

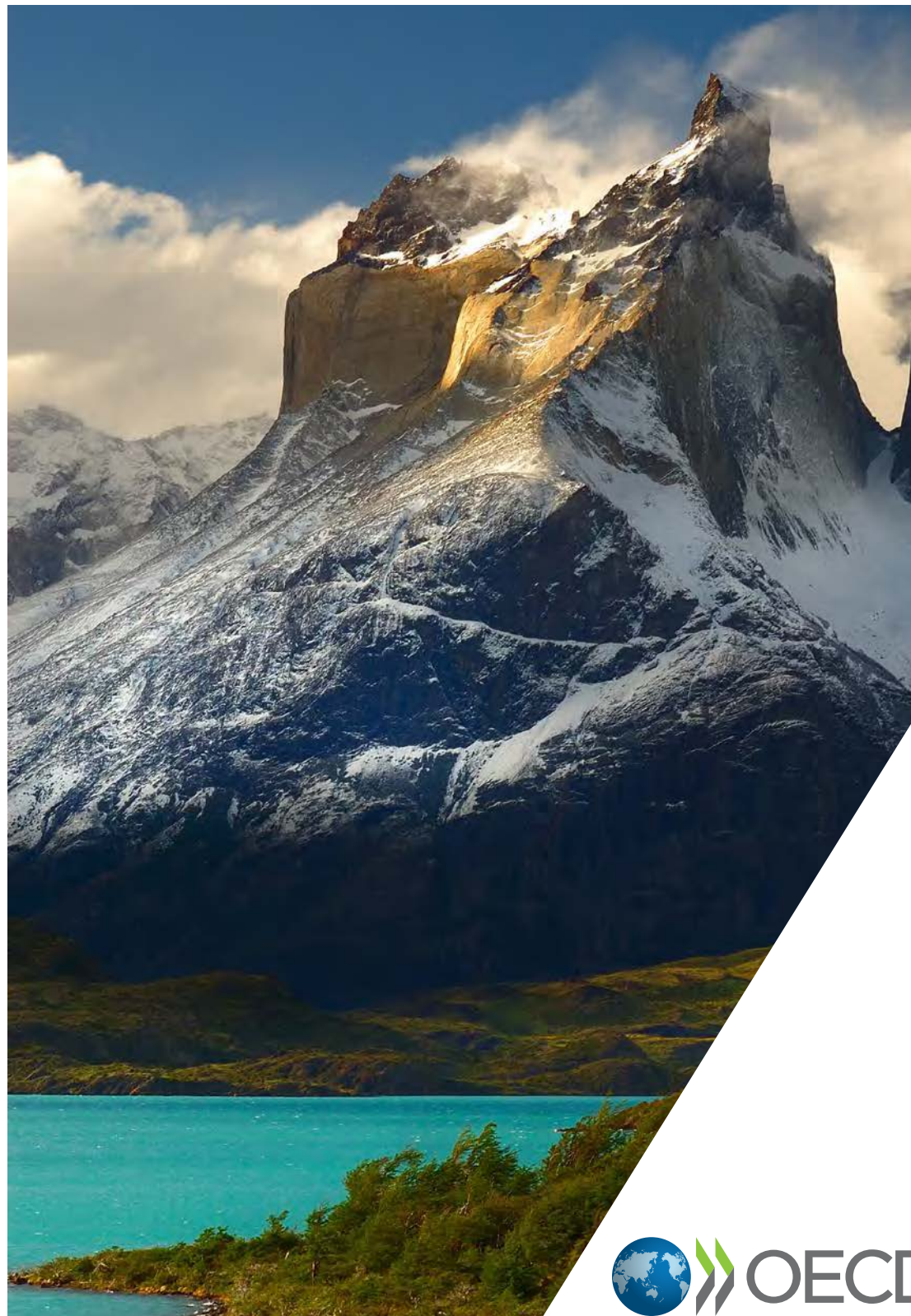


“Better Policies” Series

# CHILE

POLICY PRIORITIES FOR STRONGER  
AND MORE EQUITABLE GROWTH

SEPTEMBER 2015



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## Foreword

Thanks to sound macroeconomic policies and a commodity price boom Chile had, until recently, enjoyed a long phase of strong economic growth and job creation. This allowed living standards to significantly catch up with those in other OECD countries. The gap in per capita household disposable income relative to the OECD average has declined by more than 10 percentage points since the mid-1990s, relative poverty has fallen at a faster pace than in any other OECD country, and indicators of health and educational outcomes have improved considerably.

But despite this remarkable progress, gaps vis-à-vis other OECD countries continue to be large for some well-being dimensions. The quality of education is still relatively low as is environmental quality. Also in the areas of safety, housing and health there remains substantial room for progress. And the country suffers from large social disparities: Income inequality and relative income poverty are amongst the highest in the OECD. Also the labour market is characterized by significant inequalities, with large employment and earnings gaps between men and women, high youth unemployment and many workers in non-regular work arrangements.

The key challenges for Chile are thus to keep up the pace of social progress of the past two decades and ensure that these improvements reach across the entire population. Achieving these goals is made harder by the end of the mining boom. Business confidence has fallen and the economy has slowed down sharply since the end of 2012 as declining copper prices and lower demand from China have worsened the terms of trade and investment. While expansionary monetary and fiscal policies have supported demand, the end of the mining boom highlights the need to diversify the economy away from commodity-intensive sectors and improve the design of policies to make sure that even lower growth rates translate into sizable and sustained improvements in living standards.

Under the leadership of President Michelle Bachelet, the government of Chile has embarked on a set of major reforms to address these challenges. The country has launched a tax reform to raise revenues for higher social spending and investment in education and health care, together with wide-ranging education reforms to improve the quality and equity of the education system. It has also sent new bills to Congress to reform early childhood and pre-primary education, improve teacher career paths as well as to increase the scope of collective bargaining rights and give more negotiating rights to labour unions. In addition, the government has launched three ambitious agendas, a decentralization and development agenda to reduce spatial inequalities, an agenda for productivity, innovation and growth to lay the groundwork for a more balanced and diversified development across sectors, and an energy agenda to remove production bottlenecks and make growth greener. Together, these reforms can put Chile on the right track to attain a more sustainable and inclusive growth path.

This brochure was prepared by the OECD to assess the recent reform initiatives by the Chilean government and propose options for further reform, drawing on the experience and expertise of OECD member countries. The focus is on ten policy areas: (i) fiscal and monetary policy, (ii) regulation, (iii) innovation, (iv) maritime infrastructure, (v) education, (vi) employment, (vii) social policies, (viii) health care, (ix) regional development, and (x) environment.

Chile is building on the important achievements made over the past two decades to further catch up with other OECD countries in terms of economic, social and environmental outcomes. The OECD is committed to continue working with the government in this important endeavor and help it design and implement policies for a higher quality of life in Chile.



**Angel Gurría**  
Secretary-General, OECD

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## Key recommendations

- Continue efforts to ensure that the administrative implementation of the 2014 tax reform serves to increase the transparency of its application for business.
- Develop binding standards and guidelines to further improve the rule making process. Standardize participation and the systematic use of regulatory impact analysis.
- Swiftly proceed with the plan to grant the *Fiscalia Nacional Economica* clear and express legal powers to undertake market studies and issue recommendations, including the power to compel information from private firms and public bodies.
- Strengthen innovation policymaking by fully rolling out the Productivity Agenda, facilitating industry and research linkages, and promote public-private co-ordination to exploit natural endowments, helping to complement comparative advantages.
- Strengthen and support school leadership, stimulate a supportive school climate and environment for teaching and learning to, attract, support and retain high quality teachers, ensure effective classroom learning strategies, and prioritise linking schools with parents and communities.
- Develop work-based training programmes in vocational education and training and terminal programmes to facilitate youth's transition from school to work.
- Evaluate the balance between employment protection legislation and the availability of passive and active labour market programmes.
- Ensure the enforcement of the requirement for self-employed workers to contribute to their pension and health insurance schemes. Facilitate such contributions for workers in informal work arrangements.
- Use the decentralisation process to underpin the shift towards a more diversified, development-oriented approach to regional, urban and rural policy.
- Develop a framework for monitoring and evaluating progress towards a green growth strategy.

# 1. Introduction

**Backed by strong economic growth Chile has made substantial progress in improving the quality of life of its citizens. Nonetheless, gaps in living standards vis-à-vis other OECD countries remain large and there are strong differences in well-being across the Chilean population. The government has introduced important steps to strengthen redistribution and improve equality of opportunities, including ambitious tax, labour and education reforms. But there is room to further improve the design of many policies to promote inclusiveness. Moreover, to sustain progress in well-being, Chile also needs faster productivity growth which stagnated until recently. This requires policies that foster competition, improve human capital accumulation and increase the diversification of the economy that still relies heavily on commodity exports.**

## **Backed by strong economic growth, quality of life has improved considerably**

The quality of life in Chile has improved substantially over the last two decades: average per capita household disposable income more than doubled during this period, to become the highest in Latin America. This strong increase enabled Chile to significantly catch up with other OECD countries. While average per capita household disposable income was 40% of the OECD average in the mid-1990s, it had reached 51% of the OECD average by 2013. Chile also made substantial improvements on other dimensions of well-being. Absolute poverty rates decreased from over 40% in 1990 to 7.8% in 2013, with relative poverty declining at a faster pace than in any other OECD country. Similarly, life expectancy at birth increased from 76.5 years in 1990 to 78 years in 2014, and enrolment rates in tertiary education increased from 36% in 2000 to 79% in 2012.

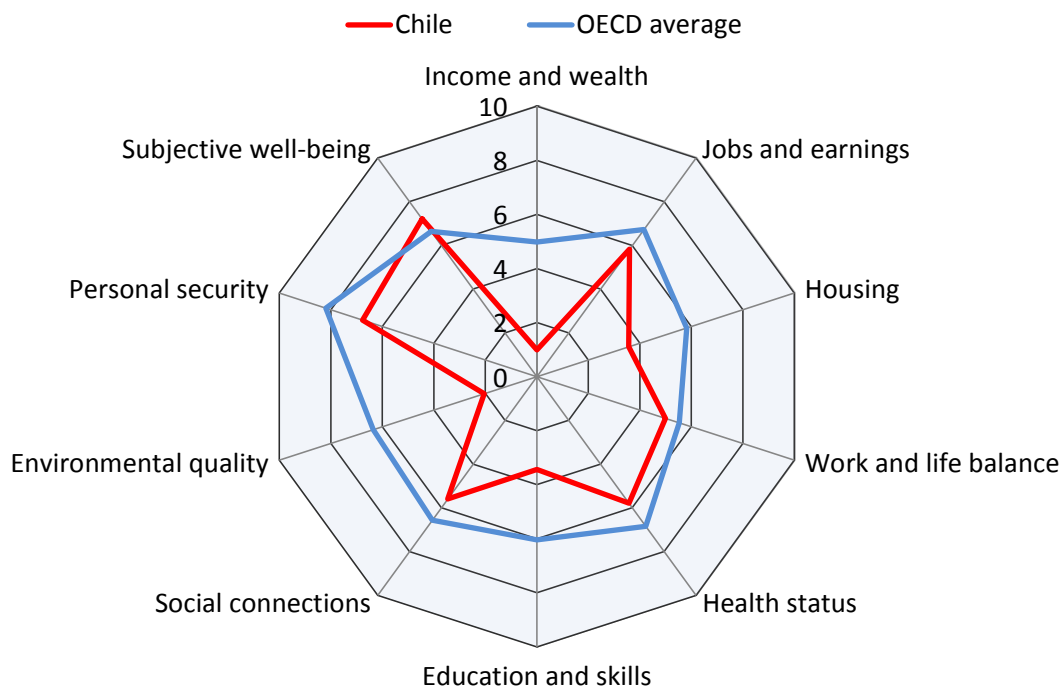
This progress in well-being made over the last decades was underpinned by strong economic growth that not only helped to create jobs and boost incomes, but also enabled higher growth rates of social spending. GDP growth averaged more than 5% annually between 1990 and 2014. While a commodity price boom that benefitted Chile's main export products was partly behind this good outcome, it also reflects Chile's sound macroeconomic, financial and structural policies, as well as domestic and external confidence in the country's economic prospects.

## **But gaps vis-à-vis other OECD countries remain large for many well-being dimensions**

Despite this progress, Chile still ranks relatively low on a large number of well-being aspects tracked by the OECD's Better Life Index (Figure 1.1). Income inequality in Chile remains among the highest in the OECD: the top 20% of the population earn 13 times as much as the bottom 20%, and concentration of incomes among the top one percent is estimated to be the highest among OECD countries. The Gini coefficient is still the highest in the OECD (Figure 1.2). Chile also has one of the highest levels of relative income poverty in the OECD; in 2011 18% of the population lived in households earning less than half of median income in the country (USD 4,131 per year), compared with 12% in the OECD (median income of USD 10,119 per year). Furthermore, over one in five children are in poverty. At the same time, intergenerational mobility is low: children of poor parents stay poor and children of rich parents stay rich, perpetuating inequality over time.

In addition to income inequality, Chile also needs to address other social disparities. According to results from the OECD's PISA study, the quality of education is relatively low and receiving higher quality education depends substantially on the level of household income. Also, there are large disparities in the labour market: The employment and earnings gaps between men and women are larger than those observed in the OECD on average, youth face strong difficulties in finding employment, and many workers are in non-regular work arrangements. The shares of both temporary and informal workers are above those seen in other OECD countries. But also in areas such as safety, housing, environment and health, there is room for progress. Low-income individuals are the least healthy, reflecting weak access to high quality healthcare. Moreover, women remain the primary victims of domestic violence, with one of the highest victimisation rates in the OECD.

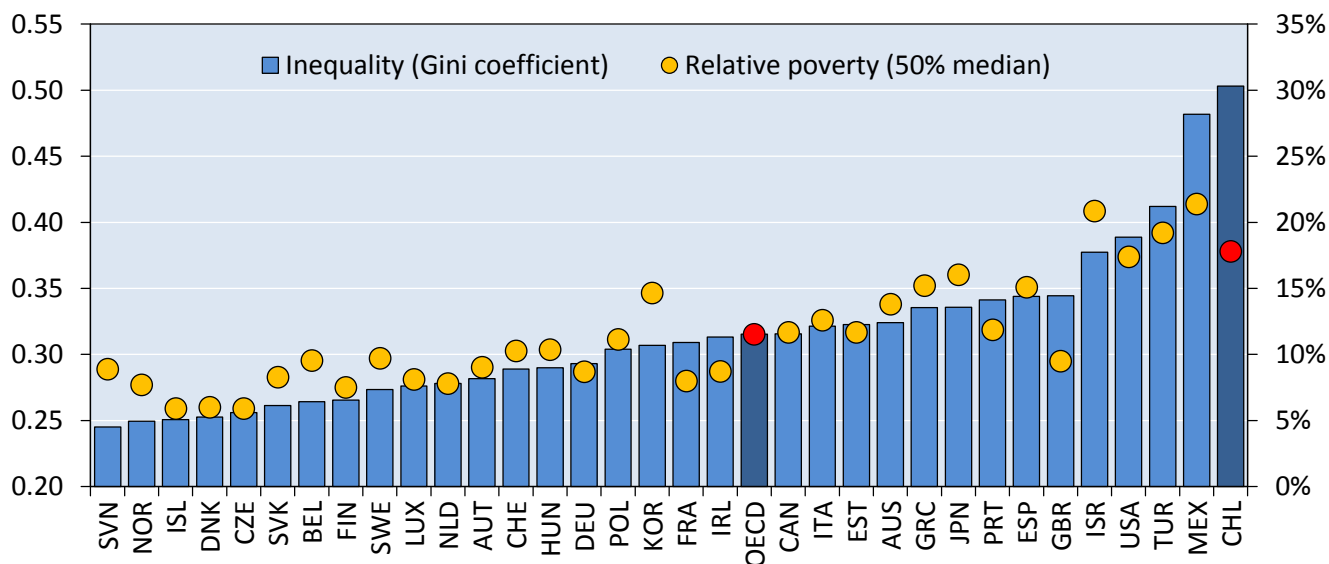
**Figure 1.1. Chile performs well only in a few aspects of well-being**  
 OECD Better Life Index, from 0 (worst performance) to 10 (best performance)



Note: Each well-being dimension is measured using one to three indicators from the OECD Better Life Initiative set. Normalized indicators are averaged with equal weights. Indicators are normalised by re-scaling (linearly) to be from 0 (worst) to 10 (best).

Source: OECD Better Life Initiative, [www.betterlifeindex.org](http://www.betterlifeindex.org).

**Figure 1.2. Income inequality and poverty rates are high in Chile compared to other OECD countries**  
 Income inequality and relative income poverty rates, 2012 or latest year available



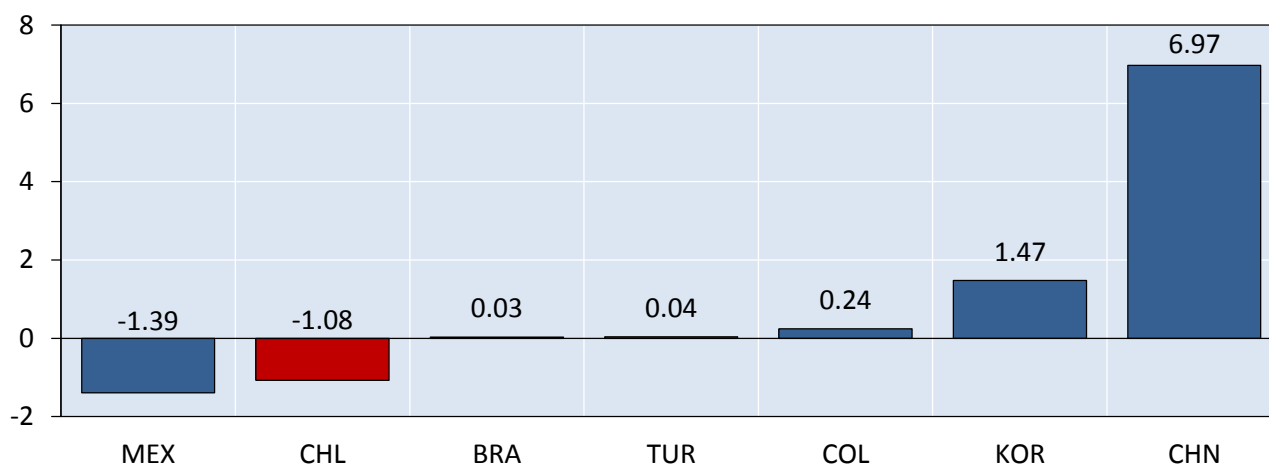
Source: OECD Income Distribution database, <http://oe.cd/idd>.

### Slowing growth will make it hard to keep up the pace of social progress

Chile's economy relies heavily on natural resources, with copper representing more than half of Chile's exports. Growth in the past was mainly driven by investment in commodity-related sectors. Total factor productivity (TFP) growth, by contrast, was stagnant until recently. This contrasts with other large emerging economies, some of which had exceptionally rapid TFP growth (Figure 1.3). The stagnation of Chile's TFP growth is mainly driven by sectors intensive in natural resources such as mining. If mining is excluded, TFP growth has been positive since 2010.

**Figure 1.3. Total factor productivity growth has been much lower than in other emerging economies**

Average annual TFP growth in percent, 2007-2014



Source: OECD Economic Outlook database.

Sustaining the pace of social progress that Chile has experienced over the last decades will be challenging given the weaker investment outlook for the years to come. Even though commodity prices are still high by historical standards, they have fallen sharply in the last two years and there is a widespread view that the decline in copper prices will persist for some time. This has already affected the investment plans of mining companies, which cut investment by a third between 2012 and 2014. To support domestic demand, the central bank decreased policy interest rates, keeping them close to historical lows since October 2014. The resulting exchange rate depreciation has cushioned the economy from the falling terms of trade by boosting exports and investment in non-mining sectors. Also fiscal policy is supporting activity, taking advantage of a robust fiscal situation with a near absence of net debt. Still, under a longer-term perspective, this end of the commodity boom highlights the need to diversify the economy and boost productivity outside of commodity-related sectors.

### **The government has embarked on major reforms to build a more inclusive society and promote growth**

Recognizing the important challenges ahead, the Chilean government has put in place an ambitious reform agenda including taxes, education and labour to strengthen income distribution and improve the quality of public services. In 2014, Congress approved a tax reform bill seeking to raise revenues by three percentage points of GDP to fund higher social spending and investment in education and health care and to help narrow inequality. The reform removed tax-induced incentives for business to retain profits instead of distributing them to shareholders by taxing dividends on an accruals basis, effectively broadening the tax base. The reform also included a broad shift towards environmental taxes in line with OECD recommendations and measures to reduce international tax avoidance which are also positive.

Chile has also embarked on wide-ranging education reforms. The government has introduced new legislation ending profits, tuition fees, and selective admission practices in any privately-owned primary and secondary school receiving state subsidies. It has sent a new bill to Congress to reform early childhood and pre-primary education and improve teacher pay and conditions. These reforms are very welcome as they will bring Chile closer to OECD best practice. The government has also sent to Congress a labour reform bill that includes an increase in the scope of collective bargaining rights to include apprentices and contracted workers, and more negotiating rights for labour unions. It also prohibits companies from replacing striking workers and demands that female workers are included in negotiations.

Finally, the government has launched three ambitious agendas. First, a decentralization and development agenda to reduce spatial inequalities by better adapting public policies to regional and local needs and opportunities. Second, an agenda for productivity, innovation and growth, designed to lay the groundwork for a more balanced and diversified development across sectors, enhancing strategic areas that allow creating quality jobs and increasing salaries in a sustainable manner over time. Third, an energy agenda, aimed at facilitating investment in electricity generation to reduce bottlenecks (including through a wide use of renewable energy sources), improving energy efficiency, and reducing households' energy costs, amongst others.



## But additional efforts are needed

Chile faces the challenge of improving social and environmental outcomes while accelerating medium-term growth. Policy reforms need to be aligned with all three goals as otherwise, in spite of the best intentions, Chile will not be able to achieve higher welfare. This publication investigates how Chile can address this challenge, focusing on three aspects in particular:

- **Boosting productivity outside of commodity-related sectors through sound macroeconomic and structural policy settings:** While Chile's macroeconomic policy settings are supportive of growth (**Chapter 2**) Chile has ample room to further improve other framework conditions. Product market regulations still hamper competition in some sectors and the competition policy framework lacks an effective merger control regime. Moreover, the country still lags behind most OECD countries with respect to regulatory management (**Chapter 3**). There are also important weaknesses in Chile's innovation system that limit private participation in R&D investment and innovative entrepreneurship (**Chapter 4**). Chile's geographic location and its export profile make the country's economic performance highly dependent on its maritime infrastructure. While the infrastructure is in relatively good shape overall, issues related to port governance and coastal shipping restrain competitiveness and thus deprive the country of important growth opportunities (**Chapter 5**). Through reforms in all these areas Chile can strengthen competition and, hence, lift productivity. The National Agenda for Productivity, Innovation and Growth, which President Michelle Bachelet launched as part of her commitments in her first 100 days in office, is an important step in this direction. However, while competition can also promote inclusiveness by lowering prices, it will encourage firms to invest in new technologies and knowledge-based capital, which will increase the demand for specific skills and render others obsolete. A high-quality education system that supports the formation of relevant skills (**Chapter 6**) and effective active labour market policies that relocate displaced workers (**Chapter 7**) need to accompany pro-competition reforms to fully reap their benefits.
- **Better using policies to reduce inequalities in living standards and cushion the effects from lower growth on vulnerable groups:** Education and the skills and knowledge it provides strongly influence one's life chances. Chile's education system does currently not provide for equality of opportunities, with the impact of socio-economic status on student performance being one of the strongest in the OECD. The major reforms of the education system instituted by the government should help improve equity, but the transition period is likely to present important challenges that need to be addressed (**Chapter 6**). Chile also suffers from strong labour market inequalities. Female labour market participation is among the lowest in the OECD, youth face severe difficulties in finding employment, and the market is heavily segmented with many workers in non-regular work arrangements (**Chapter 7**). While promoting equity in the education system and the labour market will help reduce market income inequality (i.e. inequality before taxes and transfers), Chile has ample room to further reduce inequality by enhancing its social policies and strengthen the redistributive effect of its tax and transfer system (**Chapter 8**). This likewise applies to the health care system, which is currently characterised by high out-of-pocket costs and limited pooling (**Chapter 9**). Chile's inequality also has a strong spatial dimension, with well-being varying substantially across regions. The government's decentralisation and regionalisation reforms should help address this issue, but complementary measures are needed to ensure their effectiveness (**Chapter 10**). Reforms to raise equity and well-being will also contribute to higher economic growth. For instance, improvements in the education system will foster human capital accumulation, a more inclusive labour market will allow better using all available talent, and improvements in health outcomes will enable workers to be more productive.
- **Ensuring that economic growth does not lead to environmental degradation:** Chile's strong economic growth with heavy reliance on natural resources has come at considerable environmental costs. While economic growth usually comes with higher pressures on the environment, some growth-enhancing reforms can help preserving it by creating incentives to promote investment in green technologies. While the Chilean government has made important steps to reduce the environmental impacts of growth, including the establishment of a Biodiversity and Natural Protected Areas Service which is currently discussed in Congress, work remains to be done in several key areas, including environmental taxation as well as the management of waste, water and industrial chemicals (**Chapter 11**).

## 2. Maintaining a growth-supporting macro-economic policy framework

**Solid macroeconomic fundamentals have successfully put Chile on a path of sustainable and inclusive growth. However, like other countries relying on exports of commodities, Chile is now facing a more challenging external environment. After a long phase of strong economic growth, business confidence has declined and the economy has slowed down sharply since the end of 2012 as declining copper prices and lower demand from China have reduced the terms of trade and investment. Together with expectations of the normalization of monetary policy in the United States, this has contributed to a sharp depreciation of the Chilean peso, which has put upward pressure on inflation. The ending of the commodity boom means that it will be harder for the mining sector to be an engine of growth and fiscal revenue. In this environment, maintaining the sound macroeconomic framework is essential, but fundamental reforms to diversify further the economy and boost productivity are required to sustain inclusive growth.**

### **The external environment that supported growth is shifting**

As the largest producer of copper in the world, Chile benefited immensely from the upswing in commodity prices that started a decade ago, and which, together with low international interest rates, had important macroeconomic implications. First, they provided a strong impulse to GDP growth which, during the last decade and with the exception of the 2009 financial crisis, was higher than in most OECD countries. Second, it attracted large capital inflows as investment rates, especially in mining, rose significantly. Mining investment grew from approximately 2% of GDP in 2002 to almost 7% of GDP in 2012, generating large spillover effects on other sectors and a large impact on the current account.

This environment is now shifting as commodity prices have declined sharply and tighter external financial conditions are expected as the United States has started to normalize monetary policy. Although commodity prices are still high by historical standards, their significant drop in the last two years has put an end to the so-called commodity super cycle. The widespread view that the decrease in copper prices will persist for some time to come has affected the investment plans of mining companies. Following the fall in commodity prices (a fall of 40% since the 2011 peak) there has been a sharp decline in mining investment (a cumulative decline of 33% between 2012 and 2014 according to the Central Bank of Chile's most recent Monetary Policy Report).

### **Maintaining a sound macroeconomic framework to support adjustment to the new external environment**

Chile has a very sound macroeconomic framework that strengthens the resilience of the economy in the face of shocks, notably copper price volatility. This framework is based on a responsible and predictable fiscal policy rule that isolates expenditures from the business cycle and seeks to build up a large financial buffer, an inflation-targeting regime (with a flexible exchange rate) administered by an autonomous Central Bank, and a prudent regulatory and supervisory framework governing the financial system. For instance, the fiscal rule helped Chile in the early part of the commodity boom to run current account surpluses by forcing the country to save a substantial part of the windfall. The fiscal surplus grew from 2.1% in 2004 to close to 8% of GDP in 2007, allowing the country to save more than 10% of GDP in sovereign wealth funds.

In the second half of the period, the countercyclical response to the financial crisis, reconstruction spending related to the 2010 earthquake and tsunami, the increase in production costs in mining and the internalisation of what then seemed to be permanently higher commodity prices, significantly reduced fiscal surpluses, which then turned into deficits. But since the fiscal situation remained robust – notably by the near absence of net debt – the government has room to respond to the slowdown in activity. A strong fiscal impulse to the economy is planned in 2015, including a 27.5% increase in public investment, a 10.2% rise in education spending, and an 11.8% increase in infrastructure investment. However, the stimulus should be temporary, reflecting decreasing copper prices as well as uncertainties about the effect of the recent fiscal reform on tax revenue collection.

Similarly, the inflation-targeting framework allows for countercyclical monetary policies, enabling the exchange rate to absorb adverse external shocks. For instance, allowing the exchange rate to depreciate (around 15% in real terms since early 2013) has been an effective mechanism to dampen the recessionary effects of lower terms of trade on activity and employment. Currency depreciation has also led to a notable reduction in the current account deficit, which in 2014 was more than 2 percentage points of GDP lower than in 2013. However, the weaker exchange rate influenced the dynamics of inflation, and has put upward pressure on prices. Consumer prices rose by 4.7 percent in 2014, which is above the Central Bank's target range of 2 to 4 percent. Nonetheless, inflation expectations remain well-anchored at 3%, the centre of the Central Bank's tolerance range.

Further depreciation of the exchange rate and higher long-term interest rates in the United States could also affect the financing costs for firms, as many Chilean corporates have issued foreign currency bonds in various financial markets (Bank for International Settlements, 2014). Since 2012, there has been an important change in the level of foreign debt issued by Chilean firms. Evidence suggests that the recent depreciation has not had a significant impact on the balance sheets of corporations, thanks to limited currency mismatch (Central Bank of Chile, 2014). However, further depreciation and higher international interest rates could have a bigger impact on firms with a large currency mismatch.

### **Implementing further fiscal reform to help sustain inclusive growth in the long run**

As the mining sector's contribution to future growth has been diminished and employment growth is constrained by very low unemployment and a fall in the growth rate of the working-age population, fundamental reforms to boost productivity will be required to sustain long-run growth.

The government has recently introduced important reforms that help to increase fiscal space. In 2014 it passed a tax reform to raise government revenue as a share of GDP to finance an education reform; to improve the level of fairness in the tax code; and to reform several aspects of the corporate tax system to mitigate distortions and opportunities for tax avoidance. This reform will contribute to reduce regressivity and close loopholes, but may dampen investment as a result of the increase in the corporate tax rate. And even when the reform is fully in place in 2018, tax collection over GDP will still be significantly lower than the OECD average (34.1%). Chile collects very little through its personal income tax (1.4% of GDP versus 8.6% of GDP in the OECD) and social security contributions (1.4% of GDP versus 9.0% of GDP in the OECD, although this is partly explained by the mandatory private pension and health-care systems).

Finally, while Chile's fiscal rule has worked well and has helped to ensure the lowest sovereign spreads in the region, there is scope to refine further the fiscal framework. The Fiscal Advisory Council was given legal status in 2013, a welcome step, but the new Council needs more autonomy, as its members are appointed by the Minister of Finance, and the Budget Director serves as its Secretary. Greater autonomy would allow the Council to provide a more objective and credible assessment of fiscal policy and ensure the government's compliance with the fiscal rules. The public financial management framework is robust, but could be enhanced to improve transparency and accountability. For instance, the government's public finance reports describe short-term and long-term fiscal policy, including contingent liabilities and growth and spending assumptions which have proven useful to assess the fiscal stance. But to provide more predictability, medium-term budget targets could be embedded in the rule itself and be consistent with maintaining a strong government net financial position, as recommended in recent OECD Economic Surveys and Policy Reviews.

### **Key OECD recommendations**

- Continue using the inflation-targeting regime with a fully flexible exchange rate regime and maintain the responsible and predictable fiscal policy rule that isolates expenditures from the business cycle.
- Continue efforts to ensure that the administrative implementation of the 2014 tax reform serves to increase the transparency of its application for business.
- Further enhance the transparency and accountability of the fiscal framework by strengthening the independence of the Fiscal Advisory Council.

### 3. Making the regulatory framework more growth-friendly

Chile has made progress over the past decade in making its business environment friendlier towards economic growth and development. Nonetheless, there is room for further improvement. Chile could enhance regulations, for instance by reducing the complexity of regulatory procedures. Strengthening the competition policy framework would help even more. In addition, restrictions on services trade could be eased further. Since a good regulatory framework requires strong institutions and high-quality processes through which regulations are designed, implemented and enforced, Chile's regulatory management system also needs to be strengthened.

#### The absence of key features in the competitive environment are holding back growth

Persistent lack of strength in Chile's productivity record can be partly traced to weaknesses in the competitive environment. While Chile has made important improvements to its competition policy framework, some crucial features are still missing, including a strong merger control regime and an appropriate legal framework to carry out market studies. Tackling these issues would be an important step towards fostering competition and, hence, encouraging firms to invest and become more innovative and efficient. Moreover, entry barriers in certain sectors limit the possibility for adopting new technologies (e.g. by reducing firms' flexibility in using certain innovative solutions or by making it more difficult for them to reduce uncertainty or the time for bringing new products to market) and hamper the re-allocative process that can help to take full advantage of new innovations. Finally, the regulatory policymaking framework lacks some key features (e.g. regulatory impact assessment) that would make sure that regulations are designed in the best way, and good practices in rule-making procedures are rather limited.

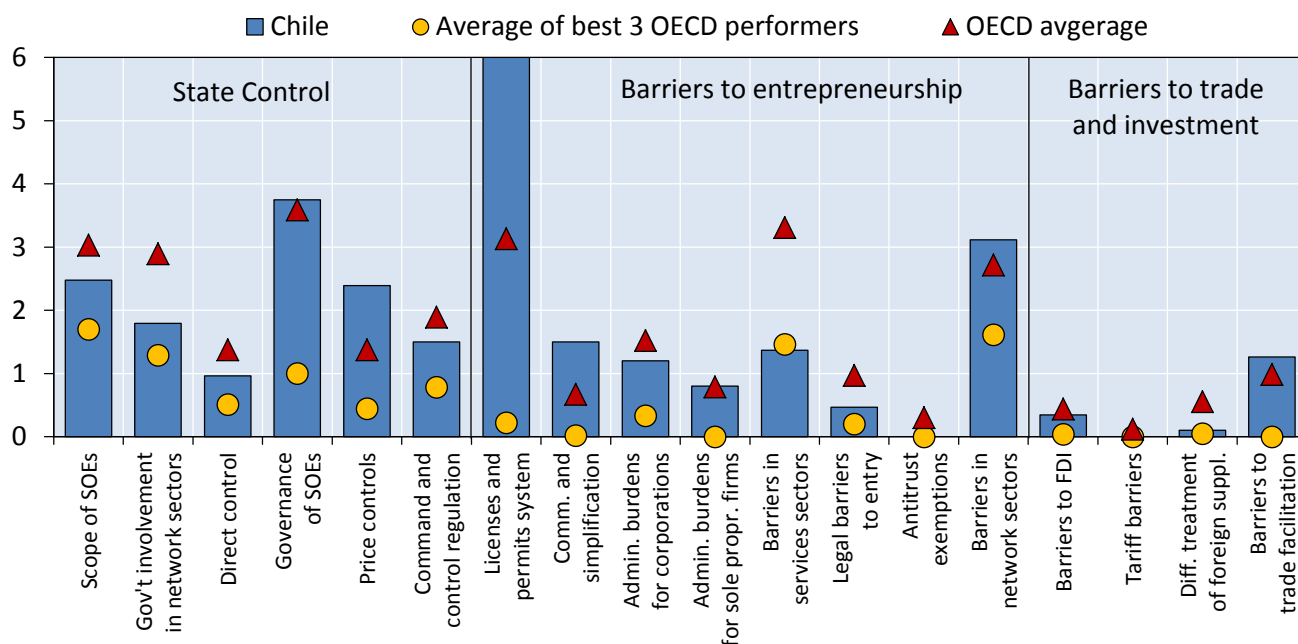
#### Removing domestic barriers to competition

In light of the adverse impact of strict product market regulations on productivity growth, the OECD recommended in the past that administrative burdens on start-ups be further reduced, registration and notification requirements be eased and the bankruptcy regime be simplified. Major reforms in each of these areas have been undertaken, notably a law in 2013 that allows business to be started in only one day, and a bankruptcy law last year that makes exit much easier (see Chapter 4).

Nevertheless, product market restrictiveness for Chile remains above the OECD member average, based on a standardised measure of stringency (Figure 3.1). In some sectors, the state's involvement in business operations can be further aligned with best practice. For instance, the government still provides pricing guidelines for road transport companies and does not take the costs of water purification and wastewater treatment into account when setting the prices for users other than households. Regulatory procedures are very complex, involving extensive licensing requirements, and competition in some network sectors such as rail and gas is hampered by still high entry barriers. Simulations based on countries with similar levels of restrictiveness (i.e. France and Mexico) suggest that aligning product market regulation with OECD best practice could boost GDP by  $\frac{1}{4}$  to  $\frac{1}{2}$  per cent at a five year horizon.

The governance of state-owned enterprises (SOEs) can also be improved. In general, Chilean SOEs do well in matters relating to equal treatment of shareholders or stakeholders' engagement. However, there is a need to continue strengthening the governance of SOEs. For instance, political appointments to the boards of SOEs should be avoided; rather, the boards should consist of independent directors, ideally with private-sector experience and complementary skills. This is specifically the case of the state mining company (Enami) and the state oil company (Enap).

**Figure 3.1. Product market regulation remains restrictive in some areas**  
 OECD Product Market Regulation index, from 0 (least restrictive) to 6 (most restrictive)



Source: OECD Product Market Regulation database, [www.oecd.org/eco/pmr](http://www.oecd.org/eco/pmr).

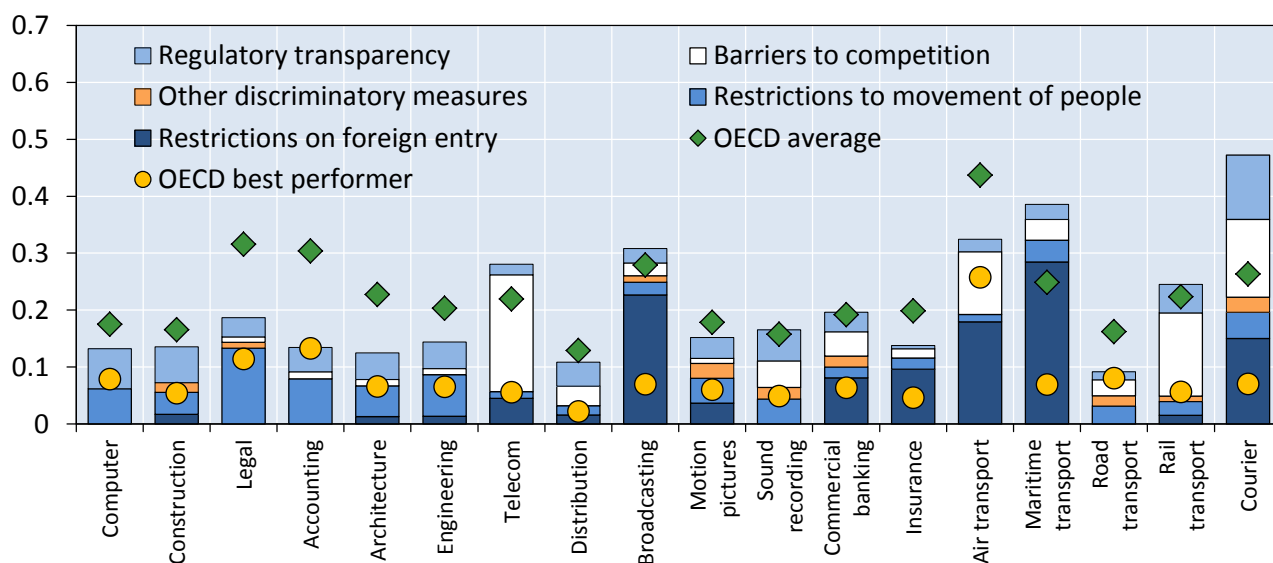
### Easing restrictions on services trade

Services account for only 14% of Chile's gross exports, but 30% of value-added exports and well over half of inward FDI, indicating that Chile's exports of goods rely intensively on services inputs. Cost effective state of the art services are therefore of utmost importance for the competitiveness of the Chilean industrial sector. Services account for 60% of GDP and two-thirds of total employment, which implies that earnings and aggregate demand depend crucially on productivity in services sectors.

Chile could further improve the efficiency of its economy by prioritising reforms that enhance competition in services markets, particularly by strengthening pro-competitive regulation in sectors that are essential to value chains such as maritime transport and telecommunications (Figure 3.2). Chile's Internet penetration rate is well below the OECD average at 14 fixed broadband Internet subscribers per 100 inhabitants, and the price of broadband Internet subscriptions exceeds the OECD average. Foreign ownership of telecommunications operators is not restricted and Chile has recently made significant strides to bolster competition in the market, in particular as regards interconnection regulation and number portability. However, the rules applying to the dominant supplier in fixed line services need to be further strengthened for the regulatory framework to be aligned with best practice. Conversely, in the mobile services market, the setting of access charges and interconnection prices by the regulator rather than market forces is only beneficial to competition to the extent that the general competition framework does not entirely prevent coordinated price-setting by large incumbent operators. Finally, higher independence of the regulator and supervisor of insurances and capital markets (*Superintendente de Valores y Seguros*) would support further transparency in the Chilean financial market.

Chile also takes a rather restrictive regulatory stance towards maritime transport services, mirroring the situation for the underlying port infrastructure (see Chapter 5). Chile maintains a foreign equity limit of 49% to register vessels (Decree-Law 2222), along with a requirement that the majority of the Board of Directors of a shipping company must be Chilean nationals. Foreign participation in the cabotage market is restricted. Easing these entry restrictions could significantly improve Chile's participation in global value chains.

**Figure 3.2. Chile has room to further ease restrictions on services trade**  
 OECD Services Trade Restrictiveness Index, from 0 (least restrictive) to 1 (most restrictive)



Source: OECD Services Trade Restrictiveness database.

### Enhancing regulatory management processes

While in Chile, national regulations provide the general framework for administrative procedures and an efficient state administration, the lack of a comprehensive regulatory reform programme has reduced the possibilities to achieve even better economic outcomes and unleash resources to boost productivity. Strong regulatory governance is needed to move forward and, according to OECD practice, this will require institutional leadership and oversight to drive reform priorities and provide early warning to policy makers of regulatory issues that need to be fixed; evidence-based impact assessments to promote effective regulation in support of policy coherence; paying more attention to the voice of users who need to be part of the policy process; a renewed emphasis on consultation, communication, co-operation and collaboration across all levels of government; reviewing the role of regulatory agencies and the balance between private and public responsibilities for regulation, to secure accountability and avoid capture; and tools to evaluate and measure performance and progress and to communicate the costs and benefits of reform.

In Chile there are a number of institutions that play a relevant role in the preparation and implementation of regulations. The Executive has a predominant role in the system, but also a concurrent role in the preparation of laws with the Legislative. The Chamber of Deputies, along with the Senate, is responsible for adopting laws, and it has also incorporated a Law Evaluation Department that is conducting ex-post reviews.

The government's Agenda for Productivity, Innovation and Growth, which is co-ordinated by the Ministry of Economy and involves the participation of other ministries and state services (see Chapter 4), constitutes a good opportunity to use regulatory policy as a driver to reform the policymaking framework. The ability of the oversight body to co-ordinate the government-wide implementation of regulatory policy effectively should be one of the main considerations in deciding which institution could play this role. Together with Norway, Chile is the only OECD country not having any form of regulatory oversight body performing different functions.

Chile has made progress in making regulations more accessible and communicating administrative requirements. There are registries that gather all regulatory inventories and make information on the legal framework available for users. For instance, the registry [www.leychile.cl](http://www.leychile.cl) is a free legal database of the Library of Congress that offers information about more than 245 000 legal instruments. However, Chile lies behind most OECD countries in ensuring that the public can systematically participate in the rule-making process: Even though a recent law (Law N° 20.500) made public participation compulsory, specified general criteria for it, and established permanent bodies within the administration to ensure compliance, there is still no

standardized practice for the whole of the state administration on how to conduct regulatory consultation, including its length, scope, timing, and underlying procedures.

Beyond consultation, Chile does not have guidelines and standards for the implementation of better regulation practices. It has some types of legal controls through the role that the Ministry of the Presidency (*Ministerio Secretaría General de la Presidencia*, SEGPRES) plays at the end of the preparation of draft proposals. Importantly, the country does not make a systematic use of Regulatory Impact Assessment (RIA), which is now standard practice in most OECD countries, which might reduce the effectiveness and efficiency of regulations. Efforts have been made to introduce some types of *ex-ante* impact assessments (e.g. *Estatuto PyME*), but with limited success. There is no legal requirement for the benefits of new regulations to outweigh their costs, nor for the regulation to be underpinned by an explanation for its rationale. In light of the opportunities mentioned above, the government of Chile requested the OECD to carry out a Regulatory Reform Review, which will be completed during the last quarter of 2015.

### Strengthening the competition policy framework

Chile's 2009 competition law supports effective policy and enforcement against anticompetitive behaviour. However, amendments to the law are needed in order to establish an effective, efficient and transparent merger control regime. Merger control constitutes an essential component of an effective competition policy, which allows assessing the impact of mergers on consumer welfare and economic efficiency. Chile's current system for reviewing mergers lacks clear merger control jurisdictional and substantive criteria, relies on general antitrust procedures which were not designed for merger control purposes, and lacks streamlined merger review powers between the Competition Authority (*Fiscalía Nacional Económica*) and the Competition Tribunal (*Tribunal de la Competencia*). Tackling these problems would allow mergers to be selected, notified and reviewed in a timely, effective and predictable fashion, to the benefit of economic efficiency and consumer welfare (OECD, 2014a).

Chile also lacks an appropriate legal framework to carry out market studies, together with adequate resources to effectively perform them. Market studies provide competition authorities with an in-depth understanding of how sectors and markets work. They are conducted whenever concerns on the functioning of a market arise, that can be caused by factors such as firm behaviour, market structure or consumer conduct amongst others. Market studies can lead to recommendations to private firms or public bodies aimed at removing any unnecessary obstacles to the working of markets, and if anticompetitive behaviours are detected they can lead to the opening of antitrust investigations. Many OECD jurisdictions are increasingly relying on this tool to promote competition.

The current government is committed to reforming the competition law framework to ensure effective competition enforcement. A draft competition bill was submitted to Congress in March 2015, covering a new set of sanctions for cartels, a reformed system for merger control and market studies. The proposed reform is ambitious, but in line with OECD best practices and OECD recommendations to Chile. The core of the reform includes a proposal to increase the effectiveness of sanctions against illegal cartels: it promotes the introduction of criminal sanctions for executives and a higher ceiling for monetary fines. The OECD has consistently promoted a strong and effective system of sanctions to stamp out hard-core cartel behavior, which is considered the most egregious violation of competition. The new bill would also address the above mentioned concerns by introducing a more effective and transparent merger control regime and granting the *Fiscalía Nacional Económica* formal powers to perform market studies.

## Key OECD recommendations

- Develop binding standards and guidelines to further improve the rule making process. Standardize participation and the systematic use of regulatory impact analysis.
- Reduce further the stringency of certain product market regulation, notably the complexity of regulatory procedures and the state's involvement in business operations. Perform reviews to streamline the existing stock of rules, for instance by applying the OECD's Competition Assessment Toolkit.
- Enhance competition in some services markets, particularly by strengthening pro-competitive regulation in sectors that are essential to value chains such as telecommunications.
- Accomplish the reform of the merger control regime to establish a clear definition of reportable mergers, a merger notification mechanism and notification thresholds, and more transparent, effective and timely review procedures and related enforcement powers.
- Swiftly proceed with the plan to grant the Fiscalía Nacional Económica clear and express legal powers to undertake market studies and issue recommendations, including the power to compel information from private firms and public bodies.
- Increase the independence of some SOEs, such as the state mining company (Enami) and the state oil company (Enap).



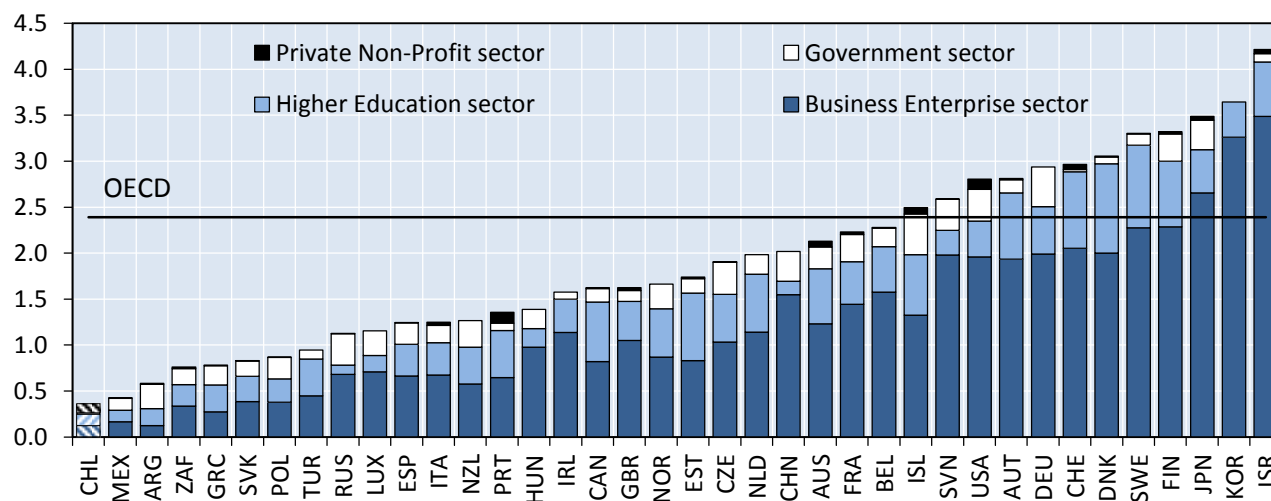
## 4. Fostering investment in R&D and innovation

Chile's low total factor productivity growth is partly linked to weaknesses in its innovation system. In addition to influencing trend productivity growth, innovation is critical for diversifying the economy and making it less dependent on mining. Chile has improved its policy settings in recent years, but R&D and innovation spending – particularly by the business sector – remain very low. While the regulatory reforms discussed in the previous chapter will help opening up pathways for innovation, investment, and entrepreneurship, Chile also needs to act on other fronts to fully unleash the economy's innovation potential. This can be achieved through improved tax benefits for R&D investment, easing business entry and exit, improving industry-science co-operation, as well as enhancing innovation promotion programmes and the institutional setup. Chile's new Productivity Agenda is a major step in the right direction.

### R&D intensity remains low

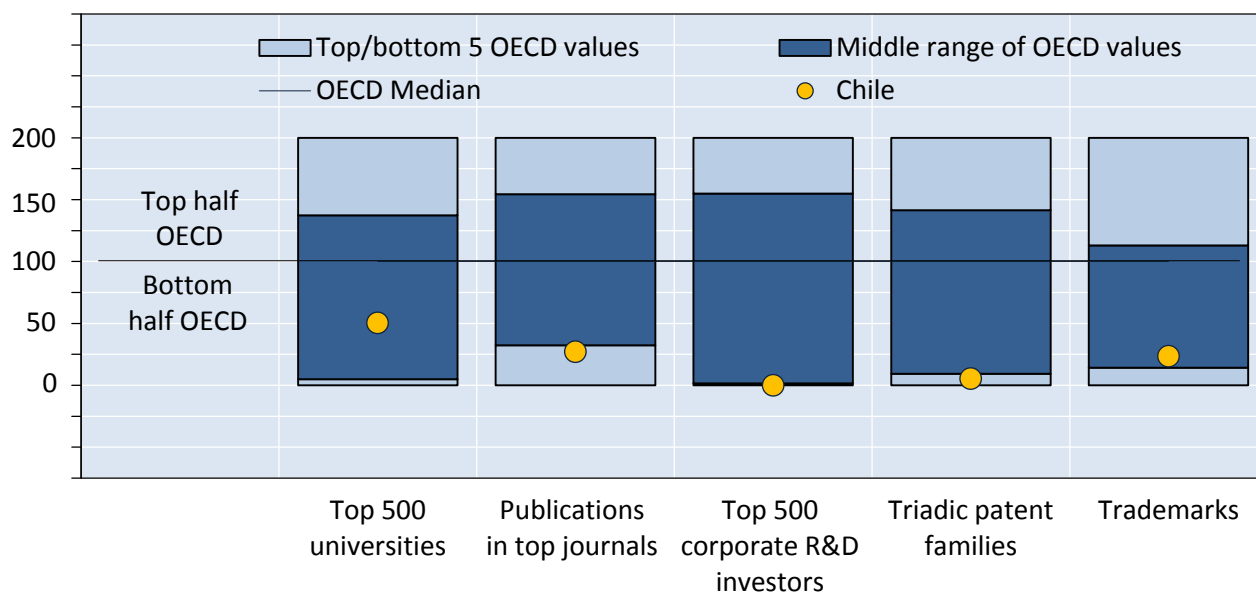
Productivity takes time to pick up in response to improved policies, and policy settings for innovation have already become quite good for business. Chile's stable macroeconomic policies and trade openness provide useful preconditions for long-term investments in R&D and, even though restrictions on competition could be reduced further (see Chapter 3), Chile's policy settings rank well when compared with other Latin American countries. Still, while R&D expenditure has slightly increased in recent years, from 0.3% in 2007 to 0.4% in 2013, it remains the lowest in the OECD, with the limited R&D expenditure heavily concentrated in the publicly-funded university sector (Figure 4.1). Business sector participation is especially low, but has started to increase, with around 600 firms stating that they routinely invest in R&D, a figure which has doubled in the past few years. Nevertheless the country scores poorly on measures of innovation outputs such as patents and top scientific publications (Figure 4.2).

**Figure 4.1. R&D intensity is low, especially in the business sector**  
Expenditure on R&D by sector of performance, % of GDP, 2013 or latest available year



Source: OECD (2014), *Main Science and Technology Indicators Database*.

**Figure 4.2. Chile's innovation performance lacks behind that of other OECD countries**  
 Normalised index of performance (measured per GDP) relative to the median values in the OECD area



Source: OECD (2014), *Science and Technology Outlook*.

### Encouraging greater private R&D investment through tax incentives

To promote private participation in R&D investment, an initial tax benefit for R&D expenditures was implemented in 2008. A modification to this tax benefit in 2012 made in-house R&D activities eligible for the tax credit. Other important changes to the law include a threefold increase in the annual tax ceiling for the benefit, to USD 1.2 million, and lifting of the 15% cap as a share of gross income. After this modification, the flow of new applicants increased fivefold. The existing programme is still most relevant for larger-sized firms, since the credit is only redeemable against profits. Evidence from the OECD's work on new sources of growth (Andrews and Criscuolo, 2013) suggests that refundable credits can help dynamic smaller firms, including start-ups that do not yet have profits to immediately benefit from non-refundable credits. Over time, Chile should monitor the implementation of the scheme closely and consider adopting refundable credits as a complement to its recently revised scheme. To enhance incentives among larger firms in the future, an incremental element could be added to the existing scheme to provide enhanced incentives (OECD, 2013a).

### Improving the climate for entrepreneurship

Reforms over the past few years have made starting a business much easier. In May 2013, a new law to allow the opening of a firm in one day took effect. This builds on a reform that came into effect in 2011 and which streamlined procedures to start a business from 22 to 7 days. The creation of the Start-Up Chile entrepreneurship programme in 2010, an initiative of the Ministry of Economy and CORFO, aims to make Chile the leading innovation hub in Latin America, along with a number of complementary programmes that help to facilitate international technology transfer, whose funding was recently boosted. The government recently announced plans to expand the Start-Up Chile programme, increasing funds by 47% and facilitating SME's access to credit through the *BancoEstado*. A new bankruptcy law was passed in 2014, which addresses a longstanding problem with procedures frequently lasting five years, in comparison to OECD countries where the average is usually less than ½ of a year. The new law is an important step in improving business dynamism. Better exit policies should improve reallocation of resources and, by reducing uncertainty, stimulate both start-ups and financing. But Chile also needs to improve entrepreneurs' access to capital, for instance by simplifying requirements for foreign venture capital funds to operate locally.

## Addressing the shortage of qualified researchers

Human capital seems to be another obstacle to productivity improvements for Chilean firms. Innovation and R&D activities are heavily dependent on well trained workers, especially those with postgraduate qualifications. Despite some efforts to increase the number of Masters and PhD students domestically and internationally, Chile still lacks sufficient quantities of advanced human capital in key science, technology and engineering management (STEM) fields (OECD, 2014b). Moreover, weaknesses in management practices limit the ability to make efficient use of existing skills in the business sector (Andrews and Criscuolo, 2013). To tackle these problems, the government should expand financial support for advanced degrees with substantial technological content, and facilitate business sector integration of graduates. This is particularly relevant for the *Becas Chile* programme (that pays for tuition at top overseas graduate programmes) since less than half of the PhD students benefitting from it are in STEM fields.

## Expanding successful innovation promotion programmes

Chile has several well-designed innovation promotion programmes, which seek to address a long-standing divide between businesses and universities in Chile's innovation system. But programme scale and take-up have not been large enough yet to make a substantial impact. In fact, less than 1% of companies in the formal sector have applied and received support from these. To boost take-up and ensure the cost-effectiveness of programmes, the authorities should design them so that they can be adequately evaluated. Based on a regular review of the programmes, those that have been positively evaluated should be enlarged and given an enhanced degree of policy stability, while those that are found to be inefficient should be closed down or revised.

The government's Agenda for Productivity, Innovation and Growth goes a long way to addressing the fragmented institutional set-up for innovation. It includes 47 different measures, focused around promoting the diversification of production, boosting sectors with high growth potential, the expansion of programmes and resources available for early-stage start-ups, increasing productivity and competitiveness of businesses and generating a new impetus to exporting. Among the most notable of these endeavours is the creation of a Productivity Commission that will help to ensure that productivity is the focus of policymaking across the government, and help to identify policies.

A new effort is being devoted to *Programas Estratégicos* which foster public-private co-ordination and could help to promote clusters. Indeed, greater concentration of support in areas that complement natural advantages can be appropriate if done in a way that emphasises industry-science co-operation (Warwick, 2013). Chile's copper deposits for mining, waters for fish farming, soils for wine making and clear skies for astronomy are an important asset for developing science and cross-links that can help generate a local innovation eco-system and strengthen technological development. Some caution is warranted, as the risks of backing the wrong horse can be considerable, and recent OECD reviews suggest that addressing co-ordination problems and focusing on creating networks, such as a framework for dialogue among government, private firms and other stakeholders, is the most effective. Efforts should seek to build on comparative advantage, with caution exercised to avoid creating opportunities for rent-seeking behaviour, through continued strong involvement of the private sector.

## Key OECD recommendations

- Strengthen innovation policymaking by fully rolling out the Productivity Agenda, facilitating industry and research linkages, and promote public-private co-ordination to exploit natural endowments, helping to complement comparative advantages.
- Regularly review innovation programmes, close down or adjust inefficient ones, and expand those that are proven to work.
- Over time, make the R&D tax credit refundable for smaller firms, so that young innovative start-ups can more easily benefit, and consider adding an element to the scheme that enhances rebates for incremental investments.
- Expand advanced degree financial support in STEM fields, especially in the *Becas Chile* programme.
- Further boost access of entrepreneurs to global networks and venture capital, including by simplifying requirements for foreign venture capital funds to operate locally.

## 5. Upgrading Chile's maritime infrastructure

Chile's international trade relies heavily on its maritime infrastructure. Although the performance of the maritime infrastructure is currently good, there are various challenges to be addressed to remain competitive in this respect. The governance of ports needs to be improved as the system is administrated by many different actors that do this in an uncoordinated fashion and there are tensions between ports and their cities and some maritime services are closed to competition. An example is coastal shipping that is almost non-existent due to restrictive cabotage rules. Finally, a holistic view on freight transport could be stimulated by developing additional performance indicators on logistics performance.

### Chile's maritime transport infrastructure: relatively good, but challenges remain

Chile is more dependent on maritime trade infrastructure than many other economies, due to its geographical location, physical geography and export profile. Chile's exports account for 38% of GDP (OECD average is 27%), and approximately 95% of Chile's foreign trade volume is handled through its ports. Main exports of Chile include copper, forest and agricultural products. The competitiveness of these exports depends on the efficiency of specialised port complexes in North, South and Central Chile.

Chile's ports score well on various port performance indicators. The average ship turn-around time in most Chilean ports is relatively short, the productivity of most port terminals is high for Latin America and the introduction of one or more private concessionaires operating terminals has facilitated the application of international best practice. The port system of Chile is resilient to challenges posed by extreme weather events, due to adaptation measures and the presence of pairs of ports in each region (e.g. Valparaíso-San Antonio, Antofagasta-Mejillones) that could act as their substitutes in case of disasters, and provides inter-port competition in regular times.

Chile is currently undertaking an ambitious project to expand long-term container port capacity (*Puerto de Gran Escala*), in addition to the expansion plans already in the pipeline in various ports, in order to be prepared for projected demand in the 2020s. Shipping lines are currently engaged in a buying spree of the new generation of very large container ships, which will accelerate the upscaling of ship size on main maritime trade routes, resulting in cascading effects to the West Coast of Latin America. This underlines the need to upgrade and expand container port capacity planned in Chile (Michea, 2013; Brooks et al., 2014).

However, the relatively good performance of ports in Chile cannot be taken for granted. There are various challenges that Chile has to resolve in order to sustain good performance in the future. These challenges are related to port governance, coastal shipping and logistics indicators. Resolving these challenges will enforce Chile's port competitiveness and provide opportunities for future growth.

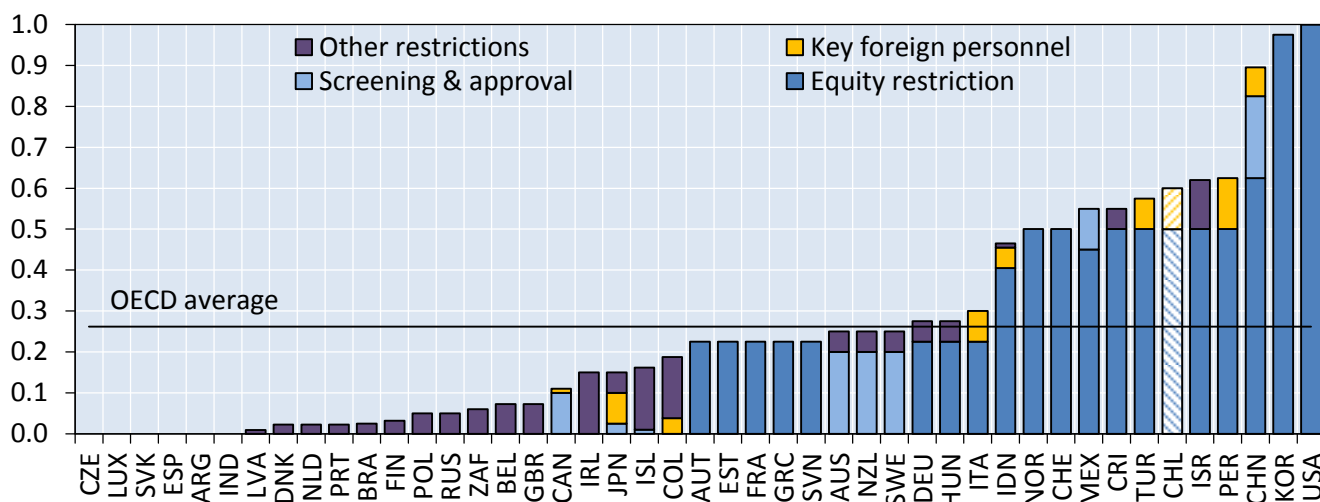
### Improving the governance of ports

One of the challenges of the ports in Chile is related to its governance. The mixed governance system relies on three types of ports: public ports, private ports open for public use and fully private (company) ports. This system is administered by different government ministries and agencies without much coordination, which results in permissions to create new company ports irrespective of the public ports and their concessionaires, the terminal operators. A holistic and integrated strategy on the Chilean port system is needed to provide more certainty to terminal operators to sustain their investments and planned terminal expansions. Institutional fragmentation also hinders effective hinterland strategies, so the integrated vision would need to include port hinterland connectivity, including rail and road infrastructure, as well as the different logistics services provided in and around ports, aligned to customs activities and trade facilitation.

Many ports in Chile are located in or close to city centres, which has resulted in traditional port-city tensions with respect to land use. Chile has recently established port-city committees to improve these relations, but it could go further and explore how the links between cities and ports could be mutually enforced. With respect

to certain maritime services (e.g. pilotage), Chile appears to be fairly restrictive, as illustrated by its rather high score for maritime transport on the OECD FDI Regulatory Restrictiveness Index (Figure 5.1). So liberalisation of the sector might be considered, which could decrease port costs (OECD, 2015a).

**Figure 5.1. Chile imposes strong restrictions on FDI inflows into the maritime transport sector**  
 OECD FDI Regulatory Restrictiveness Index, from 0 (least restrictive) to 1 (most restrictive)



Source: OECD FDI Regulatory Restrictiveness Database, <http://www.oecd.org/investment/fdiindex.htm>.

### Increasing the role of coastal shipping

Coastal shipping is underdeveloped in Chile, but presents huge opportunities considering Chile's long and stretched coastline. Most of the imported goods to Chile are handled in the two main container ports in Central Chile (Valparaíso and San Antonio) and then trucked to their final destination, including to the north and south of Chile. This has important implications for inter-modality; more freight rail connections might decrease total transport costs. Considering the stretched coastline of Chile and its many ports, it would make sense to facilitate coastal shipping on these long-range distances, which would reduce road congestion and reduce air emissions. The restrictive environment for foreign involvement in cabotage services is limiting competition in the coastal shipping market, with possibly negative consequences to logistics costs. Coastal shipping in Chile could be developed by liberalising the current cabotage legislation, which is unusually restrictive for a country that is otherwise very open.

### Improving the performance measurement of the transport system

A sound and comprehensive set of national-level performance indicators is critical to constructive high-level policy dialogue and effective implementation of strategies to improve logistics. In order to evaluate the impact of Chile's maritime sector, it is important to develop key performance indicators (KPIs) to track the competitiveness of freight transport services and logistics operations. Measuring the performance of a logistics system is a considerable challenge and very much a product of the type and quality of data a country already collects and chooses to collect in the future. Building on the existing Ministry of Transport and Telecommunications' data portal, a Logistics Observatory should be established to consolidate all existing freight transportation and supply chain data available in Chile. The Observatory can help government to diagnose logistics problems and to provide evidence for the policy-making process. A project supported by the International Transport Forum is under way, which will establish a Logistic Observatory for freight transport.

## Key OECD recommendations

- Rationalise the institutional framework related to public and private ports. Update and modernise port legislation accordingly to deal with institutional fragmentation and lack of competition in maritime services.
- Build upon existing national port development plans and produce an integrated long-term freight logistics strategic plan.
- Enhance mutual engagement of cities and ports, e.g. by a more systematic stakeholder engagement over strategic development and port impacts.
- Facilitate coastal shipping by liberalising maritime cabotage rules.
- Building on the existing initiatives at the Ministry of Transport and Telecommunications, institutionalise the collection of key performance indicators for Chile's maritime sector to support evidence based decision-making.

## 6. Improving the quality and equity of education

While Chile's performance in the OECD Programme for International Student Assessment (PISA) improved significantly in the early 2000s, this trend has decelerated recently and remains well below the OECD average. Moreover, the impact of socio-economic status on student's performance is one of the highest in the OECD. International experience suggests that effective ways to improve the equity of the compulsory education system are giving all students a strong start, supporting teachers at schools, and addressing issues of governance. The government has instituted major reforms of the education system with new legislation ending profits, tuition fees, and selective admission practices in any primary and secondary school receiving state subsidies. New bills sent to Congress will reform early childhood and pre-primary education and improve teacher career paths. As with any major reform, the transition period is likely to present challenges.

### The quality and equity of Chile's education system lag behind the OECD average

Access to education in Chile is broad and remains above the average of the Latin America and Caribbean (LAC) region for all levels of education, with a 2012 net enrolment rate of 85% in pre-primary, 93% in primary, and 84% in secondary education. Access to tertiary education doubled between 2000 and 2012, reaching a gross enrolment rate of 74%, above the OECD average of 71%. Educational enrolment is higher for higher-income families, but differences across income levels are lower than for other LAC countries (UIS, 2015).

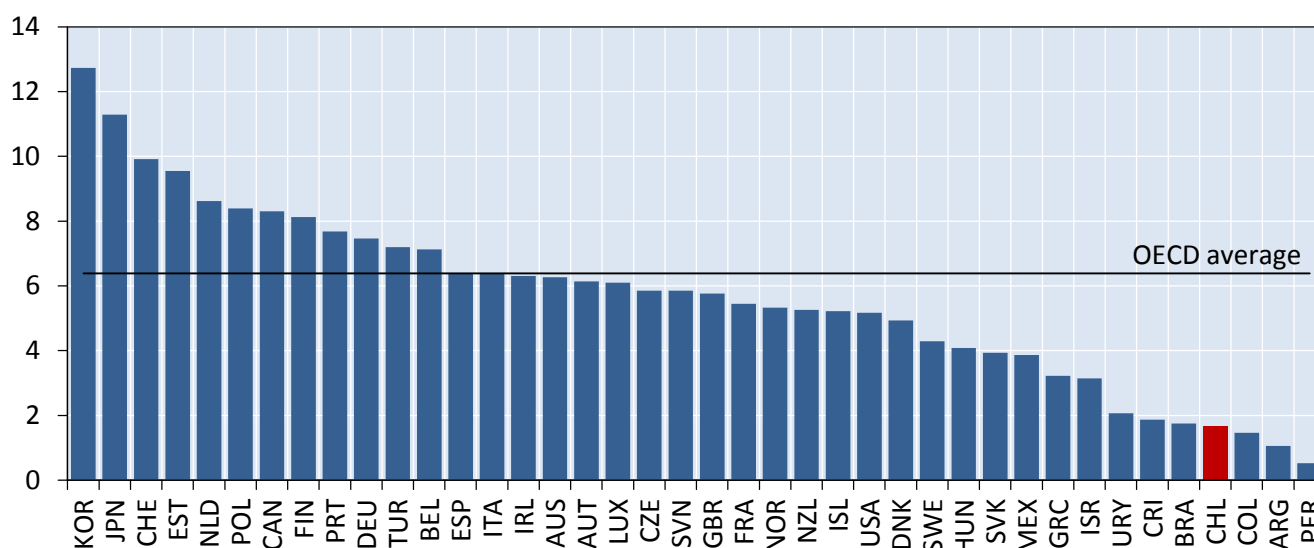
Chile performs better than the other seven LAC countries that participated in PISA 2012, but still worse than the OECD average. The performance gap with respect to the OECD average PISA 2012 score in mathematics is the equivalent of 1.7 years of secondary schooling. And while Chile made significant improvements in mathematics and reading between the PISA 2000 and 2009 cycles, the improvement in equity and quality decelerated in PISA 2012. Slightly more than half of 15-year-olds in Chile (51.5%) perform below level 2 in mathematics (OECD average 23.0%), meaning that they can only use basic algorithms to solve problems with whole numbers. This share has remained stable across most PISA cycles. Only about 1.6% of Chilean 15-year-olds are top-performers (scoring at levels 5 or 6 in PISA), and this percentage has even decreased from previous PISA cycles. The impact of socio-economic status on student mathematics performance in Chile is one of the highest among OECD and other participating countries (only smaller than that of Peru and the Slovak Republic). Moreover, Chile shows one of the highest correlations in the region between the quality of educational resources of schools and the socioeconomic status of the school's students (OECD/CAF/ECLAC, 2014).

Chile also has a below average percentage of "resilient" students as measured by PISA. Only 1.7% of students beat the socio-economic odds stacked against them and exceed expectations when compared with students in other countries – compared to an OECD average of 6.4% (Figure 6.1). To become resilient to social disadvantages children need to be engaged and motivated, hold strong beliefs in themselves and their abilities, and receive support from their teachers. There are thus tangible levers for policy makers to raise resilience.

Recently the government has passed a law ending profits, tuition fees, and selective admission practices in any primary and secondary school receiving state subsidies. New bills sent to Congress will reform early childhood and pre-primary education and the career path of teachers. While these reforms are very welcome and will bring Chile closer to OECD best practice, ensuring that the implementation of the reforms meets the expected social, political and pedagogical objectives will be a challenge. The government has also announced changes to the management of public schools as well as the financing and governance of higher education.

**Figure 6.1. Only a few Chilean students beat the socio-economic odds stacked against them**

Share of students that are in the bottom quarter of the PISA index of economic, social and cultural status, but perform in the top quarter of students among all countries after accounting for socio-economic status



Source: OECD (2013b), *PISA 2012 Results: Excellence through Equity (Volume II): Giving Every Student the Chance to Succeed*, Table II.2.4, <http://dx.doi.org/10.1787/888932964813>.

### Improving equity in Chilean education

An education system is equitable when it is both *inclusive* (all individuals reach at least a minimum level of skills) and *fair* (personal or social circumstances do not hinder the achievement of one's educational potential) (OECD, 2012). Education and the skills and knowledge it provides strongly influence one's life chances, including employment opportunities, wage, and health. Education also plays an important role for general patterns of social and income inequality and mobility. A lack of inclusion and fairness may lead to grade repetition and/or school dropout, both of which have high economic and social costs. Just over one in four Chilean 15-year-olds have repeated at least one grade at primary or lower secondary school – double the OECD average. Investing in equity thus pays off and goes hand in hand with quality and efficiency (OECD, 2013b).

Evidence shows that the earlier in education a government invests in equity, the higher the payoff will be for the individual and society. For example, PISA data shows that in 32 OECD countries, students who had attended pre-primary education for more than one year outperformed students who had not attended pre-primary education at all – in many countries, by the equivalent of well over a school year. Only one in five Chileans aged 0-2 years attends any sort of early childhood education and care programme (see Chapter 7). Investment in early childhood education and care is therefore vital for getting children off to a strong start, one of the main goals of the current education reforms. The creation of two new ministerial posts to oversee early childhood education and care is therefore very welcome.

At the system level Chile should implement policies that ensure equal access, end discriminatory student selection practices by institutions, avoid early tracking and defer student selection into academic or vocational programmes, make funding strategies more responsive to students' and schools' needs, and design equivalent upper-secondary education pathways to ensure completion. At the school level, Chile should strengthen leadership, stimulate a supportive school climate and environment for learning, ensure effective classroom learning strategies, and better link schools with parents and communities. Attracting, supporting and retaining high quality teachers are also crucial. Competent and/or experienced teachers are an important resource for disadvantaged schools, and incentives such as salary increases may be valuable in rewarding the more challenging work they undertake in these schools. Most OECD countries offer such incentives. Korea, for example, offers multiple incentives to candidates who work in high need schools that include additional salary, smaller class size, less instructional time, additional credit towards future promotion to administrative positions, and the ability to choose the next school where one works.



## Improving the quality of Chilean education

The single best predictor of student learning and achievement within the school is the quality of teachers (Schleicher, 2011). Teachers have more direct impact on student learning than structures, budgets, curricula, inspection and accountability systems, or governance. Quality teaching is vital to improve student learning not just in quantifiable terms, but extending to difficult-to-measure aspects, such as conveying ideas, providing effective learning environments, fostering good teacher-student relationships, and cooperating with colleagues and parents (OECD, 2005).

Even though Chile, like other OECD countries, has been active in promoting policies to improve the teacher profession, there is a relatively high shortage of qualified teachers, particularly in rural schools, public schools and in schools that receive students from disadvantaged backgrounds. While the scores of candidates entering the teaching profession on the *Prueba de Selección Universitaria* are increasing, there is a need for improvement. Teaching licensing and practicum are not mandatory to enter the profession. On average, lower-secondary teachers' pre-service training lasts five years and including a teaching practicum is at the discretion of training institutions. Support for teachers includes standards and comprehensive evaluations for improvement and professional development opportunities.

Effective teacher policies do not focus on class size but pay attention to:

- Attracting the best graduates into the profession: Initial entry into the teaching profession in Chile is weak. In high-performing school systems (e.g. Canada, Finland and many of the more economically prosperous countries of East and South East Asia) teachers enjoy high status in society, are trusted professionals with adequate career opportunities and have sufficient levels of pay (OECD, 2014c). Academically able people are not deterred from entering the profession. They qualify for an all-graduate profession through a university-based programme that rigorously connects research with practical training. The proposed Teaching Profession Act currently being debated in Chile could, if implemented, go some way towards achieving these aims.
- Developing and retaining quality teachers: A voluntary standardised assessment introduced in 2008 (*Evaluación Inicia*) to evaluate pedagogical and content knowledge of new teachers shows that results can be improved. Teacher development needs to be viewed as a lifelong learning continuum. The use of teacher profiles (statements of job competencies and performance standards) to align teacher development, performance and schools' needs can be very effective. Results from the OECD Teaching Learning International Survey (TALIS) show the importance of providing support, including mentoring, to new teachers. More experienced teachers can help them to understand more quickly the main challenges of a particular school and its students, and help them develop adequate pedagogical and relational strategies to respond to student needs. Promising examples of mentoring and induction programmes can be found in Japan, New Zealand, and Singapore. Mentoring is particularly important for teachers who work in disadvantaged schools. Teaching also needs to become a knowledge-rich profession in which research is integrated into practice, and schools become professional learning communities that encourage and draw on teachers' development.
- Retaining quality teachers and improving teaching conditions: Many education systems face a separate challenge in retention once quality teachers are hired. Working conditions, career prospects, career diversity, and giving teachers responsibility as professionals are important elements beyond competitive compensation. In Chile salaries per teaching hour are lower than the OECD average and teachers have the highest number of statutory working hours in the OECD. Keeping teachers in schools can be costly, as governments may have to allow for higher salaries, part-time teaching, extended leave or job exchanges. These costs need to be set against benefits such as lower staff turnover, improved morale, and new skills and knowledge.

## Improving the governance of Chilean education

International evidence shows that there is no one right system of governance in education. What is best for one country may not suit another, and successful systems may be centralised, decentralised, or somewhere in between. The number of levels, and the power of each level, is not what makes or breaks a good system (OECD, 2015b). Rather than focussing on structures at the expense of processes, Chile should ensure that both receive the necessary attention. And here there is indeed room for improvement: A largely unregulated market for schools has contributed to inequitable schooling outcomes, and also to poor overall educational performance. Chile is one of the countries with the highest level of school competition, yet performance differences between public and private schools become statistically non-significant once the socioeconomic status of students and schools is taken into account.

Chile could improve the governance processes in a number of ways. First, decision-making in Chile is highly decentralised and educational providers enjoy wide autonomy. Autonomy must be matched by an overall systemic vision for all schools and appropriate capacity to fulfil that vision. Second, Chile could ensure greater stakeholder participation and multiple school accountability. Chile's education system is divided into public, private-subsidised and public non-subsidised schools, with a large variety of stakeholders. Chile could usefully explore how to combine vertical measures of accountability, that is, regulatory and school performance accountability, with horizontal measures involving multiple stakeholders (e.g. parents, students, and communities). To make it work, Chile could discuss the purposes and use of multiple accountability mechanisms with the institutions and work to balance the opportunities (information to learn, improve, steer, and formulate policies) against the risks (e.g. information overload). Third, Chile needs to build capacity for modern governance at local and school levels, for instance on the use of data to help improve students' and schools' performance.

### Key OECD recommendations

- Continue to invest in early childhood education and care to get children off to a strong start and give the next generation of Chileans an equal chance to succeed.
- Build on current reforms to make grade repetition unnecessary, avoid early tracking and defer student selection, make funding strategies responsive to students' and school needs, and design equivalent upper-secondary education pathways to ensure completion.
- Strengthen and support school leadership, stimulate a supportive school climate and environment for teaching and learning to, attract, support and retain high quality teachers, ensure effective classroom learning strategies, and prioritise linking schools with parents and communities.
- Improve the processes within the governance structure, ensure stakeholder participation and multiple school accountability, and build capacity at the school level for modern governance.

## 7. Making the labour market more inclusive

Chile has shown, for a number of years now, good labour market performance, particularly in terms of unemployment rates. However, the positive unemployment rate statistics hide strong inequalities in the Chilean labour market. Women's labour market participation is among the lowest in the OECD, youth face severe difficulties in finding employment, and the market is segmented, with many workers in non-regular work arrangements. Several reforms and programmes have been designed to improve the labour market prospects of women and youth and these should be expanded. Special effort is needed in updating labour legislation to promote stable work arrangements and reduce segmentation. Moreover, more support in the form of activation policies for all workers and protection for those in non-regular arrangements is needed. Efforts should also be directed at improving the worker training system and strengthening the links between the skill development process and labour market skill needs.

### The Chilean labour market is characterized by strong inequalities

The unemployment rate in Chile points to a good overall labour market performance. Latest figures put unemployment at 6.3% in the second quarter of 2015, below the OECD average of 6.9%. Chile weathered the financial crisis relatively well in terms of unemployment, with the rate peaking at 10.2% in the second quarter of 2009, but then coming down to 5.5% in the third quarter of 2013. Since then, unemployment rates have increased slightly, following trends observed in other Latin American countries.

These positive unemployment rates statistics hide important inequalities in the labour market. Although continuing on an upward trend, women's participation in the labour market is among the lowest in the OECD. Youth face particular difficulties in gaining employment. The market is segmented with many workers in non-regular work arrangements: many are either in a cycle of temporary work contracts, in the informal sector or work through commercial arrangements. Workers' basic skill levels remain low, activation programmes are weak, the training system does not provide adequate training for those that need it the most and there are no tools to ensure that skills development is aligned to the market's skill needs.

### Fostering the labour market participation of women

At 55.7% in 2014, female labour market participation ranks amongst the lowest in the OECD (average at 62.7%). Notably, however, female participation is on an upward trend, increasing from below 40% in the early 2000s. Cultural attitudes towards women's work and child- and elderly-care commitments, regulations regarding childcare provision and a lack of support for early-childhood and elderly care all pose barriers to female employment. The more frequent employment interruptions due to care duties, combined with women's longer life expectancy, imply that women on average spend longer periods in retirement with lower pensions, increasing the probability of female poverty in old-age. In fact, 60% of women affiliated with the pension system have contributed for less than 50% of the time (OECD/IDB/WB, 2014).

These challenges are not new to the Chilean labour market. Specific policies and programmes have been implemented to target them. The *Bono al Trabajo Mujer* is an attempt to improve female employability, attract more women to the labour market and address wage inequalities. While the main purpose of the recent labour reform sent to congress is not focused on the entry of women in the labour market, it may promote women's position in collective bargaining processes. The recent implementation of the six-month maternity leave and mandatory pre-primary education will allow for more of them to enter and remain in the labour market.

But further efforts are needed. Despite significant increases over the past decade there is still a shortage of public childcare support. Enrolment rates were only 17.6% (OECD average 32.6%) for children between 0 and 2 and 66.5% for children age 3 to 6 (OECD average 80.6%) in 2010. Policy aims to increase coverage for children, especially for the youngest ones, by 90 000 new places by 2018, which would get the enrolment rate up to the OECD average. While increasing the coverage for children is important, Chile also needs to increase take-up of

this support by ensuring high quality in care provision and reducing the attitude that women are the best – and only – placed for childcare. Possible measures include the possibility to transfer the totality of maternal leave to paternal leave, eliminating the subsidy's ceiling, and facilitating flexible work arrangements for parents with children (Caldera-Sánchez, 2014). But many women remain out of the labour force as they care for dependent elderly parents; although much has been done to support women in childcare duties, little support exists to care for the dependent elderly (Batthyány, 2015). The Ministry of Social Development is in the process of designing a national system for care (*Sistema Nacional de Cuidado*) to support the disabled and the dependent elderly which, as a side-effect, may help boost female labour force participation.

### **Better supporting youth in their transition to the labour force**

Youth face particular difficulties in the labour market and are especially likely to be unemployed. While the unemployment rate for prime-age workers (aged 25-54) stood at 5.6%, around 16% of youth (aged 15-24) active in the labour market were seeking employment in the second quarter of 2015. Lack of job-specific skills needed in the labour market, low levels of general skills, absence of work experience programmes, and low coverage of financial incentives for employers to hire and train youth may hinder young workers' employability.

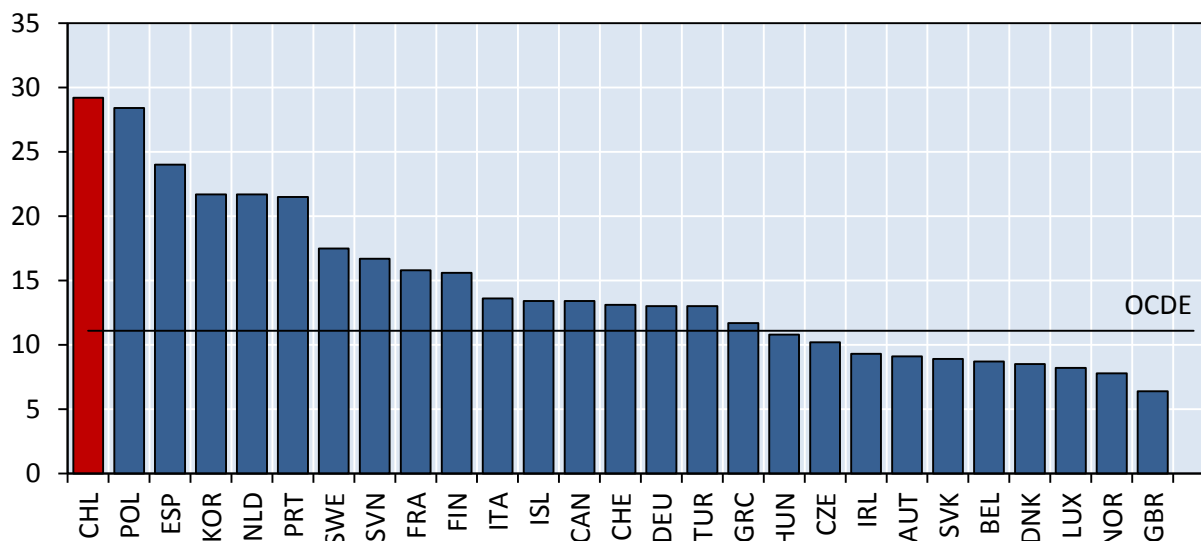
The government is supporting youth employability in different ways. The public employment service (*Servicio Nacional de Capacitación y Empleo, SENCE*), specifically targets youth in its training provision. The *Subsidio al Empleo Joven* and the *Subsidio Previsional a los Trabajadores Jóvenes* are attempts to lower employment costs for youth in the formal sector. *MásCapaz* is an ambitious worker training programme to bring youth and women closer to the labour market and *Yo Trabajo* is an attempt to target low-skilled individuals and those in the margins of the labour market.

To assist youth even better in their transition to the labour force, the government could strengthen the public employment service's job-search support, improve the linkages between upper secondary and tertiary education and employer needs, and offer guidance counselling services and work experience programmes beginning in lower- or upper-secondary schools and continuing through the public employment service. Developing an apprenticeship system and enhancing the work-based component in vocational education and training (VET) and terminal programmes would also improve youth's employability. In addition, more and better incentives could be provided for employers to hire and train youth by facilitating and expanding the take-up of youth employment subsidies so that more SMEs benefit (OECD, 2010).

### **Reducing labour market duality**

A distinctive characteristic of the Chilean labour market is the multiple types of work arrangements. At 29%, the share of temporary workers is the largest in the OECD (Figure 7.1). While temporary contracts can, in principle, offer a stepping stone for workers to achieve a regular contract, OECD evidence shows that this is rarely the case and that many workers move from one temporary contract to another (OECD, 2014d). Chile also has a high level of informality. Informality, measured as the share of workers aged 15 to 64 years not contributing to the pension system, stood at 30.3% in 2011. While this rate is low for Latin America and the Caribbean, it is high by OECD standards.

**Figure 7.1 Temporary work arrangements are very common in Chile**  
Temporary work arrangements as a percentage of dependent employment, 2014



Source: OECD Labour Force Statistics.

Temporary contracts provide a source of flexibility for firms to adjust their workforce needs in the light of changing economic circumstances, but excessive use of such contracts, as seen in Chile, can have an adverse impact as workers on these contracts often face a higher degree of job insecurity than employees on regular contracts. It can also affect productivity as employers are less likely to invest in temporary workers' skill development and increase worker turnover. In addition to not being entitled to severance pay, temporary and informal workers are often not entitled to paid leave and their situation limits their ability to contribute to – or be eligible for – unemployment insurance and save for their pension fund. Pension contributions are particularly rare among low-income and self-employed workers, who are most prone to non-regular work arrangements. While 95% of workers in the highest quintile contribute to the pension system, only 54% of the lowest quintile do so. Similarly, while 83% of salaried workers contribute, the share is only 22% among the self-employed. Voluntary affiliation for self-employed workers up until 2015, lack of enforcement despite mandatory affiliation and factors such as low and irregular income, myopia and procrastination explain this situation (OECD/IDB/WB, 2014).

The variety of working arrangements is the result of several factors. On the one hand, high employment protection for regular contracts (e.g. high severance payments for contracts with over one year) increases incentives for employers to hire under other working arrangements (e.g. temporary contracts, informal arrangements or acquiring services under commercial rather than employment agreements) and reduce incentives for salary increases for workers. A legal framework that has allowed individual firms to appear as different companies by holding multiple fiscal identifiers and that is not adapted to promote long-term employment relationships, as well as weak enforcement add to the problem. For example, even though it is not legally possible to hire a worker for more than four consecutive temporary contracts, workers are in practice hired recurrently under temporary contracts, signing contracts with different companies for tax purposes. The Chilean government has taken a number of steps to tackle the problem of labour market segregation. The recent elimination of the firms' ability to hold multiple fiscal identifiers (*Multi-RUT*) may limit their ability to hire workers under recurrent temporary contracts. The current labour reform will help develop collective bargaining processes that benefit both workers and firms. The requirement for self-employed workers to contribute to their health insurance and pension funds will expand coverage of social protection, but may not necessarily cover salaried informal workers who are not reported by their employers.

The government should also consider changes to employment regulation and labour institutions, notably severance pay and public employment services, as this may help diminishing the incentives for informal and temporary work arrangements (OECD, 2013c). Any such changes to employment protection should come in parallel with policies to promote employability, income and job security in the form of passive and active labour market programmes. These include ensuring that all workers can benefit from unemployment

insurance, and providing job-search assistance and relevant training for the unemployed. Enhancing the role of the public employment service can also go a long way in bringing people into the labour force by linking activation policies to the network of public support and social protection programmes. This may involve co-ordination across ministries, but may help reach the low-skilled or the most vulnerable population.

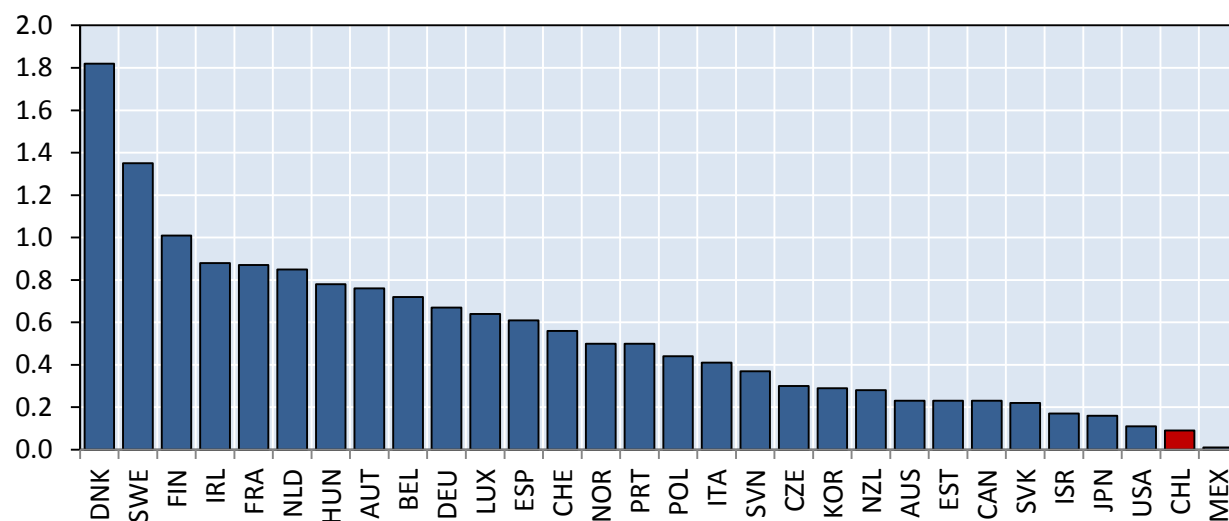
### Improving activation and labour market training programmes

Chilean workers' basic skill levels are low and have not improved in the past fifteen years (Centro Microdatos, 2013). For several years now, the current worker training and lifelong learning system has come under scrutiny for its ineffectiveness and for not benefiting workers and firms that need it most, notably the unemployed, the low-skilled, workers with low job security and workers at the margins of the labour market. The effects of the Chilean worker training and lifelong learning system on skill development and productivity are unclear as is its ability to meet existing skill needs. For instance, the fact that the training system is mostly based on tax credits to employers means that worker training mostly benefits large employers, leaving workers and firms who could benefit the most out of the training system (e.g. low-skilled or low-income workers and SMEs). In addition, training schemes are usually ineffective due to their short duration and quality varies widely (Larrañaga et al., 2014). Training and adult skill development more generally are not well linked to the labour market; in contrast to most OECD countries, Chile does not systematically assess current or future skill needs.

The activation system is also a reason for concern. At 0.09% of GDP, Chile's spending on active labour market programmes is the second-lowest in the OECD, after Mexico (Figure 7.2). Both SENCE and the *Oficinas Municipales de Intermediación Laboral* (OMILs) lack the capacity to deliver high quality counselling, guidance, job-search assistance and training based on workers' needs; all of which are key to help the unemployed find stable work.

**Figure 7.2 Public expenditure on active labour market programmes is very low**

Public expenditure on active labour market policies as a percentage of GDP, 2013 or latest available year



Notes: Active labour market programmes include PES and administration, training, employment subsidies, sheltered and supported employment and rehabilitation, direct job creation and start-up incentives.

Source: OECD/Eurostat Labour Market Programmes database.

The planned extension of the training system to the unemployed and vulnerable workers through the public employment service will reduce the inequalities in access to worker training. Efforts to further reform SENCE may increase its ability to deal with its ambitious mandate of co-ordinating worker training and activation policies and the addition of quality assurance requirements to training providers may increase the efficacy of worker training. Ongoing efforts to promote the development of Sector Skills Councils, the development of qualification frameworks and occupational standards will facilitate the linkages between skills development and skill needs. To strengthen its system to inform skills policy based on current and future skill needs strong social partner organisations (e.g. Sector Skills Councils that include SMEs) are needed and partnerships between workers, employers and training institutions need to be developed, together with the public employment service's role in co-ordinating training that meets labour market and reaches those workers and

sectors that need it most. In addition, occupational standards and qualification frameworks have to be developed and used effectively. While the efforts put forth by *ChileValora* to develop occupational standards are very welcome, they are insufficient. Rigorous and continuous methods to assess and anticipate skill needs are also needed, together with methods for quality assurance and the monitoring of training providers.

## Key OECD recommendations

- Further increase coverage, quality and take-up of child and elderly-care support; facilitate flexible work arrangements for parents of young children; and enable the full substitutability of maternity leave with paternity leave to promote women's entry into the labour force.
- Develop a systematic assessment of current and future skill needs to inform skill development and labour market policies and better match skill development with the needs of the labour market.
- Develop work-based training programmes in VET and terminal programmes to facilitate youth's transition from school to work.
- Ensure the enforcement of the requirement for self-employed workers to contribute to their pension and health insurance schemes. Facilitate such contributions for workers in informal work arrangements.
- Evaluate the balance between employment protection legislation and the availability of passive and active labour market programmes. Strengthen public employment services to deliver targeted active labour market programmes (counselling, guidance, employment subsidies and training) for youth, the low-skilled and unemployed and inactive workers more generally.

## 8. Enhancing the effectiveness of social policies

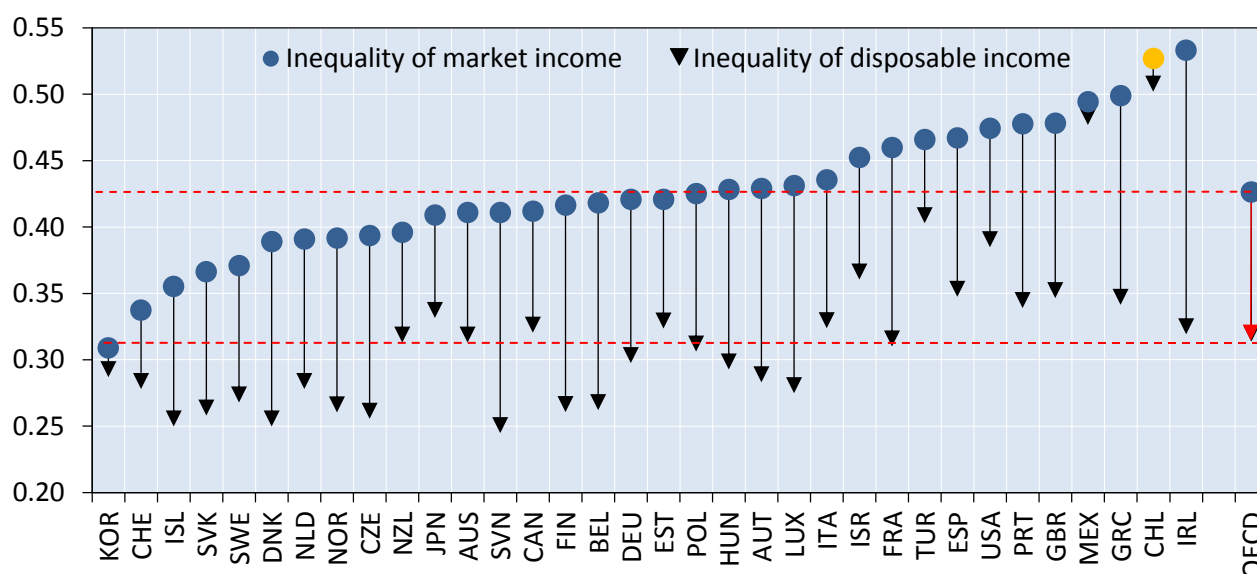
The redistributive effect of Chile's tax and transfer system is very limited, in part due to the high level of informality, contributing to Chile's high income inequality and poverty. While the government's plan to increase public spending on social support for the poor is very welcome, additional spending will be necessary to effectively fight poverty. Increases in pension payments could be financed through higher mandatory contribution rates. To ensure that social funds are put to their most effective use, the efficiency and transparency of support need to be enhanced.

### The redistributive effect of Chile's tax-and-benefit system is very weak

Chile's high income inequality and poverty are related to a tax-and-benefit system that reduces income inequality among the working-age population only to a limited extent: 5% compared to 26% on average across the OECD (Figure 8.1). The redistributive power of income taxes and cash benefits for the working-age population is limited for different reasons: payment rates are low, targeting of supports to the low-income population is not fully effective, while those entitled to unemployment support often do not cash in their entitlement. Moreover, informality implies that transfers, including pensions, are typically less redistributive. Nevertheless, the extent of the redistribution, (considering the estimated effect of in-kind in addition to cash transfers and taxes) in Chile is higher than in countries with a similar level of social spending like Colombia and Mexico (OECD, 2015c).

**Figure 8.1. Chile's tax and benefit system has a very small redistributive effect**

Gini coefficient before and after taxes and transfers, total population, 2012 or latest year available



Note: The length of the arrow indicates the size of the redistributive effect.

Source: OECD Income Distribution database, <http://oe.cd/idd>.

### Raising the adequacy of pension payments

Labour market informality is typically the biggest challenge for pension systems in Latin American countries, and in Chile too it is an obstacle to ensuring adequate pensions. No pension system can be successful to manage the high burden generated by large informality, and dealing with those issues are therefore beyond the scope of a meaningful pension reform. Yet, Chile has made considerable progress in alleviating elderly poverty, which in 2011 stood at 20%, down from 23% in 2006. This may well be related to a 2008-reform which enhanced the generosity of the means-tested basic pension (worth about 15% of average earnings) and pays supplementary payments (APS) for those with at least 5 years of contributions. More general concerns about the adequacy of payments derived from the mandatory contributory pension system relate to the low contribution rate (10% of earnings – compared to 20% on average across the OECD) and the relatively low retirement ages. In Chile, the statutory retirement age is 65 for men and 60 for women, whereas the OECD



averages are about 65 and 64 and, in many countries, retirement ages will be increased in the next years. In April 2014, the Chilean government set up an expert commission (*Comisión Asesora Presidencial sobre el Sistema de Pensiones*) to assess the pension system, identifying its strengths and limitations, and elaborate a set of proposals to address the main deficiencies.

### Expanding the coverage and size of unemployment benefits

Chile's unemployment insurance system stands out in international comparison, as it includes an individual savings account, to which workers and employers contribute respectively 0.6% and 1.6% of earnings per month, and a solidarity component, which involves a benefit payment (financed by employer and state contributions). In 2012/13 there were about 550,000 unemployed workers, of which less than one third (160,000) received unemployment benefits. While many unemployed were not eligible for support due the absence of past contributions, others were eligible, but did not use the system. This may well be because they plan to transfer their individual account savings to their individual pension account on retirement. This practice also limits the number of "solidarity payments", as these can only be made when the individual account has been depleted. Planned policy reform increases financial incentives for take-up by raising the initial payment rate to 70% of last earnings and increasing the payment rate to 20% for the long-term unemployed drawing from the solidary fund, which is in line with past OECD recommendations (OECD, 2013a).

### Strengthening cash transfer programmes for poor families

Poor families can also draw on the *Ingreso Etico Familiar* (IEF): a group of cash transfers aimed at improving the living conditions of extremely poor families. The IEF includes a basic benefit (*Bono por dignidad*) plus a series of conditional cash transfers related to medical check-ups of children, and school- attendance and results. Relevant payment rates are low: the basic benefit amounts to less than USD 30 per month and slightly over USD 10 per child per month for other payments such as the school attendance bonus. These benefits are important to extremely poor families, but not all such families receive support: 75% of the families in receipt of the IEF belong to the 3 lowest income deciles, but only 5% of the families in the lowest decile received such support (Universidad del Desarrollo, 2014). The main reason for this is the limited budget devoted to the programme, though issues around the public employment service also play a role.

In monetary terms the *Bono al Trabajo de la Mujer* (working women subsidy), is the most important component of the IEF. To be eligible women must be between 25 and 59 years old, work in the formal sector, earn less, as most women do, than CLP 400000 per month (USD 650, the average wage is around USD 950 per month) and belong to the 40% most vulnerable group of the population as defined by the *Ficha de Protección Social* (FPS). At least 40% of poorest working women could be in receipt for the working women subsidy; however, in 2012, the average number of recipients was only 80,000 who received less than USD 100 per month.

The FPS is a key tool used by the authorities to determine access to means-tested cash transfers and in-kind benefits: completion of the list of questions in the FPS provides the authorities with a profile of (low-income) households. The tool aims to measure long-term household income capacity as based on the households' housing and living conditions, location, family situation, health, education, income and employment, which are somehow weighted into an overall score that affects access to social support. The FPS has been criticized for its complexity and lack of transparency. Moreover, increasing its focus on current income stream may help better target support for low-income households. Changes in FPS are being implemented, and should be effective already in 2015. Under the new system actual incomes will be given higher weight, people will be still asked to enter a register, as in the current FPS, and these records will be matched with administrative records of income.

### Making housing more affordable

Housing policy has played an important role in making more housing available and improving the living conditions of the poor in Chile. Nevertheless, housing quality remains a serious concern. In Chile 16% of the households live in an overcrowded dwelling, slightly more than the OECD average (15%). The proportion of households without a private indoor flushing toilet is high in Chile whereas in most OECD countries this

proportion is below 1%. About 0.5% of the population were estimated to live in slums (Ministerio Desarrollo Social, 2013) and an additional 0.07% of the population were estimated to be homeless in 2011. Residential segregation is also considerable. In Santiago, for example, low-income households tend to be concentrated in the outskirts of urban areas, in neighbourhoods characterised by a high concentration of poverty and unemployment, lack of public transportation and public services, and low quality housing and amenities.

Until recently, housing policy mostly focussed on supporting access to homeownership through various programmes including grants to low-income first-time buyers. However, housing built through these subsidies was characterized by low quality and spatial segregation, which recent reform aims to remedy. In 2014, Chile introduced its first public support for rental housing providing temporary support to young households who are saving to apply for a homeownership subsidy. However, households in the lowest quintile of the income distribution are not eligible for the subsidy, and the small size of the rental market in Chile challenges housing policies' effectiveness in improving affordability of quality housing.

## Key OECD recommendations

- Strengthen poverty alleviation policies: planned increases in public spending on social support for the poor is very welcome, but additional spending will be necessary to effectively fight poverty.
- Enhance the efficiency and transparency with which social and housing support is targeted at the most vulnerable.
- Increase mandatory pension contribution rates and the retirement age to procure more adequate pension payments in the future.
- Consider using land regulation to impose quotas for subsidized housing in new real estate development to curb spatial segregation.
- Ensure a more balanced approach in housing policy towards supporting rental housing vis-a-vis homeownership and introduce social rental housing supports for low-income households.

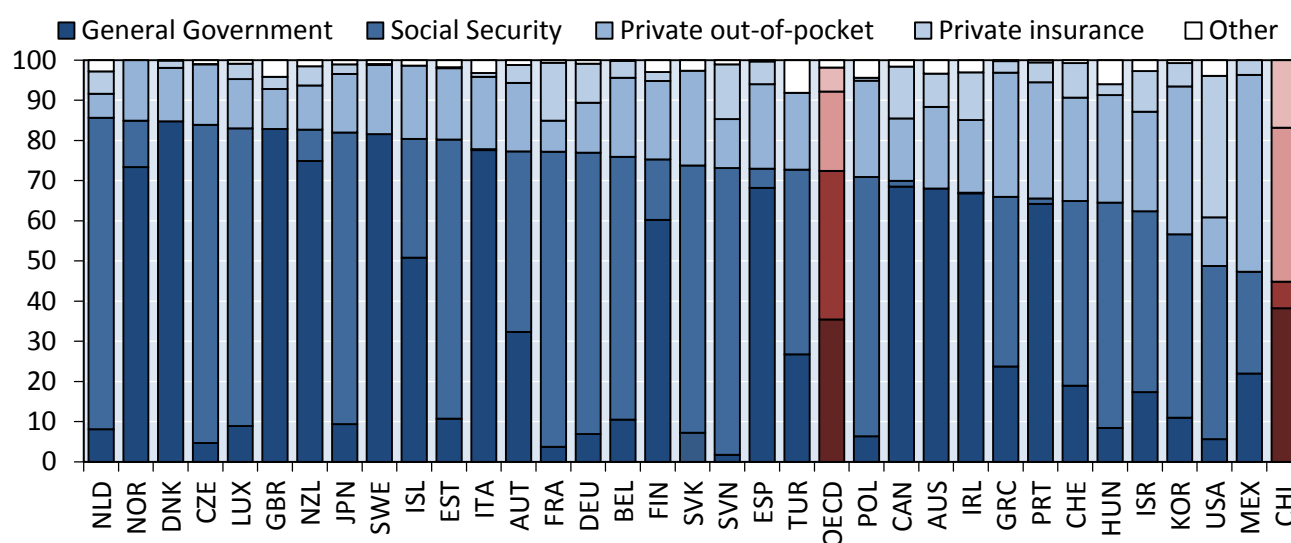
## 9. Improving Chile's health care system

Despite achieving near universal health coverage with a basic benefit package that all health payers must provide, health financing in Chile remains inefficient and inequitable. The public system overwhelmingly covers the poorest while competing private insurers select good risks and apply different premiums accordingly. There is clear room for improving the system by moving towards a unified social security system for the entire population.

### Health care financing is characterised by high out-of-pocket costs and limited pooling

Health care financing is underpinned by a mandatory requirement to be insured, with employees' contribution set at 7% of payroll income, linked to a guaranteed basic benefits package. Beyond the basic package though, stark inequalities characterise the range and quality of health care services that Chileans can access. Many Chileans rely on private insurance, such that it contributes 17% of health system expenditure, second only to the United States (Figure 9.1), with private out-of-pocket expenditure contributing another 38%. Private insurers compete in a poorly regulated market, selecting good risks and differentiating the premiums paid by insurees. Women and the elderly pay more, for example. In addition, the current arrangements are not providing adequate financial protection: individuals' out-of-pocket spending for health care are amongst the highest in the OECD. Private insurers (ISAPRES) and the public system (FONASA) contract with different providers, effectively enforcing a public-private split in the provision of health services, with perceived quality markedly worse on the public side. Waiting times are notoriously long in FONASA, for example.

**Figure 9.1. Private insurance and out-of-pocket spending on health are amongst the highest in the OECD**  
Expenditure on health in per cent of current expenditure, 2011 or latest available year



Source: OECD Health Statistics 2013, <http://dx.doi.org/10.1787/health-data-en>.

The key priority for the Chilean health system is to resolve inequities in access and quality whilst ensuring efficient delivery. To address these issues, a Presidential Commission made the following recommendations when it reported at the end of 2014:

- Introduction of a single pool across private insurers, coupled with risk equalisation mechanisms to determine re-distribution of funds back to insurers;
- Creation of a distinct fund to cover sickness leave and disability benefits, which are currently merged with health coverage;
- Creation of a single fund across both FONASA and ISAPRES to cover at least high-cost drugs;
- In the longer term, creation of a unified social security system for the entire population.

These reform proposals are undoubtedly the right ones in the current context. Whilst there are still some dissenting views, there is broad agreement about the general intentions of the proposed reforms, and key elements such as a joint fund for high-cost drugs. Nevertheless, three key issues need to be addressed if the proposals are to translate into genuinely better policy: financial and clinical risks need to be better managed and regulation of the private insurance market needs to be enhanced.

### **Better managing financial risks**

The flow of costs and activities in the Chilean health system needs to be better managed and funding methods need to be changed. Chile has relatively under-developed health accounts, limiting comparability with other health systems and the policy insights that would follow from this. More reliable expenditure data, at local and national level are needed, coupled with more informative accounts broken down by disease, age and gender. These should be modelled based on the OECD's System of Health Accounts. Financial risks can also be better managed by getting a tighter grip on the quality and efficiency in hospitals and other providers. Today, private insurers can limit their financial liability by carefully selecting good risks rather than by improving efficiency or quality of services. Current proposals fail to address adequately this issue. In particular, private providers charge high prices that insurers seem willing to pay, or transfer risks to insurees in the form of high premiums and co-pays. Chile needs to develop more effective performance management frameworks, across both public and private providers, in both secondary and primary care. Finally, Chile's reliance on payroll based payments should be replaced by other sources of funding. OECD health systems are increasingly diversifying their revenue streams, with a deliberate shift to funds from general tax revenues. Decoupling revenues from employees' income reduces incentives for informality in the labour market.

### **Better managing clinical risks**

Chile needs to invest more in prevention and develop more effective service networks. Just as today's insurers are failing to address efficiency or quality of services, they are also neglecting population health risks. Better prevention is in insurers' interest, if the right regulatory framework or the right incentives to invest are in place. Currently, both of these are lacking. The Chilean authorities, in partnership with insurers, industry and clinical stakeholders, should develop new preventive initiatives, focussed on preventing smoking and harmful alcohol use as well as encouraging diet and exercise. These can include a package of regulatory and fiscal measures such as advertising controls, nutrition labelling, food and beverage taxes and subsidies. The government's recent tax reform increased taxation of alcoholic and sugar-sweetened drinks as well as of cigarettes with the aim of discouraging their consumption. At the same time, new models of care, with a focus on strengthening primary care are needed. All OECD health systems are urgently trying to develop a stronger role for primary care to meet the burden of multiple chronic illnesses in ageing populations. The traditional model of hospital-centric health systems providing expensive, episodic care is no longer appropriate. Chile will have to take steps to decisively shift care out of the hospital sector, developing appropriate guidelines, metrics and incentives to support this.

### **Better regulating the private insurance market**

A shared pool and risk-equalisation across ISAPRES will need to be accompanied by better regulation of the private insurance market. Open enrolment, standard premiums and less variation in benefits would help reducing segmentation in the private insurance market. The Dutch and Swiss health systems, whilst highly reliant on private insurance, illustrate many elements of fair and efficient policy in this area: insurers cannot refuse cover; contributions are standardised; and insurers are protected from excess risk by both ex-ante and ex-post risk equalisation mechanisms. Greater distinction between basic benefits and supplementary insurance is also needed. Under current proposals, ISAPRES can continue to mix basic and extra services into products that are affordable only to wealthier Chileans, drawing attention away from what's included in the basic package and entrenching unequal care. In the Swiss health system, characterised by mandatory private insurance, supplementary services are clearly delinked from the basic package. This keeps a focus on the need to continuously improve the breadth and quality of the basic package. A unified, national insurance pool will be best achieved incrementally, by progressively extended from high-cost drugs to high cost interventions. The approaches developed in Mexico and Colombia can offer lessons in how Chile's basic benefit package, the Plan AUGE, can be expanded to offer a similar level of coverage and quality to that offered by ISAPRES.

## Improving the functioning of the pharmaceuticals market

Pharmaceuticals are mostly paid through private out-of-pocket expenditure, with little public aid, preventing population access to proper treatment and keeping pharmaceutical per capita expenditure as a share of GDP artificially low (0.9% of GDP – the lowest share in the OECD). A new Pharmaceutical Fund is now being implemented, which will give coverage for pharmaceuticals associated with three chronic and prevalent diseases (hypertension, diabetes and high cholesterol), and which is intended to expand later to other essential therapeutic areas. This is a very important health initiative since according to currently available data, antidiabetics and anticholesterols consumption in Chile is the lowest of the OECD, which makes little sense considering the high rates of obesity among adults.

However, there are concerns that lacking proper competition mechanisms, the increase in public expenditure will not be passed on to consumers, or at least not as much as it could. Serious problems in the public procurement of pharmaceuticals (the National Pharmaceutical Procurement Department regulation forbids international procurement), the disappearance of various generic producers following the enactment of bioequivalence legislation, pervasive price discrimination between in-patient and out-patient pharmaceutical provision and lack of essential cost containment measures may seriously hamper public efforts.

### Key OECD recommendations

- Better regulate the private insurance market through open enrolment, standardisation of benefits and regulation of premiums, making, in the longer run, a clearer distinction between basic benefits and supplementary insurance.
- Progressively extend a single, national insurance pool from high-cost drugs to high cost interventions and equalising the coverage, costs and quality across Chile's Plan AUGE and FONASA's health benefit packages, as well as private ISAPREs plans.
- Gradually expand the share of health system revenues that comes from general taxation, decoupling revenues from employees' income.
- Invest more in prevention and in primary care focussed on smoking, alcohol, diet and exercise and encourage a move from a hospital-centric health system that provides expensive, episodic care towards the primary care system.
- Develop more effective performance management frameworks, across both public and private providers, in both secondary and primary care, and more effective service networks to encourage proactive, continuous care in ageing populations. Better information on health system activities, costs and outcomes will be vital to this.

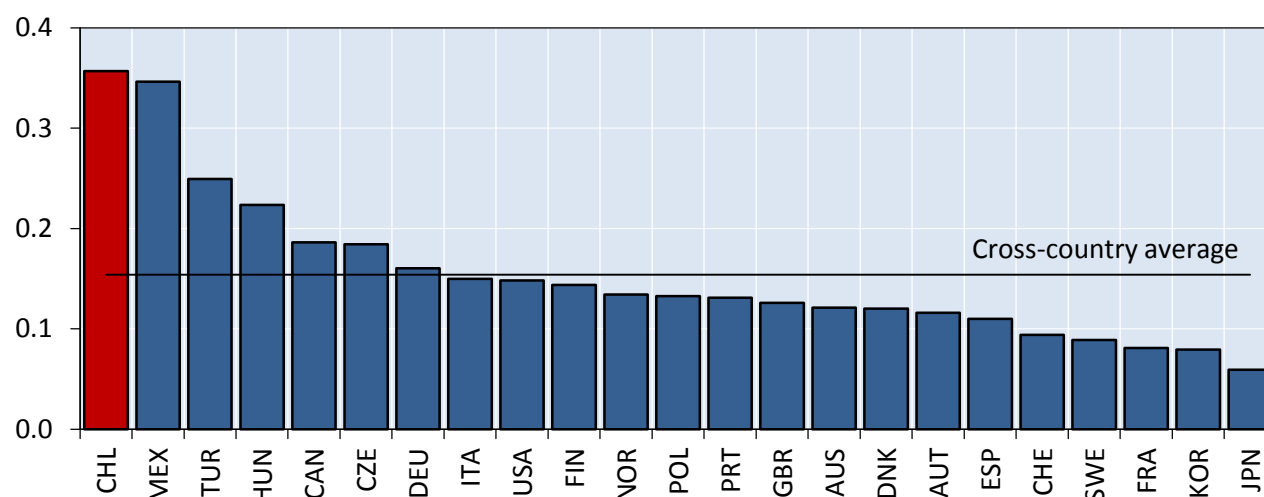
## 10. Decentralisation in support of greater equality

Inequality in Chile has a strong spatial dimension, with living standards varying widely across the country's regions. At the same time, Chile is one of the most centralised OECD countries, which prevents policies from being adapted to local requirements. The government is engaged in decentralisation and regionalisation reforms which should help correct this, if implemented effectively. To ensure the success of the reforms, it is crucial they are accompanied by improved mechanisms for cross-sectoral policy co-ordination at the central level, a strengthening of fiscal equalisation mechanisms as well as capacity building at sub-national levels of government. Moreover, the decentralisation process should be used to underpin a shift towards a more diversified, development-oriented approach to regional, urban and rural policy.

### Well-being varies substantially across Chile's regions

Territorial disparities in GDP per capita in Chile are very high compared to other OECD countries (Figure 10.1). This to some extent reflects the extremely high figures recorded for two mining regions, Antofagasta and Tarapaca, but the inter-regional Gini coefficient is still well above the OECD average if these two outlier regions are excluded. Moreover, such disparities have not declined over the past 15 years. Strong national performance has masked very large differences in the performance and living standards of Chile's regions.

**Figure 10.1. Spatial inequalities are very high in Chile**  
Inter-regional Gini Index, 2011



Source: OECD Regional Statistics database, <http://dx.doi.org/10.1787/region-data-en>.

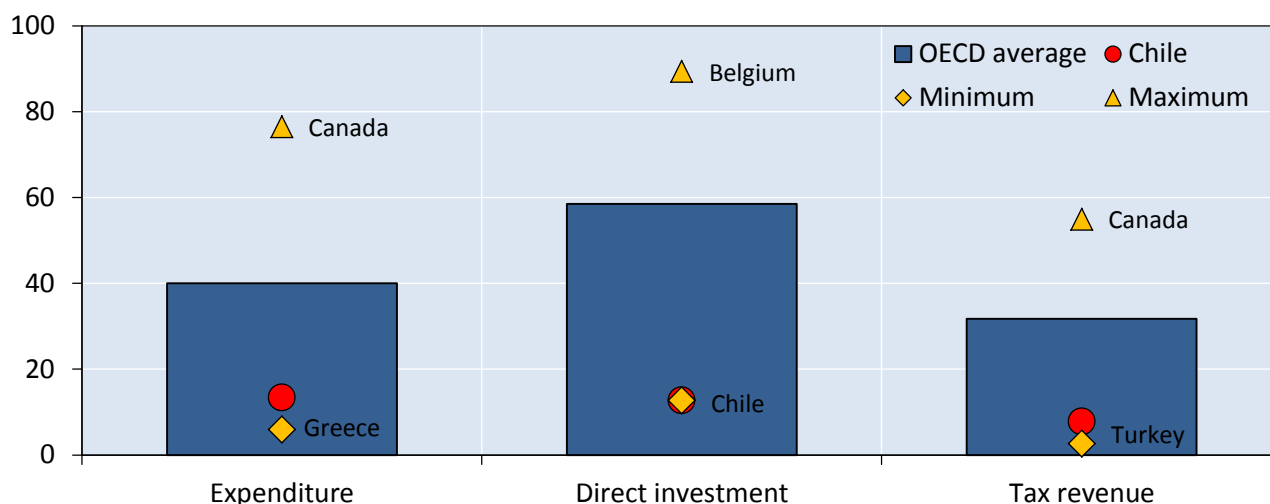
The spatial inequalities are even more striking when non-pecuniary dimensions of well-being are taken into account. Chile has the largest regional disparities among OECD countries when it comes to environmental quality, as well as very wide disparities in health and housing. While large spatial disparities are not unusual in rapidly growing emerging economies, excessive imbalances can create serious problems for both efficiency and equity and may reflect significant differences across regions in citizens' access to essential goods and services, as well as to economic opportunities.

Such persistent inequalities are in part a reflection of Chile's geography, which pre-conditions to some extent both settlement patterns and economic activity: mining regions have dramatically higher productivity than others, while remote rural regions lacking mineral resources often struggle. However, even allowing for this challenging geography, it is difficult to avoid the conclusion that the approaches to regional policy employed hitherto have not delivered. Regional policies have largely been driven by top-down and sectoral approaches thus facing difficulties in adapting to the different needs of Chilean regions.

## Moving towards greater decentralisation

Chile has traditionally been among the most centralised OECD countries in terms of territorial governance. This is particularly evident in its fiscal system (Figure 10.2), but it is also reflected in the degree to which decision-making remains concentrated in the capital, even with respect to issues like public transport and local infrastructure. As pointed out in successive OECD reviews on Chile, territorial governance needs to be further decentralised in order to adapt public policies to the characteristics, assets and potential of Chile’s diverse and heterogeneous territories, generate more dynamism at the subnational level and thus improve regional performance and competitiveness (OECD, 2009; OECD, 2013d; OECD, 2014e).

**Figure 10.2. Chile is one of the most centralised countries in the OECD**  
Sub-national expenditure as a share of general government spending, 2013



Source: OECD Regional Statistics database, <http://dx.doi.org/10.1787/region-data-en>.

The current administration has launched an ambitious set of legal reforms to implement a “decentralisation and development agenda” in order to address disparities via better adaptation of public policies to regional and local needs and opportunities. The legislative proposals concern three main pillars: (i) a constitutional reform allowing the election of the regional *intendentes* (keeping a *gobernador* as representative of the central power); (ii) the transfer of competences and public services in economic development, social development, infrastructure and housing to the regions; and (iii) changes to the law on regional financing and fiscal responsibility, which foresees a greater devolution of resources, to be developed at a later stage. In addition, the authorities have formulated special plans for three “extreme” regions that are geographically very remote – Aysén, Magallanes and Arica. These provide for both substantial new investment resources and enhanced autonomy, including greater flexibility to define targets and standards locally. However, they also raise capacity-building and absorption challenges for the regions concerned.

The reform agenda also includes measures for modernising and strengthening the municipal system along five major lines: reforming the system of local public finances, including renewed equalisation arrangements, establishing a framework of municipal fiscal responsibility (e.g. budgetary rules and financial audit); increasing community participation; and developing a management and innovation model for municipalities, including introducing standards on the quality of municipal and strengthening human resources capacities.

The precise contours of the reform and the implementation arrangements are not yet known. But steps are needed to ensure that the reforms are implemented so as to advance the government’s goal of more inclusive and equitable growth. Decentralisation can help address territorial disparities by incentivising and enabling chronically lagging regions to turn themselves around. OECD work suggests that poorly performing regions are far more likely to improve their performance if they have a considerable degree of control over their own futures. However, there is a risk that decentralisation will increase spatial inequalities as greater autonomy offers greater opportunity for regions and localities to fail, as well as to succeed. Consequently, decentralisation will also require establishing renewed solidarity and appropriate fiscal equalisation arrangements to correct wealth and responsibility imbalances among subnational governments. In that

perspective, it will be necessary to establish a more appropriate scheme for Chile than the current “compensation” system, in order to foster a certain degree of equity whilst avoiding or minimising potential negative effects of equalisation arrangements.

### **Moving towards a more development-oriented approach to territorial policy**

Rural policies have tended to focus on social measures rather than economic development and, partly for that reason, have largely failed to address the diversity of rural Chile. The central government has likewise tended to treat cities as a somewhat homogenous group of entities, with little adaptation of policies and governance to the needs of cities that vary greatly in terms of size, wealth and situation. This is largely because urban development has largely been guided by discrete sectoral policies, with little attention paid to the interactions among them. While the country grew and urbanised successfully for decades, despite the lack of a unified urban policy, the authorities increasingly recognise that Chile has outgrown many of the mechanisms and instruments that previously guided urban development and have been actively evaluating policy and governance options better suited to constructing a more dynamic and integrated approach to urbanism.

In both urban and rural places, the shift to a more development-oriented approach to policy will necessitate a degree of decentralisation. Policies aimed at stimulating innovation and entrepreneurship as well as improving education and training have a strong regional dimension as growth opportunities are tied to local conditions and resources are often underutilised. There is also a need to revitalise metropolitan governance structures in the major cities as well as mechanisms to reinforce strategic planning and service-delivery capacity.

### **Building capacities at both national and sub-national levels**

The government’s decentralisation reform needs to be accompanied by appropriate steps to ensure that the greater autonomy given to regions does not raise spatial inequalities. Sub-national capacity building is an essential part of this process, as is a concerted effort to make greater use of flexible governance tools such as city or regions contracts and inter-ministerial committees to ensure coherence across sectoral policies. Here asymmetric types of decentralisation, allowing capacity building through different paths towards greater autonomy in decision making, could be a solution. A stronger fiscal equalisation system is also needed, although care must be taken to ensure that it creates the right incentives for local governments.

Decentralisation will also entail the creation of new capacities at central level. Decentralisation does not usually imply a simple, zero-sum transfer of central powers and resources to regional and local levels. More often, it is about creating new and better capacities for co-ordinated state action at all levels. Empowering regions and localities will require better co-ordination across central ministries, which often work in silos even where their policy domains clearly overlap. Horizontal co-ordination will become even more important following the election of the *intendentes*, who have hitherto been the key central representatives at regional level. A degree of experimentation may also improve the chances of long-run success. The Chilean authorities do indeed seem to privilege experimentation through regional pilots and the use of contracts across levels of government– an approach that is very welcome.

## **Key OECD recommendations**

- Use the decentralisation process to underpin the shift towards a more diversified, development-oriented approach to regional, urban and rural policy.
- Strengthen the mechanisms for cross-sectoral policy co-ordination at the central level to ensure that less centralised governance strengthens, rather than undermines, policy coherence.
- Strengthen fiscal equalisation mechanisms in order to ensure that decentralisation does not lead to widening spatial disparities in access to quality public services.
- Support related capacity building efforts at sub-national levels, to ensure that regions and municipalities are properly equipped to handle the new functions being devolved on them.



## 11. Reinforcing green growth

**Chile's strong economic growth with heavy reliance on natural resources has come at the cost of the environment. While efforts have been made to reduce environmental impacts of growth, work remains to be done in several key areas. Chile needs to continue to diversify its sources of energy as part of a broader effort to reduce greenhouse gas emissions. Further steps should also include better covering externalities through energy taxation, improving the management of water, waste and industrial chemicals as well as taking the necessary measures required to protect biodiversity.**

### Growth needs to become greener

Chile is making progress towards greening growth, yet still faces a number of challenges that its 2013 Green Growth Strategy could help to address (OECD, 2015d). Strong economic growth with heavy reliance on natural resources has come at a cost for the environment, notably air quality. According to the OECD's Better Life Index, the level of atmospheric PM10 – tiny air pollutant particles small enough to enter and cause damage to the lungs – was 46.2 micrograms per cubic meter for the average urban resident in 2010, considerably higher than the OECD average of 20.1 micrograms per cubic meter. The use of renewable energy sources is continuously expanding, although still limited primarily to hydropower, but with a rapid development of wind and solar power in the electricity market. Overall, energy needs (transport, industry, heat and power) are met to a significant degree by imported fossil fuels.

Air pollution has declined significantly in Santiago, whereby the share of renewable energy in electricity generation has risen from below 2% in 2007 to over 9% in the first quarter of 2015. Mechanisms to internalise environmental externalities and to promote green innovation and technology adoption have improved, accompanied by a tax on CO<sub>2</sub> emissions and some local pollutants for thermal power, introduced in 2014. But energy taxes do not adequately cover externalities, especially for energy use outside the transport sector and diesel, pointing to the need for further progress.

In addition, parts of the country are experiencing water scarcity. These situations are only expected to intensify as the industrial demand for water has been forecasted to increase significantly over time. The OECD Better Life Index reveals that 79% of people are satisfied with the quality of their water, lower than the OECD average of 84%. Chile also faces challenges with respect to the management of waste and chemicals, with insufficient responsibility currently placed on those generating the waste and a lack of a comprehensive system for managing industrial chemicals. Adequately protecting Chile's valuable ecological heritage characterized by high levels of endemism is another important challenge.

### Reducing Chile's heavy reliance on fossil fuel energy carriers

Chile's energy mix is highly dependent on imported fossil fuels, which account for 70% of primary energy supply. Greater diversification of energy sources is needed to improve energy security and reduce greenhouse gas (GHG) and other emissions. The 2015 Energy Agenda is a step in the right direction to increase the renewable energy share for electricity to 20% by 2025, achieve energy efficiency gains of 20% by 2025, and improve competitiveness of the energy market along with further elaboration of a National Energy Policy in 2015. To reach the ambitious renewable energy target a system of quotas has been introduced. Measures to support innovation and technology adoption should also be strengthened and the government should consider expanding transitional support, financial or otherwise, for deployment of renewable energy technologies that are not yet competitive, but have potential for growth. For wind and solar photovoltaic that currently are deployed without financial subsidies, more progress is needed to reduce technical barriers that limit access to the grid.

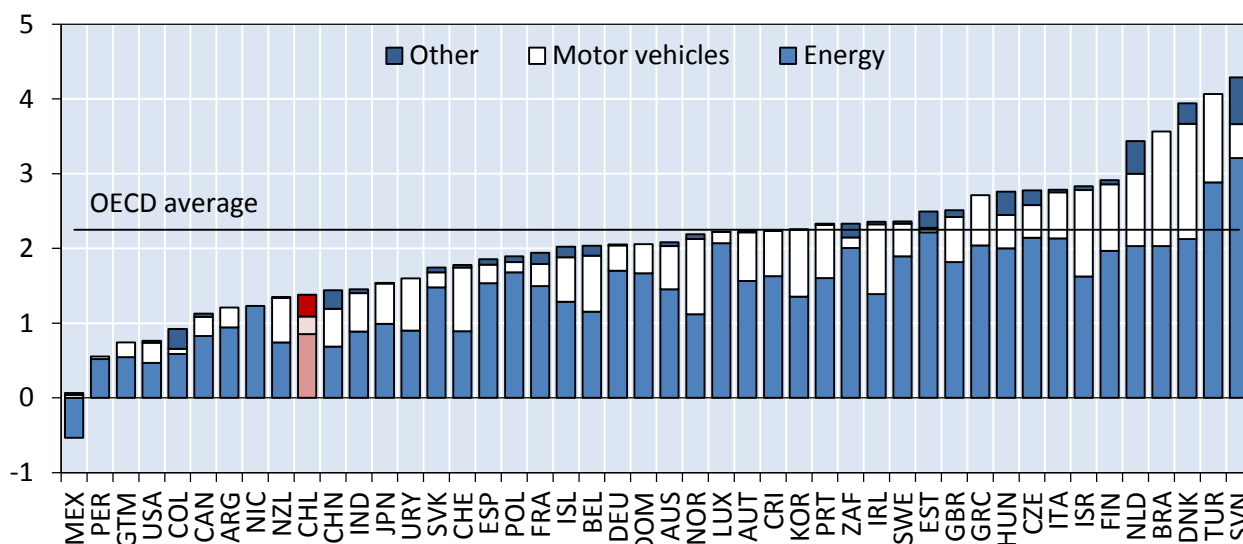
### Greening the tax system

In 2013, revenues from environmentally related taxes represented 1.38% of GDP in Chile, which is low compared to most OECD countries (Figure 11.1). As part of a comprehensive tax reform, the government introduced a carbon tax set to start in 2018, which will apply to the emissions of the power sector at USD 5 per

tonne of CO<sub>2</sub>, gradually expanding coverage to all sectors. The tax also applies to PM10, NO<sub>x</sub> and SO<sub>x</sub> emissions. Diesel is taxed at a lower rate than petrol despite its higher carbon content per litre and its negative impact on local air pollution. To partially correct for this disparity, the government has recently introduced a specific tax on the purchase of new diesel vehicles.

Since 2011 a new law that raised the royalty tax on large mining operations brought taxes on the mining sector closer to the level observed in other resource-rich members of the OECD. Further evaluation of natural resource rents should be used as the basis for decisions on mining taxation. The government needs to retain a sufficient share of natural resource rents so that it can invest in productive long-term assets, while maintaining an attractive environment for investment.

**Figure 11.1. Revenues from environmentally related taxes are low**  
Percent of GDP, 2013 or latest available year



Source: OECD Database on Instruments used for Environmental Policy.

## Better managing the use of water

In northern mining-intensive regions and urban centres, water demand exceeds availability and supply. The demand is expected to grow as the mining sector alone is estimated to increase its demand by 45% in 2020 (World Bank and Government of Chile, 2013). Following a reform in 2005, the government started to address problems of concentration of water rights and speculative hoarding, but penalties for unused water rights have in many cases not been sufficient to stimulate trading.

The 2014 draft bill to reform the Water Code is a step in the right direction to improve the regulation of use and ownership of water resources, while drawing on best international practices. Related OECD work can help to implement these initiatives. The recently adopted *OECD Principles on Water Governance* provide a frame of reference to better design and implement water policies towards greater efficiency, effectiveness and inclusiveness. In particular, they provide guidance to mitigate fragmentation across ministries and public agencies. The Principles can help Chile foster a whole-of-government approach and further cross-sector coordination especially between water, energy, infrastructure and territorial development. The forthcoming Water Code should also help strengthen the institutional framework underpinning water management in Chile, while raising the profile of the General Directorate for water under the Ministry of Public Works. The recent appointment of Chile's presidential delegate for water also testifies of the increasing attention paid to water in the national strategic agenda. A renewed focus on stakeholder engagement is particularly needed to prevent, manage and overcome conflicts in water-related infrastructure both in the northern and southern regions.

On water allocation regimes, the OECD has developed guidance for countries seeking to unlock the value of water resources and create the most value for society – economically, socially and environmentally (OECD, 2015e). By way of example, Maipo River in Chile is considered both over-allocated and over-used. For such a

situation, various measures are being used in OECD countries such as phasing out the exceedance of allocable flows by ceasing new allocations and promoting augmentation of water supplies in New Zealand's Waikato region, or measures to recover water entitlements in parts of Australia where water abstractions exceed the sustainable diversion limit.

### **Strengthening Chile's waste and industrial chemicals management system**

The government is pursuing efforts to implement the polluter pays principle for waste management. A new framework for waste management relying on Extended Producer Responsibility (EPR) for nine different product groups is currently being established. These efforts could benefit from ongoing work at OECD that aims to supplement guidance on EPR that was first published in 2001. This OECD work could help Chile to identify ways to strengthen design-for-environment incentives through EPR. The policy choices could be supported by an impact assessment of the EPR on competition along the supply chain. Weight-based producer fees or fees that account for recyclability could help to strengthen design-for-environment incentives. An appropriate policy design could further envisage the inclusion of the informal waste operators who can effectively collect and treat some types of waste in EPRs in developing countries. Chile is also working to define the institutional and legal framework needed for the evaluation, handling and placing on the market of chemicals to ensure a systematic framework for industrial chemicals that are produced and used in Chile so their risks are properly managed.

### **Better protecting Chile's biodiversity**

Chile's biodiversity management is currently scattered among many agencies and services whose primary objectives vary. The lack of an integrated and coherent policy for the conservation and sustainable use of ecosystems (including forests) and species hampers progress towards achieving these objectives. There is a need for a comprehensive and well-designed national Protected Areas System that includes financing mechanisms. To address this issue, the government is planning to design and implement a National Biodiversity and Protected Area Service through a law currently under discussion in Congress. While this service will contribute to biodiversity conservation and protection, taking into account the different ecosystems represented in the Chilean and a highly endemic flora and fauna, further efforts are needed to mainstream biodiversity into other sectors and policies (e.g. agriculture, mining and development). Such mainstreaming can help to ensure a more sustainable use of natural resources and ecosystems also outside the protected area system and, hence, be an important complement the conservation efforts within protected areas.

## **Key OECD recommendations**

- Develop a framework for monitoring and evaluating progress towards a green growth strategy.
- Gradually increase the tax rate on diesel at least up to the level that applies for petrol, while continuing to diversify sources of energy as part of a broader effort to reduce greenhouse gas emissions.
- Improve the management of water resources by developing effective mechanisms to optimise water use in areas where water rights have been over-allocated, such as through the buying-back or forfeiture of unused water rights.
- Improve waste management, including through enactment and enforcement of the new Law on Waste and Extended Producer Responsibility, and establish an industrial chemical management system to ensure that chemicals produced and used in Chile are tested and assessed and that their risks are managed appropriately.
- Adopt and implement a well-designed national biodiversity and protected areas scheme that takes into account the diversity of Chile's ecosystems and develop targets, indicators and financing mechanisms to support its implementation.

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