.

As people, especially women, devote a significant share of their time to household chores, accounting for the services that households

produce for their own use can have a significant impact on aggregate measures of household material living standards. Illustrative OECD calculations for the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz *et al.*, 2009) show that household production may amount to about 35% of conventionally measured GDP in France (average 1995-2006), about 40% in Finland and 30% in the United States, *i.e.* they are large enough to significantly affect cross-country comparisons of the level of economic well-being. Even more important, shifts in the locus of production will affect measured growth rates of GDP.

Leisure time

For most people longer holidays and shorter working hours contribute to well-being – as long as they are not accompanied by lower incomes. However, as leisure is not purchased on markets, it does not enter into the calculation of National Accounts aggregates. Societies, as they become richer, have traditionally enjoyed some of the fruits of higher material prosperity in the form of increased consumption of leisure, either at the end of their working life or while working. While different societies may have different preferences between material consumption and leisure, our measurement system implicitly biases our assessment of performance *against* those who opt for enjoying more free time.

Again, illustrative calculations provide some illustration of the magnitudes involved. The estimates included in Stiglitz *et al.* (2009) show that accounting for leisure has a large impact in boosting a broader measure of material living standards at a point in time, affecting cross-country comparisons and lowering growth rates compared to those for GDP.

Household size

National Accounts estimates of per capita income are obtained by summing income across all units and dividing the total among the resident population. This ignores the pooling of resources that occurs within each household and the fact that households have different sizes, often containing people with no independent income (*e.g.* children and spouses). Most analyses of well-being based on household-level data rest on the assumption that the economic needs of households rise less than their size (*e.g.* a household comprising two adults and two children does not need twice the income of a childless couple to maintain the same level of well-being). While the adjustment is bound to be somewhat arbitrary, assuming some sharing of resources within households is clearly preferable to the alternative.

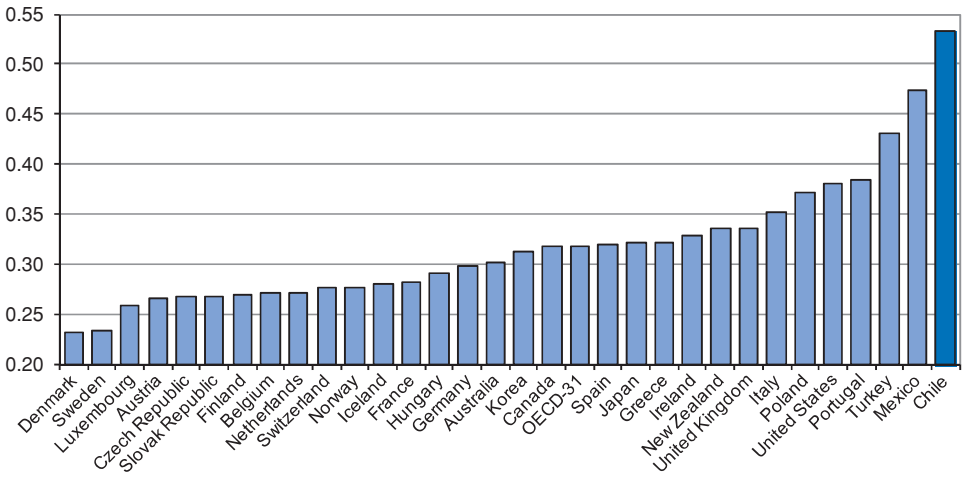
It is possible to adjust per capita income for household size using data from household surveys. Correcting per capita income data for the

decline in household size that occurred in all OECD countries over the past decades implies a lower growth in "equivalised" income (*i.e.* income adjusted for household size) than in income per capita. Since 1995, the Czech Republic, Mexico and Portugal are among those countries where the reduction in household size was greatest (Boarini *et. al.*, 2006). For some countries (*e.g.* Italy), a small rise in per capita income turns into a small decline when accounting for the greater needs that are associated with lower household sizes.

Inequalities

Incomes vary between individuals, and OECD countries differ in the degree of inequality and in how this has changed over time. In this respect, Chile stands out for a high degree of income inequality compared to other OECD countries (Figure 13.3). It is not possible to say, *a priori*, what impact income inequality has on the average well-being of a country. If it is assumed that extra income brings smaller and smaller increments of well-being to people, and that all individuals with the same income experience the same well-being, then general well-being will be highest if all individuals have the same income; the corollary is that any increase in income inequality with no changes in average income reduces well-being for society as a whole. But it can also be argued that the possibility of increasing one's income is needed to spur effort and innovation, which benefits society as a whole, and that individuals differ in their preferences for leisure as opposed to material goods.

Figure 13.3. **Gini coefficients of income inequality in OECD countries, mid-2000s**



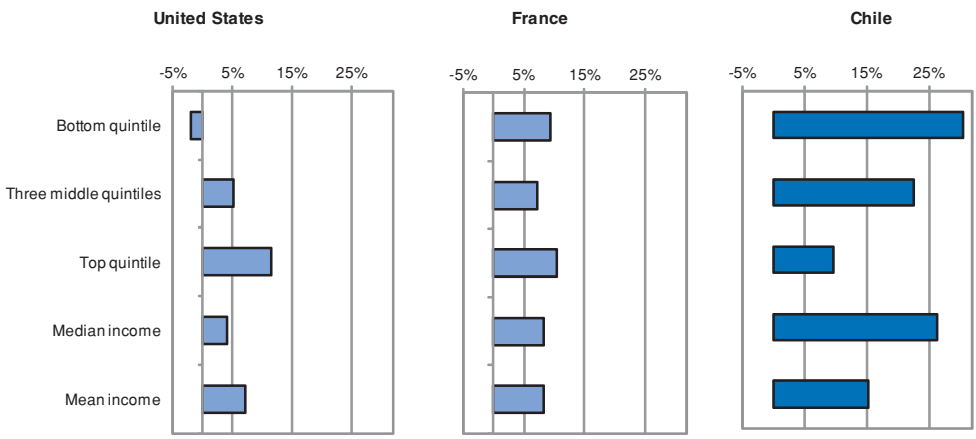
Source: OECD Income Distribution Questionnaire.

It is possible to adjust National Accounts measures of household income per capita to incorporate distributional concerns. One adjustment involves weighting average incomes in each decile of the distribution with a coefficient representing the degree of aversion to inequality. A higher coefficient implies that lower weight is given to higher incomes. This adjustment changes country rankings and affects their growth rates (Boarini *et al.*, 2006).

Beyond the issue of combining total income and its distribution into a single metric, data on the pace of income growth for people at different points of the distribution conveys important information on the conditions of various groups of people. A simple way of capturing distribution aspects is to look at the growth of median (alongside mean) income (Figure 13.4). The median person is, in some sense, the "typical" individual, the one who stays exactly in the middle of the distribution. If inequality increases, the difference between medians and means widens, and the mean gives a biased assessment of the evolution of living conditions of the typical person. Alternatively, changes in disposable income of different income groups (such as the 20% at the top and bottom of the distribution) can be tracked. In all cases, information on distributions enriches our assessment of how various individuals are faring, highlighting significant differences across countries. As shown in Figure 13.4, declining income inequality in Chile (limited to the period from 2000 to 2006) and France has translated into higher income growth for the median person than for the mean of all residents, while the opposite pattern has prevailed in the United States (where income inequality has been rising throughout the period).

Figure 13.4. **Growth in equivalised household disposable income in the United States, France and Chile, mid-1990s to the mid-2000s**

Cumulative growth



Notes: Household disposable income is equivalised by the square root of household size. Data for Chile refer to the period 1996 to 2006 and are provisional.
Source: OECD Income Distribution Questionnaire.

Non-monetary measures of well-being

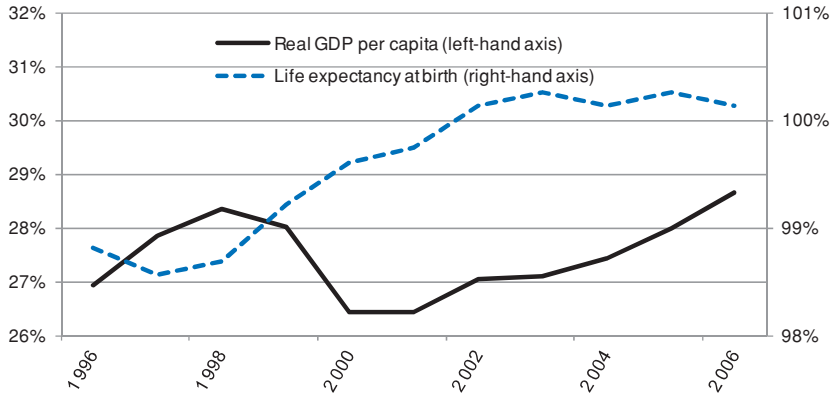
A complementary approach to measuring well-being is to look at indicators providing information on some of its specific components. One avenue is to look at whether OECD countries with higher GDP per capita (and faster growth of GDP per capita) experienced a better (or more rapid) improvement in social conditions. Another strand is to look at the relation between GDP and indicators of environmental conditions. Finally, we can consider how people answer questions about their subjective well-being and how these are related to money income.

Social conditions

Social factors – such as self-sufficiency, equity, health and social cohesion – are determinant for the well-being of individuals and of the society as a whole. Building on the OECD experience in collecting various types of social indicators, an analysis of cross-country correlations between a selection of these social indicators and GDP per capita, for both levels and changes over time, shows that the association between social conditions and the level of GDP per capita is positive but weak (below 0.60, on average). The correlation declines further when limiting the analysis to OECD countries with higher per capita income. As a result, measures that aggregate these social indicators into a synthetic index lead to significant differences in the ranking of OECD countries relative to a ranking based on GDP per capita alone. This conclusion does not change very much when the weights are varied (Boarini *et. al.*, 2006).

A second pattern highlighted by these data is that the correlation between changes in GDP per capita and changes in various social outcomes are generally insignificant (Boarini *et al.*, 2006). This implies that a country may record a worsening in its relative performance when looking at GDP per capita alongside improvements in another. As an example, the gap in GDP per capita between Chile and the United States widened significantly in the late 1990s, while the gap in life expectancy continued narrowing throughout this period (Figure 13.5). Even larger differences are observed for other OECD countries (*e.g.* the gap in GDP per capita between Italy and the United States worsened by around 12 percentage points since 1991, while Italy improved its advantage in life expectancy by around 18 months). Answers to the question of which of these two developments matters most for an overall assessment of progress between two countries will depend on the preferences and circumstances of each person. It is clear that a measurement system limited to the material aspects will implicitly favour one answer relative to the other.

Figure 13.5. **GDP per capita and life expectancy at birth in Chile as a percentage of US values**



Source: OECD (2009), *OECD Factbook 2009: Economic, Environmental and Social Statistics*, OECD Publishing, DOI: *10.1787/factbook-2009-en*.

Environmental factors

The state of the environment also affects people's well-being. Air and water pollution can result in health problems and reduce the amenity value of the natural habitat. Even if current environmental conditions do not have noticeable effects at present, they may have serious consequences for future generations, and hence for the well-being of those living today who are concerned about living standards of people yet to be born. The concern over climate change is an example of such inter-temporal concerns.

The relationship between the state of the environment and per capita GDP is complex. Higher levels of GDP stress the environment more, but they also raise the capacity of societies to mitigate and deal with these stresses. In the past 10 to 15 years, emissions of most pollutants have grown more slowly than GDP in most OECD countries. The tonnages of traditional pollutants loosed into the air and into water systems have actually fallen in most member countries. In addition, greenhouse gas emissions have fallen in absolute terms in about half of all OECD countries – although they are continuing to accumulate in the atmosphere. But, as consumption patterns of the rich countries are emulated elsewhere (*e.g.* in terms of transport, energy and food), this raises environmental pressures on a global scale.

There has been less success in managing, in a sustainable manner, renewable natural resources (*e.g.* several important fish stocks). Although there are no standard accounts available that adjust GDP for changes in the state of the environment, some of the improvements

discussed above may suggest that environmental degradation may have become less of a drag on well-being since the early 1990s. However, this would not necessarily be the case if the cost of emissions and discharges had increased over time as concentrations of pollutants and emitted substances continue to rise (as is the case for greenhouse gases).

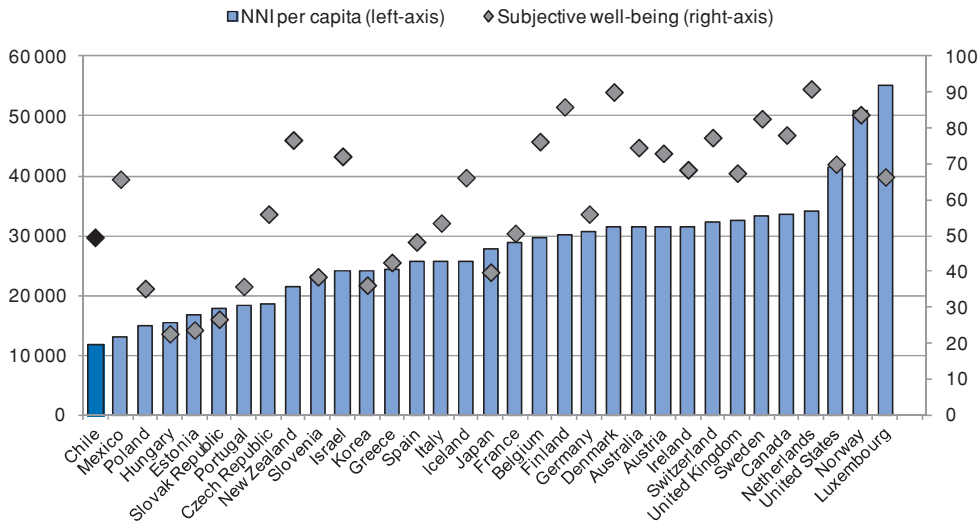
Subjective well-being

Instead of evaluating well-being on the basis of objective indicators, it is possible to use subjective measures for the same purpose. Subjective measures have always been part of the toolkit of statisticians, as many features of our economy and society are measured through people's responses to a standard set of survey questions (*e.g.* unemployment). The specific feature of the measures of subjective well-being discussed here is that what people report about their own conditions has no obvious objective counterpart; only people can provide information about their evaluations of their life, and of their positive (*e.g.* pride, meaning) and negative (*e.g.* fears, anxiety) feelings.

One way of determining whether persons are satisfied with their life (or not) is simply to ask them. Surveys exist for most countries and for many years (*e.g.* the Gallup World Poll or the Latinobarómetro). A representative sample of people in each country is asked to check the response that best describes their life, from the worst possible outcome to the best one. The results seem to be reliable, in that individuals self-reporting high levels of satisfaction are also seen in that light by their friends and relatives, are more resilient to stress, are more likely to recall positive events in their lives, to smile more and live longer, and are less likely to suffer from depression or to lose their jobs.

In 2008, on average, around 63% of people in OECD countries reported high satisfaction with their life, Among OECD countries, the share of people reporting high life satisfaction ranged from 85% or more in the Netherlands, Denmark and Finland, to 66% in Mexico, 50% in Chile and 28% or less in Turkey, Poland, Portugal and Korea (Figure 13.6). While richer OECD countries report higher levels of life satisfaction, the relation is weak. For example, the share of people reporting high satisfaction in Chile is close to that in Spain, Italy and France, despite an NNI per capita of less than half.

Figure 13.6. **Net national income per capita and subjective well-being, 2008**



Note: Data on subjective well-being shown here are based on ladder-of-life questions, which ask respondents to rate their life from the worst (0) to the best (10) level, and refer to the share of people who rate their life today at step 7 or higher.

Sources: OECD Annual National Accounts and Gallup World Poll.

Beyond country ranking, the most relevant information conveyed by these subjective measures is at the level of individuals. A first finding from these surveys is that as people become better off during their lifetimes (as most people do), their self-reported satisfaction does not rise proportionately (in fact, it changes very little for most of the samples), while those who become worse off report decreased happiness levels. It may be that people adapt to higher income and consumption, or that individual well-being depends strongly on how they compare to friends, relatives and colleagues. This could explain why, across countries, the link between life-evaluation scores and NNI per capita is tenuous. A second finding is that, apart from income, subjective well-being is higher for people who have a job, have stronger social ties, enjoy better health and education, live in countries where the quality of institutions is perceived to be higher and (for some countries) income inequality is lower. Research by Graham and Lora (2009) on Latin American countries has evidenced that "friendships matter to the well-being of the average Latin-American more than health, employment or personal assets, and only slightly less than food security". This same research shows that people living in countries with higher GDP growth rates report lower happiness, a pattern that the authors attribute to job relocations and insecurity, and the higher inequality that often accompanies higher GDP growth. As argued by Graham and Lora: "Latin

America in recent decades certainly fits this pattern, which may help explain unexpected pockets of frustration in relatively prosperous countries like Chile."

Measuring well-being to improve policies

While the OECD has developed, over the years, a rich set of recommendations on how various policies can best support GDP growth, the extent of knowledge on the policies that work best in enhancing other dimensions of people's lives is more scant. Investing in better measures of well-being is critical to develop such understanding, although this goal can be achieved only incrementally.

Some measures of societal progress may appear as too general to be amenable to policy interventions. Further, broad measures of outcomes in different fields (*e.g.* health status) will reflect several factors, some pertaining to the characteristics of the individuals (*i.e.* patients), others to those of the government programmes directly tasked with service delivery and implementation (*e.g.* the health care system), and yet others relating to the environment where people live. While some of these factors may not be influenced by policies, it is critical to indentify relevant connections between various well-being outcomes and government policies.

Better measures of well-being can lead to better policies through a variety of channels:

- First, by spotlighting issues that political leaders may have been less attentive to in the past. A good example is provided by the indicators gathered by the International Panel on Climate Change, which have been instrumental in leading to an international process to reduce emissions of greenhouse gases;
- Second, better measures of progress outcomes, supported by adequate data collection methodologies (*e.g.* longitudinal data) and analytic tools (*e.g.* micro-simulation models), can lead to a better understanding of the full range of factors driving these outcomes;
- Third, better measures of outcomes can lead to a better assessment of countries' comparative performance in various fields, and to the establishment of detailed strategies when these outcomes are found to fall short of the performance of other countries.

As already noted, the scope of the measuring well-being and progress agenda is not limited to industrialised countries. Improved measures of income, consumption and wealth, and of their inequalities, will allow developing countries to improve the assessment of their

efforts to achieve the Millennium Development Goals, informing institution building, policy design and re-distribution mechanisms. Further, measuring well-being can:

- highlight specific features that have to be taken into account when assessing progress;
- identify people's important concerns that are not on the radar screen of current policies;
- identify gaps between people's perceptions and the factual situation in critical areas; and
- improve the assessment of public participation, political voice and quality of governance, which are at the core of the democracy and human rights approach to development.

Chile's accession to the OECD provides a golden opportunity to enhance the measuring progress agenda and to expand its scope to the needs of emerging countries. Achieving this goal will require its contribution in OECD fora to identify issues deemed to be of special salience for the country and measurement approaches appropriate for its needs. It may also require taking steps similar to those undertaken by other OECD countries through the establishment of national roundtables on measuring progress. These roundtables could involve representatives of civil society, academic and governmental experts, as well as regional actors such as CEPAL, the IADB and Latinobarómetro, with the objective to:

- identify the most salient issues faced by the country in terms of the various dimensions of people's well-being, social conditions and equity challenges;
- assess the relevance and robustness of the available data and indicators for informing policy making in these areas;
- mobilise Chile's capacity to design and implement a policy-oriented programme on measuring well-being and fostering social progress. Such a programme could then be included in the working plan and budget of the National Statistical Institute and other relevant government bodies.

Further reading

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Annex A

OECD Factbook – Focus on Chile

Basic statistics on Chile

Selected charts based on *OECD Factbook 2010*
(*http://10.1787/factbook-2010-en*), unless otherwise noted

Population growth rates
Public and private expenditure on health
Gross domestic product
GDP per capita
Labour force participation rates
Employment rates: total
Self-employment rates: total
Unemployment rates: total
Gross domestic expenditure on R&D
Public and private expenditure on education for all levels of education
Fish landings in domestic and foreign ports
Household disposable income
Current account balance
FDI stocks
CPI: all items
Total primary energy supply per capita
General government gross financial liabilities

BASIC STATISTICS ON CHILE

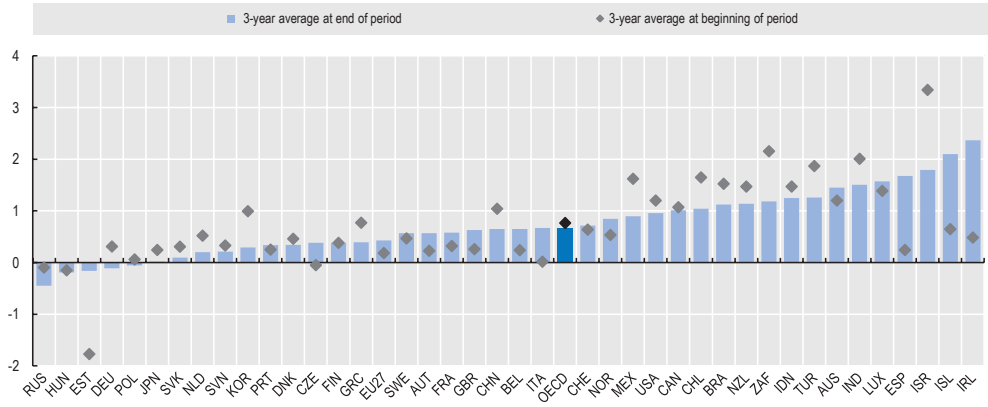
2008 unless noted otherwise

THE LAND		
Area (thousands sq. km)		756.6
POPULATION		
Total (millions)		16.8
Inhabitants per sq. km		22.2
Net average annual increase over previous 10 years, per cent		1.1
EMPLOYMENT		
Total employment (thousands)		6 641
In % : Agriculture		11.5
Mining		1.5
Manufacturing		12.9
Services		74.1
Unemployment rate (in %)		7.7
GROSS DOMESTIC PRODUCT (GDP)		
GDP at current prices and current exchange rate (USD billion)		172.7
Per capita GDP at current prices and current exchange rate (USD)		10 302
In % of GDP : Agriculture		3.7
Mining		17.6
Manufacturing		12.8
Services		65.9
Gross fixed capital formation (GFCF) as % of GDP		29.7
PUBLIC FINANCES (as % of GDP)		
Revenue		26.5
Expenditure		21.2
Nominal balance		5.3
Consolidated net debt (central government and central bank)		–23.9
INDICATORS OF LIVING STANDARDS		
Broadand penetration, lines, per 100 inhabitants		10
Doctors, per 1 000 inhabitants (2003)		1.1
Infant mortality per 1 000 live births (2005)		9
Income inequality (GINI coefficient, mid-2000)		0.53
Poverty incidence (mid-2000)		16.4
FOREIGN TRADE		
Exports of goods (USD billion)		66.5
In % of GDP		39.3
Copper exports in % of total exports		49.4
Imports of goods (USD billion)		57.6
In % of GDP		34.1
THE CURRENCY		
Monetary unit: Peso		
Currency units per USD, average of daily figures:	Year 2008	522.5
	November 2009	507.78

Source: OECD (2010), *OECD Economic Surveys: Chile 2010*, OECD Publishing, DOI: *10.1787/eco_surveys-chl-2010-en*.

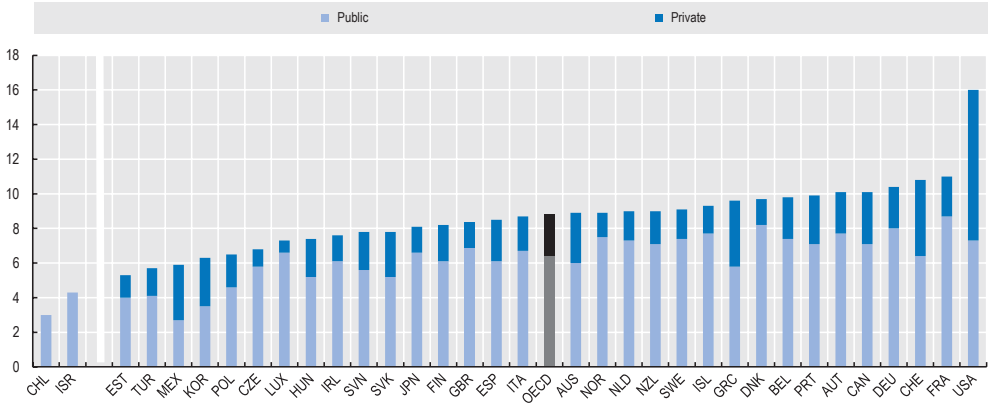
Population growth rates

Average annual growth in percentage



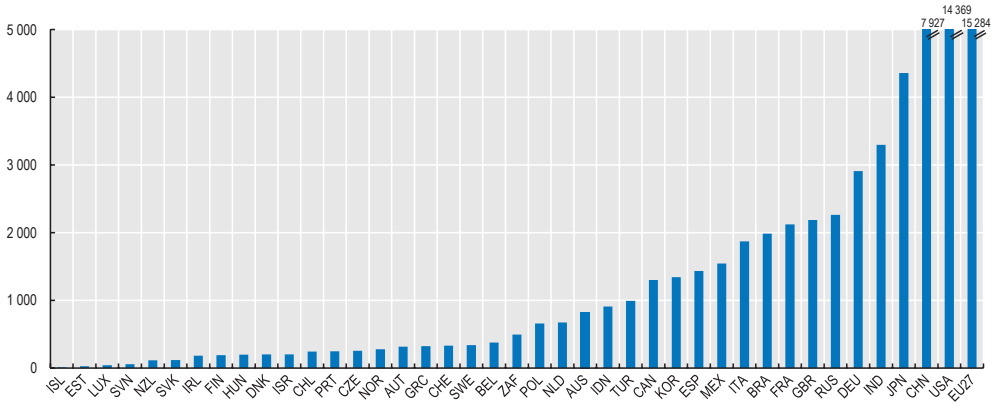
Public and private expenditure on health

As a percentage of GDP, 2007 or latest available year



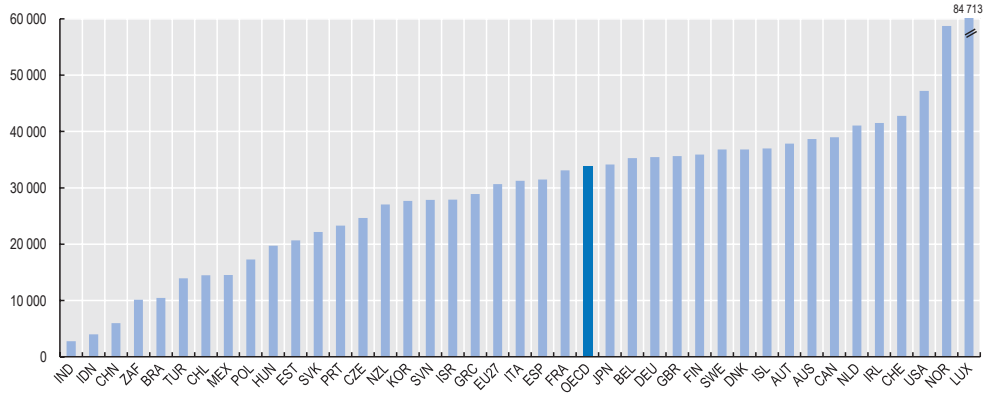
Gross domestic product

Billion US dollars, current prices and PPPs, 2008



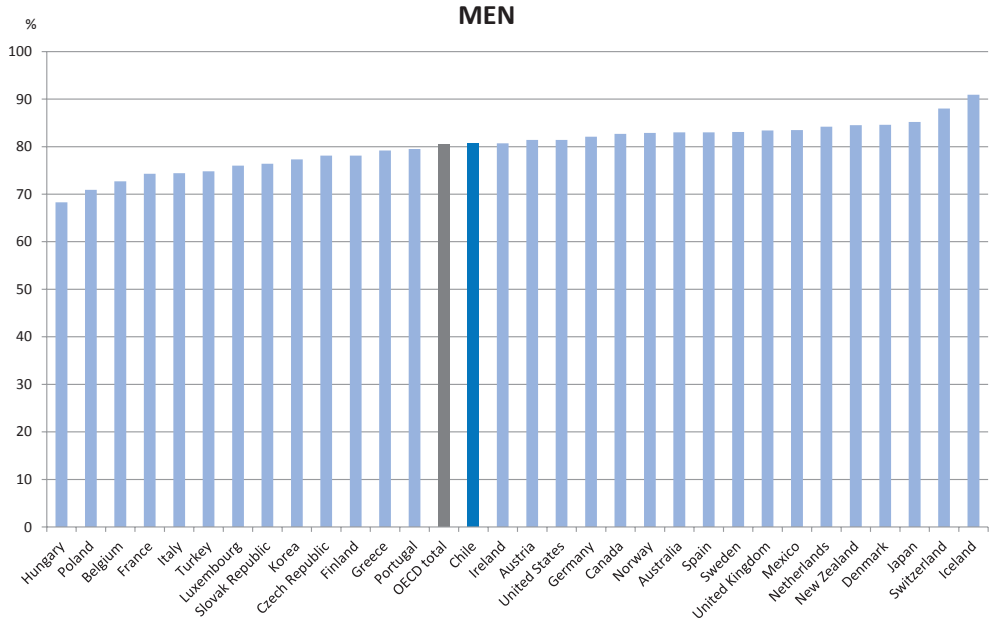
GDP per capita

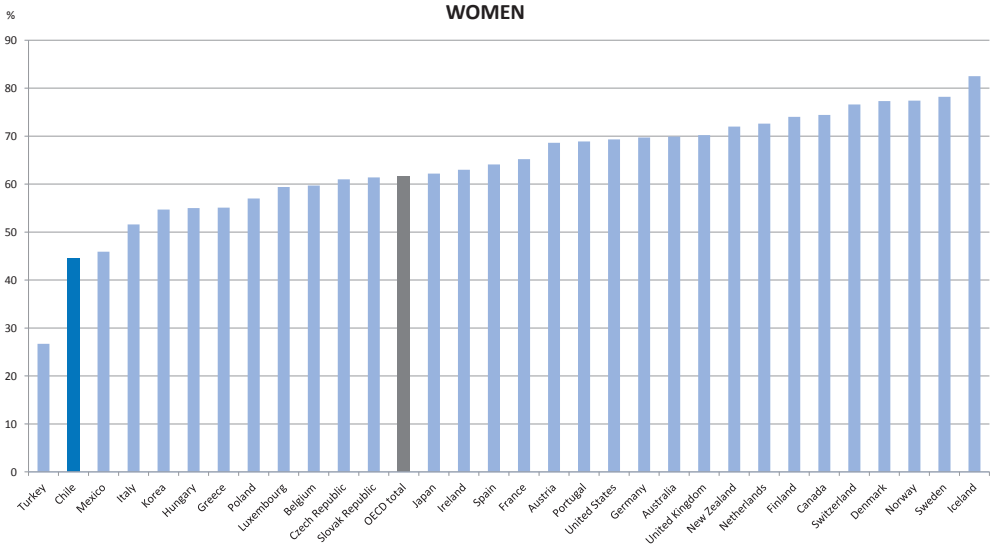
US dollars, current prices and PPPs, 2008



Labour force participation rates

15-64 years, 2008

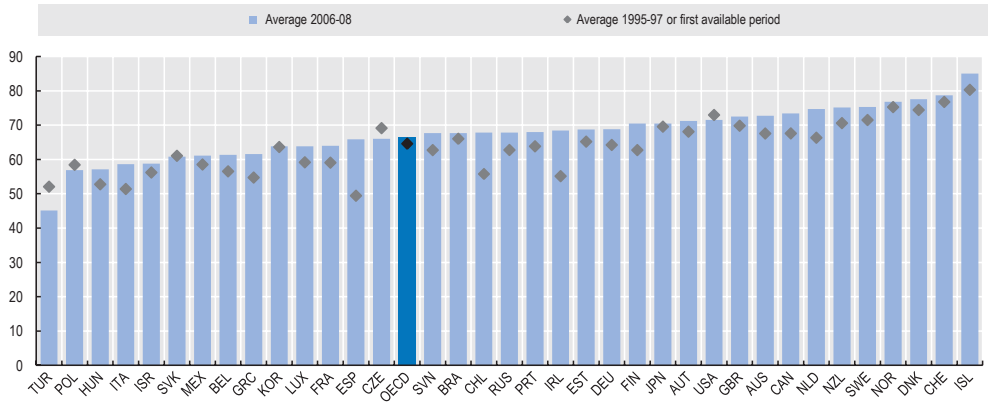




Source: OECD (2010), *OECD Economic Surveys: Chile 2010*, OECD Publishing, DOI: *10.1787/eco_surveys-chl-2010-en*.

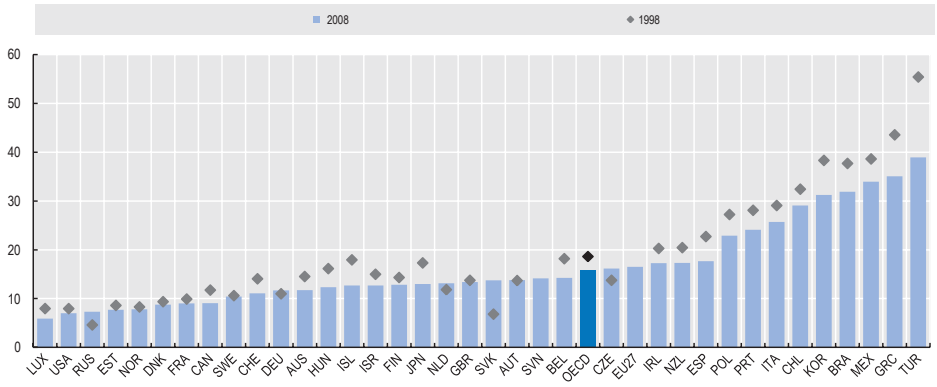
Employment rates: total

Share of persons of working age in employment



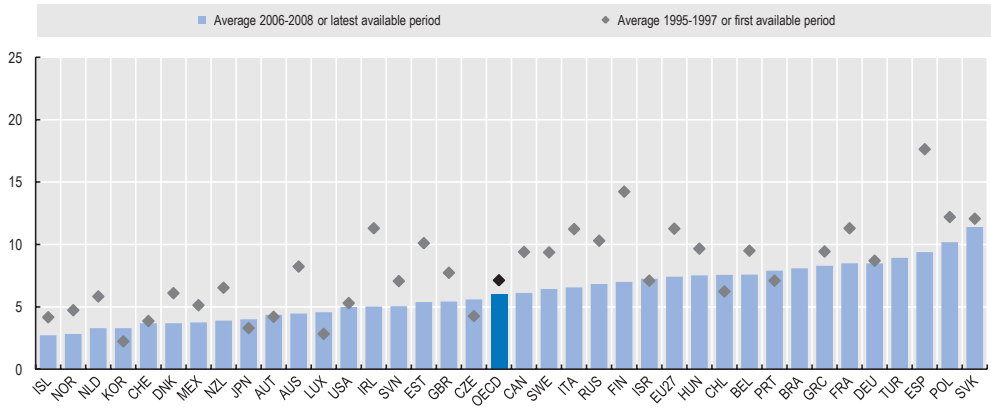
Self-employment rates: total

As a percentage of total employment



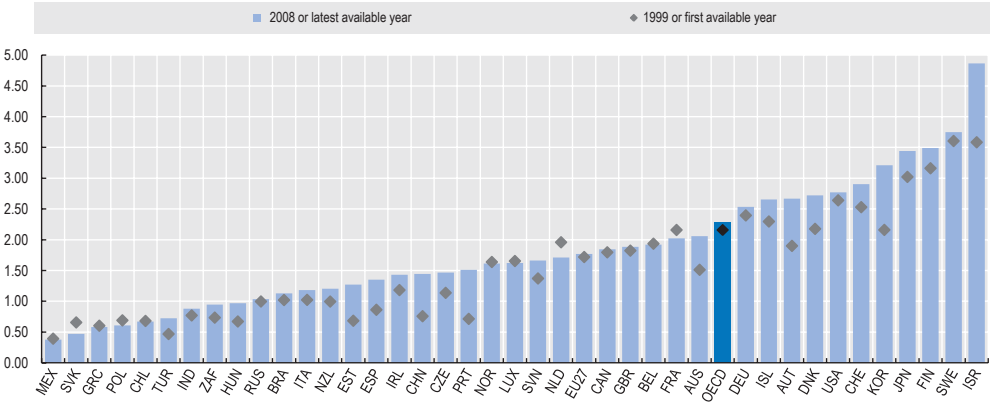
Unemployment rates: total

As a percentage of labour force



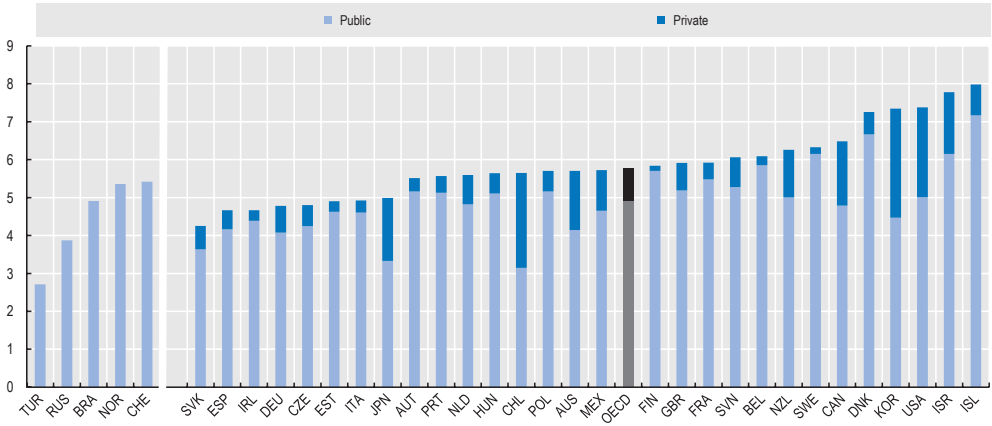
Gross domestic expenditure on R&D

As a percentage of GDP



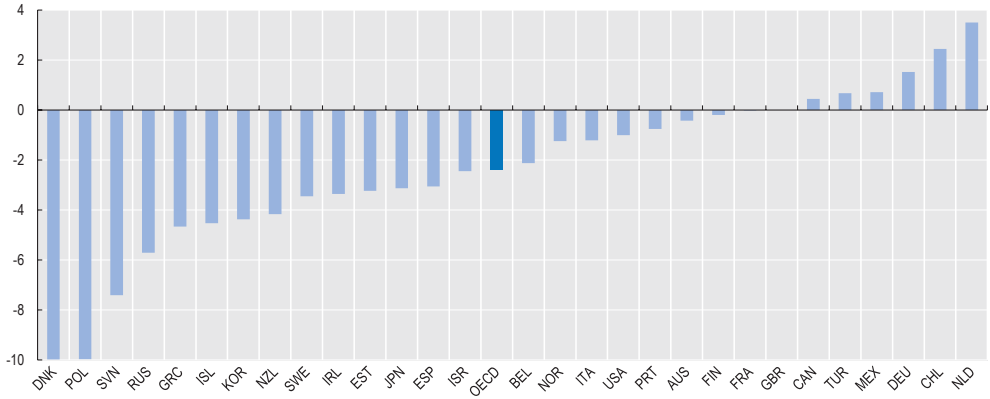
Public and private expenditure on education for all levels of education

As a percentage of GDP, 2006



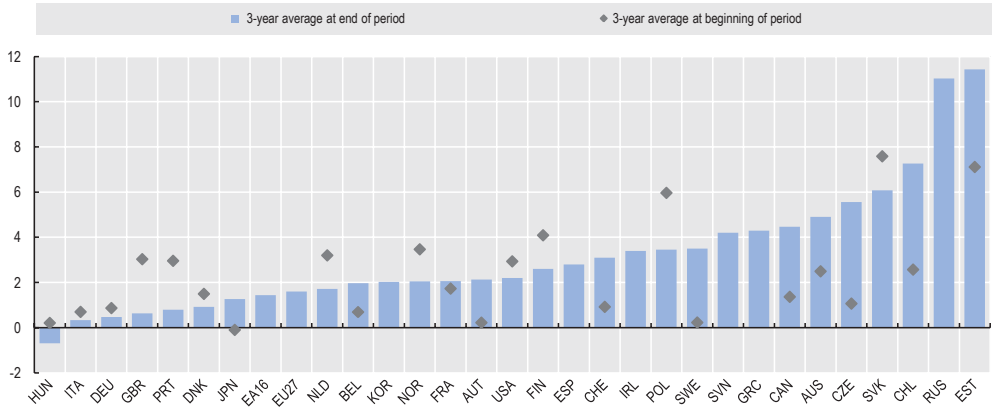
Fish landings in domestic and foreign ports

Average annual growth in percentage, 1997-2007 or latest available period



Household disposable income

Average annual growth in percentage

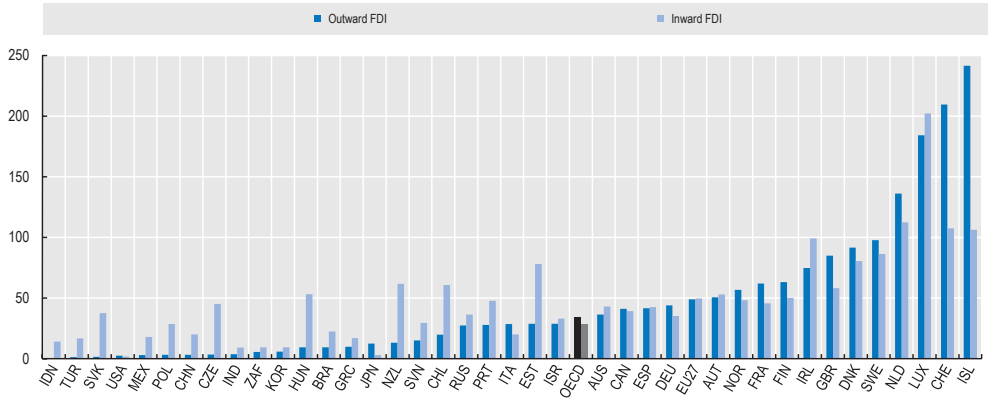


Current account balance

As a percentage of GDP (1995–2008)

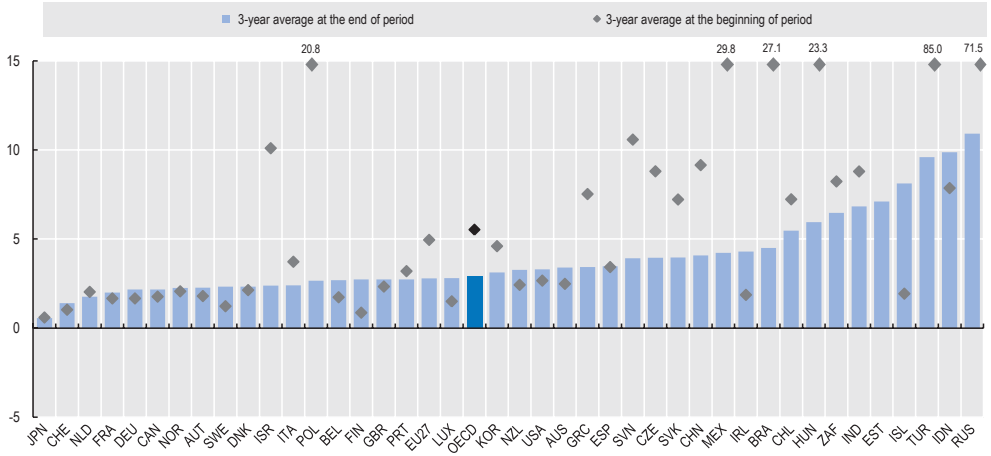
FDI stocks

As a percentage of GDP, 2007 or latest available year



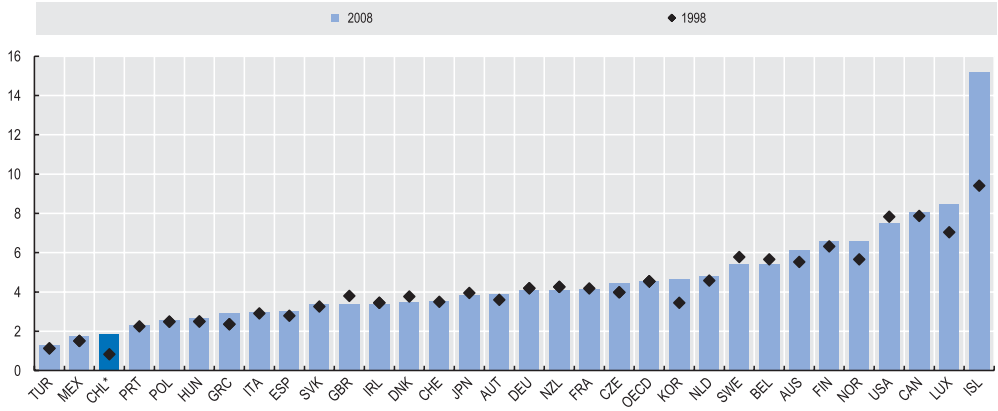
CPI: all items

Annual growth in percentage



Total primary energy supply per capita[1]

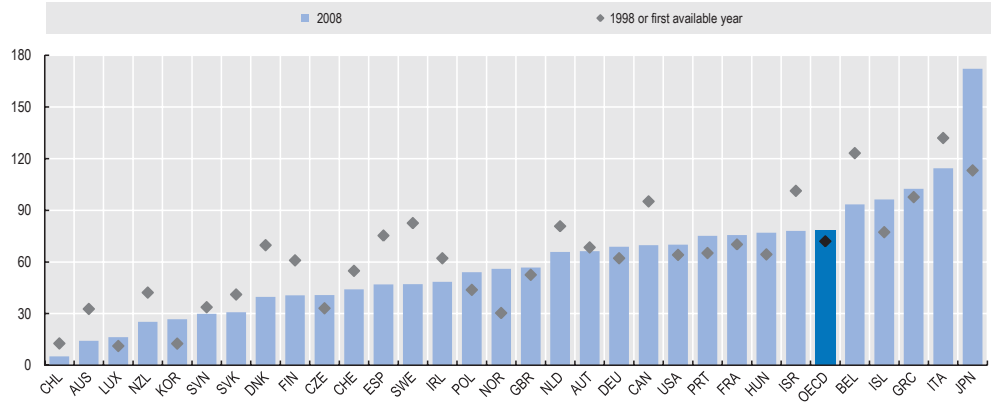
Tonnes of oil equivalent (toe) per capita



1. 2007 data for Chile.

General government gross financial liabilities

As a percentage of GDP



Annex B

OECD publications on Chile 2000-11

Competition Law and Policy in Chile 2011

Corporate Governance in Chile

Higher Education in Regional and City Development: Bío Bío Region, Chile 2010

Reviews of National Policies for Education: Chile's International Scholarship Programme

OECD Economic Surveys: Chile 2010

An Appraisal of the Chilean Fisheries Sector

Chile Energy Policy Review 2009

OECD Territorial Reviews: Chile 2009

OECD Reviews of Labour Market and Social Policies: Chile 2009

Reviews of National Policies for Education: Tertiary Education in Chile 2009

OECD Review of Agricultural Policies: Chile 2008

OECD Reviews of Innovation Policy: Chile 2007

OECD Economic Surveys: Chile 2007

Competition Law and Policy in Latin America: Peer Reviews of Argentina, Brazil, Chile, Mexico and Peru

Challenges to Fiscal Adjustment in Latin America: The Cases of Argentina, Brazil, Chile and Mexico

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OECD Environmental Performance Reviews: Chile 2005

Trade and Competitiveness in Argentina, Brazil and Chile: Not as Easy as A-B-C

Corporate Governance in Development: The Experiences of Brazil, Chile, India, and South Africa

Reviews of National Policies for Education: Chile 2004

Competition Law and Policy in Chile 2011

Forthcoming, (online only)

ISBN 9789264097391

The Review of Competition Law and Policy in Chile was prepared as part of the process of Chile's accession to OECD membership. The report describes the policy foundations, substantive competition law and enforcement experience, institutional structure as well as treatment of competition issues in regulatory and legislative processes. The review then examines these findings under three assessment themes: the current situation of competition policy and enforcement; the magnitude and direction of change in competition policy over the last 5-10 years; the extent of conformity with the particular OECD competition recommendations.

Corporate Governance in Chile

Publication date: 3-Feb-2011

ISBN 9789264095946

The Review of Corporate Governance in Chile was prepared as part of the process of Chile's accession to OECD membership. The report describes the corporate governance setting including the structure and ownership concentration of listed companies and the structure and operation of the state-owned sector. The review then examines the legal and regulatory framework and company practices to assess the degree to which the recommendations of the *OECD Principles of Corporate Governance* and the *OECD Guidelines on Corporate Governance of State-Owned Enterprises* have been implemented.

Higher Education in Regional and City Development

Bío Bío Region, Chile 2010

Publication date: 17-Dec-2010ISBN 9789264088931

The Bío Bío Region has pioneered regional development in Chile. It has a high concentration of higher education and research activity. Its universities and other higher education institutions have made significant progress in widening access to education. But challenges remain: the Bío Bío Region continues to suffer from brain drain as well as higher than average unemployment and poverty rates.

How can the Bío Bío Region promote new business formation and the development of the existing small and medium-sized companies? What incentives are needed to improve higher education institutions' regional and local orientation? How can higher education institutions move from knowledge generation towards knowledge transfer?

This joint OECD and World Bank review explores a range of helpful policy measures and institutional reforms to mobilise

higher education for the development of the Bío Bío Region. It is part of the series of the OECD reviews of Higher Education in Regional and City Development. These reviews help mobilise higher education institutions for economic, social and cultural development of cities and regions. They analyse how the higher education system impacts upon regional and local development and bring together universities, other higher education institutions and public and private agencies to identify strategic goals and to work towards them.

Reviews of National Policies for Education

Chile's International Scholarship Programme

Publication date: 9-Sept-2010

ISBN 9789264086418

Chile has long considered education as a central priority and as key for its economic development. Over the past two decades the country has made great strides to increase the numbers of young people entering tertiary education. In 2008 Chile embarked on a bold initiative to develop its human capital with a scholarship abroad scheme – the Becas Chile Programme – which aims to train 30 000 outstanding students including teachers and technicians in institutions of their choice around the world.

This joint OECD and World Bank report gives an overview of human capital development in Chile; describes features of the Becas Chile Programme; analyses the strategic and operational issues; and recommends ways to maintain and fine-tune the scholarship abroad scheme. This report will be useful for both Chilean education professionals and their international counterparts.

OECD Economic Surveys

Chile 2010

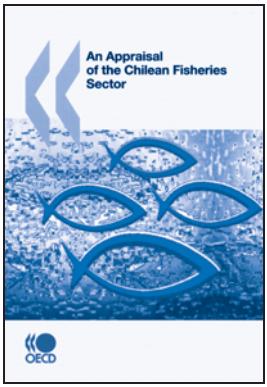
Publication date: 4-Feb-2010

ISBN 9789264075757

OECD's 2010 survey of Chile's economy. This edition focuses on four key issues currently challenging Chile: overcoming the crisis; strengthening fiscal policy; fostering productivity growth, and improving the quality of Chile's schools. The survey finds that Chile is now emerging from the crisis and that the financial system has held up well, but that some areas of regulation and the fiscal framework need to be strengthened. Chile needs to enhance productivity growth, broaden innovation policy beyond basic research, and improve the quality of education.

Special feature

- Education



An Appraisal of the Chilean Fisheries Sector

Publication date: 07-Dec-2009

ISBN 9789264073944

Chile is one of the major players in the world fishing scene. But during the past fifty years, Chile has had to face issues of over-investment, sharp declines in catch levels, disputes among stakeholders, fleet downsizing, and aquaculture diseases, among others. This report describes the challenging and complex learning process that the Chilean fisheries and aquaculture sector has undergone and the evolution of its policies and management systems. Governance of the industrial, artisanal and aquaculture industries has followed different paths of policy development and current management reflects the particular pressures confronting each segment of the sector. And policy evolution continues, with a range of initiatives underway to meet the current challenges. The Chilean state has been one of the main forces behind these developments, laying the foundation for a strong and robust fisheries and aquaculture sector.

Chile Energy Policy Review 2009

Publication date: 03-Nov-2009

ISBN 978926407314

Drawing on the experience of IEA member countries, this IEA review assesses Chile's major energy challenges and provides recommendations. Six main themes emerge: the successful liberalisation of the power sector in the 1980s; the essential role played by the state in ensuring energy security; the re-formulation of Chile's long-term energy policy; the proposed reorganisation of the institutional framework; greater independence for the system operators; and the need for a clear framework of regulation so that long-term investment decisions integrate social and environmental costs.

OECD Territorial Reviews

Chile 2009

Publication date: 4-Aug-2009

ISBN 9789264060746

Chile has achieved strong economic growth during the last 20 years. Nevertheless, its economy depends on a few resource-based sectors located in a small number of regions. The performance of Chilean regions varies significantly and regional disparities in GDP per capita are very high compared to those in OECD countries. Chilean regions have thus far so not fully utilised their assets and reached their potential for growth. This report recommends moving towards a territorial approach to development in Chile in order to better adapt public management to the different opportunities and needs of the diverse territories of the country. Chilean regions

would particularly benefit from context-specific policies to boost productivity, such as those targeting innovation and entrepreneurship, and to improve education and training.

OECD Reviews of Labour Market and Social Policies

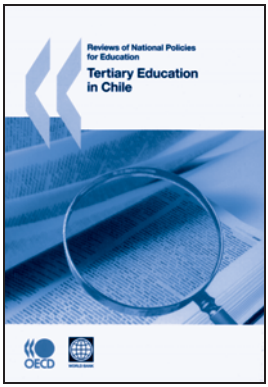
Chile 2009

Publication date: 9-Apr-2009

ISBN 9789264060609

Chile has enjoyed rising living standards over two decades of strong economic growth. The incidence of poverty is now much lower and there is better access to adequate housing, education and healthcare. Nevertheless, Chile's income distribution remains disturbingly unequal by OECD standards. This is partly due to Chile's a relatively low employment rate, especially for women, but it also reflects a segmented labour market, where much of the recent job creation has occurred in relatively low-productive sectors. Moreover, despite the existence of an internationally renowned pension programme, Chile's social protection system as a whole has still a relatively long way to go before reaching the standards of developed countries in terms of effective coverage and capacity to assist needy households.

Chilean policy makers have begun to develop and implement a series of ambitious reforms, intended to promote the twin goals of work and equity. This report analyses in detail the implications for labour market and social policy and considers the available policy options from the perspective of OECD countries' experience.



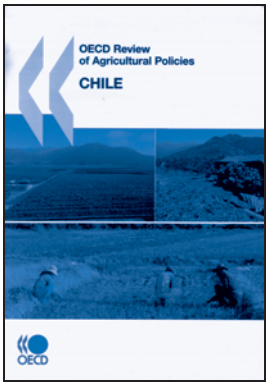
Reviews of National Policies for Education

Tertiary Education in Chile 2009

Publication date: 3-Apr-2009

ISBN 9789264050891

This joint OECD and World Bank review gives a brief overview of post-secondary education in Chile and describes its development over the past twenty years. It presents an analysis of the system and identifies key directions for policy reform in light of the challenges encountered by officials, communities, enterprises, educators, parents and students. It concludes with a set of key recommendations concerning the structure of the system and its labour market relevance; access and equity, governance and management; research, development and innovation; internationalisation; and financing.



OECD Review of Agricultural Policies

Chile 2008

Publication date: 05-Mar-2008

ISBN 9789264042230

This Review measures the level and composition of support provided to Chilean agriculture, and evaluates the effectiveness of current measures in attaining their objectives. The study finds that Chile provides much lower support and protection to its agricultural sector than most OECD countries, even though government expenditures on the sector have trebled in real terms over the past ten years. About half of that spending is on public goods such as infrastructure and irrigation, while the other half consists mostly of measures that seek to make Chile's poorer farmers more competitive.

This report suggests ways in which the effectiveness of these policies might be enhanced, including by systematic evaluation of policy performance, by closer co-ordination across government agencies, and by framing policies for smallholders and salaried farm workers in an economy-wide context, so that agricultural policies can focus on potentially competitive farmers and be effectively distinguished from other development and social policies.

OECD Reviews of Innovation Policy

Chile 2007

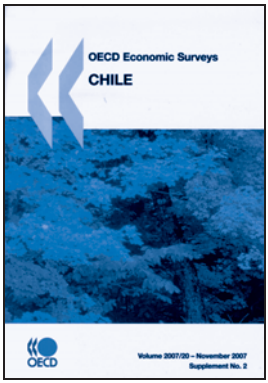
Publication date: 23-Nov-2007

ISBN 9789264037519

Chile is a small open economy with traditionally strong resource- based production. Over the last decade it has been the most successful Latin American country in reducing the gap in income per capita relative to the advanced countries. In order to complete this catching-up, Chile needs to focus on strengthening its innovation system and improving its low R&D intensity.

In order to do this, Chile recently created an Innovation Council for Competitiveness entrusted with the mission of proposing guidelines for a long- term, national, innovation strategy. It also introduced a specific mining tax to increase the resources available to implement this strategy.

This report assesses the current status of Chile's innovation system and policies and identifies where improvements are most needed in order to make the most efficient use of this additional public investment.



OECD Economic Surveys

Chile 2007

Publication date: 14-Feb-2008

ISBN 9789264040069

This 2007 edition of OECD's periodic survey of Chile's economy focuses on key challenges being faced including managing the economy after the copper price boom, efficiency in health care, education and housing services, informality, and raising labour force participation of women and youth.

Special features

- Government efficiency in education, health care and housing
- Informality
- Labour force participation

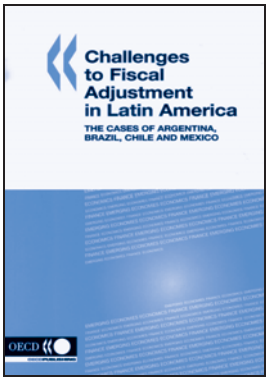
Competition Law and Policy in Latin America: Peer Reviews of Argentina, Brazil, Chile, Mexico and Peru

Publication date: 09-Nov-2006

ISBN 9789264014985

The Inter-American Development Bank (IDB) and the Organisation for Economic Co-operation and Development (OECD) co-operate in competition law and policy to promote increased economic growth, employment and economic efficiency, and a higher average standard of living in the medium to long term. There is increasing consensus that sound competition law and policy are essential to achieving these goals.

IDB-OECD co-operation in competition law and policy centres on annual meetings of the Latin American Competition Forum (LACF). LACF meetings include substantive roundtable discussions and peer reviews of national laws and institutions. The OECD and the IDB are pleased to participate in this work as part of their efforts to promote a better business climate for investment in the countries of Latin America and the Caribbean.



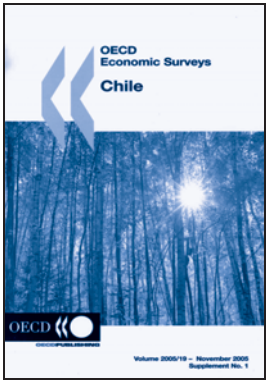
Challenges to Fiscal Adjustment in Latin America: The Cases of Argentina, Brazil, Chile and Mexico

Publication date: 23-Feb-2006

ISBN 9789264022072

Despite considerable progress made by Latin America's biggest economies in putting their finances in order, numerous challenges remain. Public spending needs to incorporate more flexibility, ageing populations and social demands threaten future pressures on expenditure, and social and infrastructure spending need to be more cost-effective. At the same time, tax bases need to broaden to reduce reliance on distortionary taxes on financial transactions and enterprise turnover, and overall tax administration must be improved. Finally and foremost, the fiscal authorities need to keep public debt at sustainable levels, paving the way for faster, more resilient growth.

This volume discusses progress made to date in Argentina, Brazil, Chile and Mexico, and points out the road ahead. It provides an overview of trends and highlights the diversity of fiscal adjustment processes in Latin American countries. It also describes the financial market perspective and role of sovereign debt ratings. The chapter on Argentina debunks the view that fiscal management in the 1990s was irresponsible, arguing instead that the financial crisis was caused by a confluence of costly pension reforms, Brady debt restructuring and the recognition of fiscal "skeletons" in the closet. The chapter on Brazil makes a case for a more entrenched culture of fiscal austerity to make the current achievements sustainable. The Chile chapter describes the role of political cohesiveness following the return of democracy in driving the economy to fiscal rectitude. Finally, the chapter on Mexico discusses different scenarios for debt dynamics and the country's efforts to contain expenditure pressures.



OECD Economic Surveys

Chile 2005

Publication date: 21-Nov-2005

ISBN 9789264013551

This OECD 2005 Economic Survey of Chile's economy examines key challenges including encouraging innovation, continuing to foster pro-competition regulation, and making better use of labour inputs.

Special features

- Innovation
- Regulatory reform
- Labour markets

OECD Environmental Performance Reviews

Chile 2005

Publication date: 9-May-2005

ISBN 9789264009677

This book is part of the OECD Environmental Performance Reviews Programme, which conducts peer reviews of environmental conditions and progress in each member country and selected partner countries. It scrutinises efforts to meet both domestic objectives and international commitments. The analyses presented are supported by a broad range of economic and environmental data and lead to recommendations for further environmental and sustainable development progress. This book is published by the OECD and the UN Economic Commission for Latin America and the Caribbean.

A first cycle of Environmental Performance Reviews, covering all member countries was completed in 2000. The second cycle focuses on environmental management, sustainable development and international commitments.

Trade and Competitiveness in Argentina, Brazil and Chile: Not as Easy as A-B-C

Publication date: 25-Nov-2004

ISBN 9789264108714

The development of the tradeable sector is a permanent concern for policy makers in Argentina, Brazil and Chile. The weak performance of the tradeable sector has been cited as one of the causes of mixed growth performance in South America during the 1990s as crises in the region have been associated with a pronounced imbalance of the contributions of the tradeable and the non-tradeable sectors to growth.

This book contributes to the understanding of the market mechanisms and policy interactions that support the strengthening and diversification of the tradeable sector in Argentina, Brazil and Chile. It focuses on the role of exchange rate regimes, market imperfections and trade policy. Moreover, it analyses the agro-food sector, one of the pillars of the tradeable sector in the region, and the role of foreign direct investment and competition policy. Overall it provides an integrated and original policy perspective on the factors underlying international competitiveness.

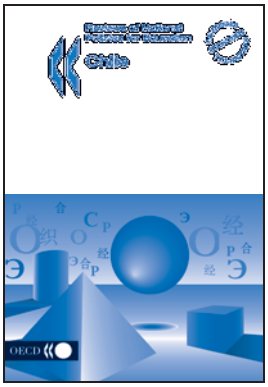
Corporate Governance in Development: The Experiences of Brazil, Chile, India, and South Africa

Publication date: 30-Apr-2004

ISBN 978926410658

Corporate governance matters for national development. Studies of Brazil, Chile, India, and South Africa show that corporate governance has a role of growing importance to play in helping both to increase financial capital to firms in developing countries and to enhance those countries' financial development as a whole. They further show that corporate governance matters for development, more than is widely perceived, because it can contribute greatly to achieving sustained productivity growth in developing countries' real economies.

The value of improved corporate governance for development cannot, however, be considered in isolation. In the financial sector attention must also be given to measures to strengthen the banking sector and a country's financial institutions as a whole. To gain most from improved corporate governance in the real economy, close attention must also be given to competition policy and to reforms of sector-specific regulatory practices.



Reviews of National Policies for Education

Chile 2004

Publication date: 12-Feb-2004

ISBN 9789264106352

Education has been a central priority for Chile since the return of a democratic government in 1990. Thanks to a sustained economic growth and a commitment to increasing public investment in education, Chile has made a number of key improvements to the education system during this period. A recent reform ensures twelve years of free and compulsory schooling for all Chilean children. Enrolment in secondary education has expanded rapidly and teachers' salaries have increased by 140%. If current trends are anything to go by, more than 800,000 students will be enrolled in higher education by 2010. Chile has achieved a great deal in a short period, becoming the leader in Latin America for improving the quality of, and access to, all levels of education.

Reviews of National Policies for Education: Chile covers the entire system of Chilean education from pre-school through tertiary education and lifelong learning for all, and analyses it in terms of its economic, social and political impact.

The review is based on the OECD's ongoing co-operation with non-member economies around the world. It is particularly interesting for those involved in educational policy as well as professionals directly working in the education system of Chile.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

The OECD is a unique forum where governments work together to address the economic, social and environmental challenges of globalisation. The OECD is also at the forefront of efforts to understand and to help governments respond to new developments and concerns, such as corporate governance, the information economy and the challenges of an ageing population. The Organisation provides a setting where governments can compare policy experiences, seek answers to common problems, identify good practice and work to co-ordinate domestic and international policies.

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Maintaining Momentum

OECD PERSPECTIVES ON POLICY CHALLENGES IN CHILE

In 2010, the new Chilean government embarked on an ambitious reform agenda to further enhance the growth potential of the Chilean economy and the well-being of the Chilean population. To inform the policy debate in Chile and present an economic assessment with concrete recommendations and policy options, the OECD agreed with President Piñera's administration to prepare this report which is structured in the following way:

Chapter 1. Overview: Keeping momentum – an OECD economic assessment of Chile

Chapter 2. Locking in growth: Macroeconomic and structural policy challenges

Chapter 3. The productivity challenge: Enhancing competition, entrepreneurship and innovation

Chapter 4. Quality, equity and equality in the education system

Chapter 5. Employment challenges: Labour market flexibility, informal employment and employability

Chapter 6. Improving equality and reducing poverty

Chapter 7. Enhancing the capacity of Chile's public administration

Chapter 8. Strengthening the financial system

Chapter 9. Regional development policies: Co-ordination across levels of government

Chapter 10. Chile going green

Chapter 11. Diversifying exports and improving competitiveness

Chapter 12. Making the most of an open foreign investment regime

Chapter 13. Measuring progress and well-being: New concepts, new policies

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