Chapter 2

Fiscal policies for enhanced resilience and equity

Chile's fiscal rule has provided a powerful protection against global headwinds, making a sizable counter-cyclical stimulus possible without disrupting financial markets and helping to jumpstart activity. This chapter suggests ways to further bolster the economy's resilience against shocks by sharpening the fiscal rule in copper price booms, while making room to relax it more in severe downturns. Further strengthening the insurance element of the unemployment benefit system would enhance the automatic stabilisers, while allowing for better matches between employment seekers and job vacancies as well as more effective protection for the unemployed. Lowering severance pay in turn would reduce employers' incentives to favour short term employment to avoid paying it. This could also help attenuate the strong duality of the labour market, with a considerable share of short-term and informal employment. As it embarks on the recovery and on a path of rising living standards, Chile will need to meet a growing demand for public services and work toward achieving a more equitable society. Compared to OECD countries Chile employs relatively small, but well-targeted social spending programmes to reduce poverty and inequality and it has recently expanded many of these along with higher education spending targeted at poor children. Limiting some of the more regressive and less efficient tax expenditures could help finance these spending increases or target the commensurate subsidies more at lower-income households.

Further increasing Chile's resilience against shocks

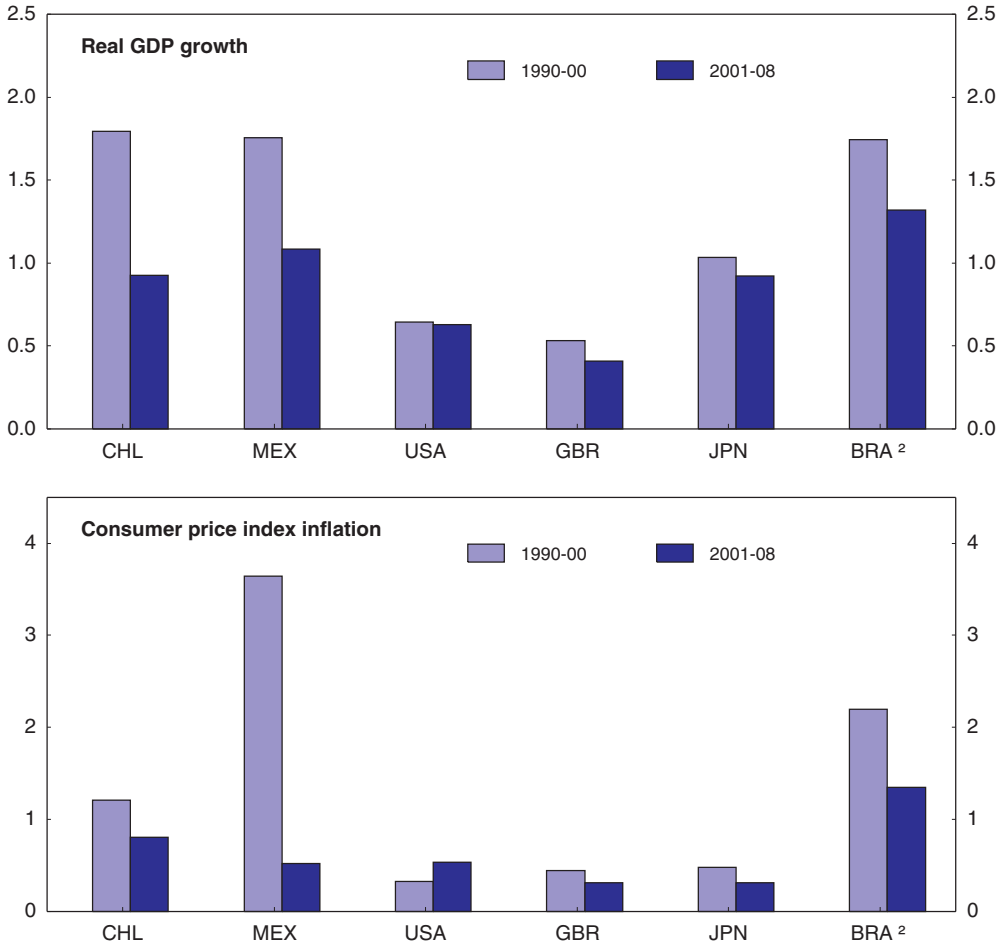
Chile's macroeconomic framework and in particular its fiscal rule (Box 2.1) have provided a shield against external shocks. Considering the openness of the economy and its dependence on copper exports, it has weathered the breakdown of world trade rather well. The fiscal rule has facilitated the conduct of counter-cyclical fiscal policies and has protected the economy against swings in commodity prices. The fiscal rule enjoys a broad political consensus and has proved to be a useful device for budgetary planning. The accumulation of funds during the copper bonanza has allowed Chile to easily finance a decisive fiscal stimulus in the crisis.

For commodity exporters, like Chile, it is important to avoid that commodity price booms lead to an overheating of the economy. This can happen as capital flows into the country to exploit profitable investment in the natural resource sector and as higher domestic spending based on increased export revenues leads to inflation in the non-tradables sector. Chile's macroeconomic framework, the fiscal rule along with inflation targeting and flexible exchange rates, has been largely successful in this respect. In the most recent copper price boom private as well as government consumption, investment and credit developments remained much more stable than in previous episodes (OECD, 2007). While the 2008-09 recession led to large swings in inflation and output, the period preceding the crisis was characterised by a decrease in volatility (Figure 2.1). This moderation in volatility was observed around the world, but it is plausible that the introduction of the macroeconomic framework also contributed to reduced cyclical swings.

Nevertheless, commodities remain important for the Chilean economy. The mining sector accounted for 18% of GDP on average over 2003-2008, although the employment contribution of the sector is close to only 1% owing to the high capital intensity of mining production. The importance of the mining sector for exports is even more pronounced and given the openness of the economy, this plays an important role. The contribution of mining, in particular copper, to exports was high even before the boom in world trade and commodity prices started, accounting for 46% and 39% of total export values respectively on average over 1996-2003. It then increased substantially, as the mining sector accounted for the largest part of Chile's increase in export revenues. Especially in the later years of the boom this was largely due to a price effect, as export volumes peaked before that (Figure 2.2).

The effect of copper on the Chilean economy is attenuated thanks to the macroeconomic framework and profit remittances of foreign companies, but it can still be felt. Changes in government revenues related to higher copper prices were smoothed thanks to the fiscal rule. Moreover, most private mining companies are foreign. As these companies repatriated some of their increase in profits, not all of it impacted on the Chilean economy. Nevertheless, the upswing in world trade and commodity prices provided a strong impulse for the Chilean economy after several years of sluggish growth following the Asian crisis. It spilled over to the domestic economy mainly through an

Figure 2.1. **Standard deviations of GDP growth and inflation**[1]



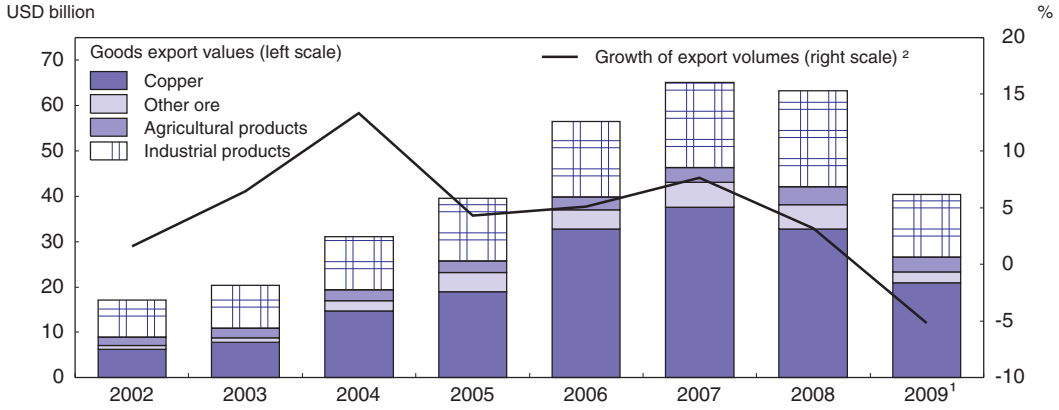
1. Average standard deviations were calculated as the average of four-quarter trailing standard deviation.
2. 1996-2000.

Source: Banco Central de Chile; OECD, *National Accounts* and *Main Economic Indicators*.

StatLink http://dx.doi.org/10.1787/776223010721

investment boom, including a strong surge of investment in the mining sector with an average growth rate of 12% between 2003 and 2007, but in particular in construction (more than 55%). As a result, costs, in particular wages, of construction, as measured by the implicit deflator of the sector, increased faster than elsewhere in the economy (Figure 2.3). Prices of other non-tradables increased fast, as well, and thus the real exchange rate appreciated substantially (Figure 2.4). The real appreciation was also related to capital inflows, a large part of which was directed at investments in the mining sector. In the final stages of the boom, Chile showed signs of overheating, as core inflation increased much faster than it did in other commodity exporting economies that are also very open to international trade (Figure 2.5). When world trade and commodity prices eventually collapsed, dragging down Chile's export revenues, the investment boom came to a halt and inflation started to decrease fast. These developments seem to suggest that Chile is not entirely immune to large terms of trade shocks, likely because of wealth effects and the impact on overall household and business confidence.

Figure 2.2. **Export development**



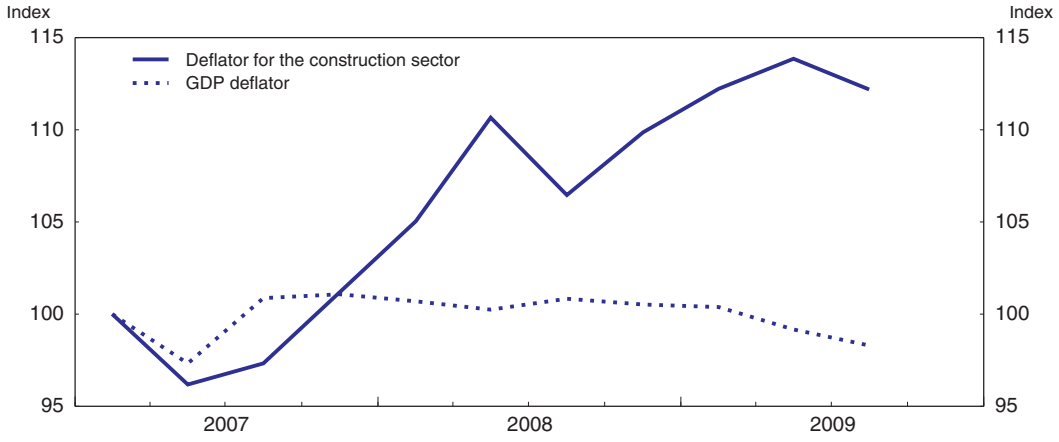
1. OECD estimates.
2. Goods and services, volume.

Source: Banco Central de Chile and OECD, *OECD Economic Outlook 86*.

StatLink http://dx.doi.org/10.1787/776232572067

Figure 2.3. **Development of construction prices**

2007 Q1 = 100



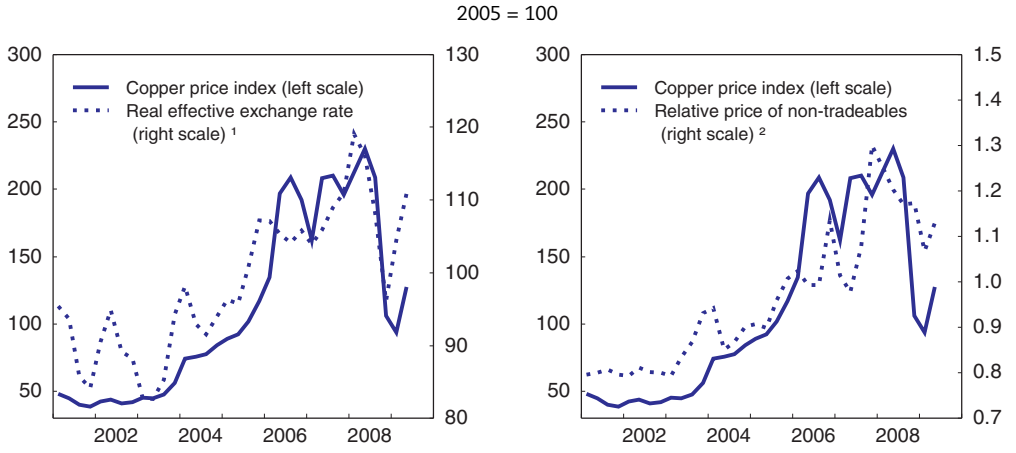
Source: Banco Central de Chile.

StatLink http://dx.doi.org/10.1787/776242014220

Shielding the economy entirely from the influence of commodity exports will not be possible for Chile. However, in the medium term Chile could think about refinements to its fiscal rule to provide an even stronger shield than today. Options are discussed in what follows. There are trade-offs to consider, however. Changes should not undermine the rule's simplicity, clarity and transparency, nor the broad political consensus on which it rests today. The government could evaluate different options and, if it finds one of them to be useful, envisage amending the current rule later on.

The fiscal rule aims at steering the public finances toward structural balance or a small surplus target each year. This target is defined as the headline budget balance excluding the effects on government receipts of fluctuations in output, the copper price and, since more recently, the price of molybdenum. Estimating structural revenues in this context requires an estimate of trend GDP growth and the long-run copper price and overestimating these during copper price booms can potentially lead to pro-cyclical

Figure 2.4. **Copper price and real exchange rate**

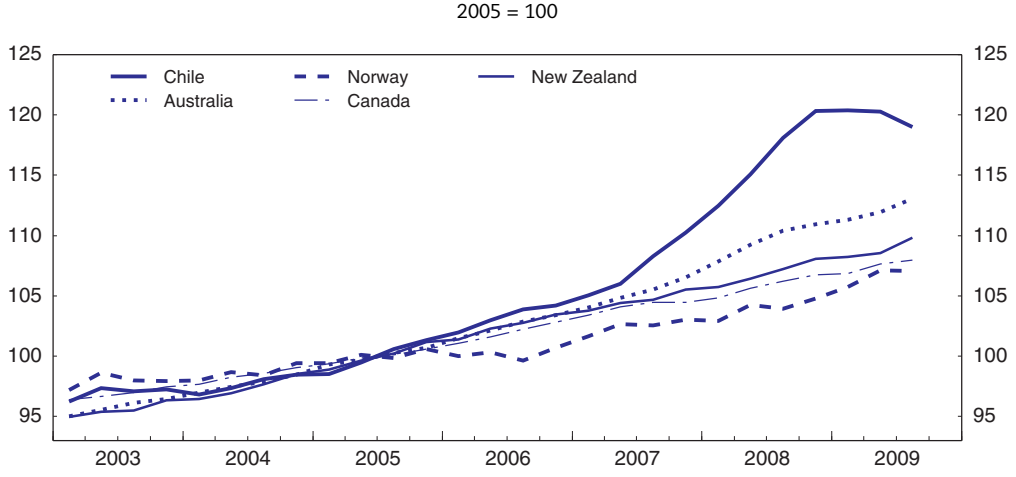


1. The real effective exchange rate is based on relative unit labour costs in manufacturing.
2. Deflator for the construction sector over deflator for the manufacturing sector.

Source: OECD, *Economic Outlook 86 Database*; Banco Central de Chile.

StatLink http://dx.doi.org/10.1787/776266224567

Figure 2.5. **Core inflation**



Source: Banco Central de Chile and OECD, *OECD Economic Outlook 86*.

StatLink http://dx.doi.org/10.1787/776308362345

spending increases. Chile has delegated the estimation of trend growth and the copper price to an external panel of experts with the aim of shielding these projections from political opportunism (Box 2.1). While this institutional framework favours the conduct of prudent fiscal policies, it does not fully rule out errors. The panel of experts revised its estimate of the long term copper price several times upwards during the latest copper price boom (Figure 2.6), allowing for spending increases. Projecting commodity prices is a daunting challenge and the panel of experts may be right in its assessment that copper prices are going to stay higher for longer. Nevertheless, an additional impulse from public spending is not warranted when the economy is already booming thanks to higher copper prices. During the boom, public spending growth had accelerated from 3.5% in real terms during 2000-03, a period of rather sluggish growth and low copper prices, to 7.5% during the copper price boom 2004-08.

Box 2.1. **The Chilean fiscal rule in practice**

Chile aims for structural balance or a small surplus target each year, netting out cyclical variations in output, the copper price and, since more recently, the price of molybdenum. Non-copper revenues are adjusted with standard elasticities that translate deviations of output from trend into deviations of actual tax revenues from their long-term level. Revenues from the state-owned copper company CODELCO and tax revenues from private mining companies are adjusted with the gap between the actual copper price and the long-run copper price, instead. The adjustment for cyclical variations in the price of molybdenum is equivalent. These adjustments require an estimate of trend growth and the long-run copper and molybdenum prices.

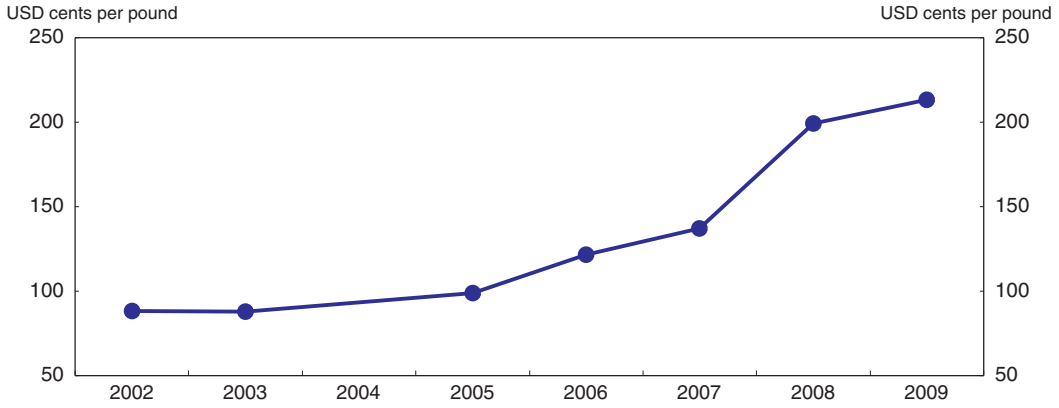
Surpluses that go beyond the structural balance target are accumulated in several sovereign wealth funds. These assets had grown to more than 13% of GDP during the copper price boom. In downturns, like the present one, Chile uses some of these assets to finance deficits.

Independent panels of experts estimate trend growth and the long-run price of copper for the government every year. The Ministry of Finance estimates the molybdenum price in consultation with experts. Tax elasticities with respect to the output gap are estimated at the Ministry of Finance, as well.

The structural balance target was initially set at 1% of GDP with three main goals in mind: 1) recapitalising the central bank given its negative net worth and structural operating deficit, 2) pre-financing contingent liabilities related principally to guaranteed minimum pensions and old-age benefits and 3) creating a buffer to limit external vulnerability arising from currency mismatches and potential limits on foreign borrowing in local currency. After evaluating the performance of these three variables the government reduced the structural surplus target to 0.5% in 2008. In 2009 it announced a temporary reduction of the structural balance to 0 to be able to conduct a fiscal stimulus during the crisis.

Figure 2.6. **Panel of Experts' estimate of the long-term copper price**[1]

2002-09



1. Prices are estimated on a 10-year projection from the initial year

Source: Gobierno de Chile, Ministerio de Hacienda, Dirección de Presupuestos.

StatLink http://dx.doi.org/10.1787/776312215436

One policy option to shield fiscal policies even more from copper price swings would be to move closer to the Norwegian model**.** Norway separates accumulated oil and gas-related surpluses in an off-shore fund, and aims over time to transfer 4% of the value of the fund (the estimated long-run real return on fund assets) to finance the non-oil budget deficit. The idea is to preserve the real value of natural resource assets, while allowing some spending of the proceeds today. The automatic stabilisers are allowed to work and the fiscal rule allows for deviations from the 4% path (including, as now, during cyclical downturns). The model is similar to Chile's as both accumulate a part of commodity-related revenues in a sovereign wealth fund. However, the Norwegian model avoids the need to estimate long-term commodity prices.

This model is not directly applicable to Chile, but the country could consider a version of it. Chile's copper is not expected to be depleted soon like Norway's oil and Chile has many opportunities to invest profitably in public goods, such as education and infrastructure, to generate higher income in the future. Thus, the case for preserving the copper wealth for future generations in the form of financial assets is not as strong in Chile as in Norway. Nevertheless, Chile could separate mining revenues from the budget and then define a constant annual structural deficit target for the non-mining budget to be financed with assets from the copper fund. This would ensure that mining revenues were spent counter-cyclically, like under the current rule, but without the risk of spending too much in a boom related to frequent updates of long-term copper price projections which could turn out to be pro-cyclical. It would make the rule simpler in the sense that estimates of the long-term copper price would not be needed to calculate the structural balance every year. Conceptually, the non-mining structural deficit target could be set such that it is sustainably funded with mining revenues without accumulating these over the copper cycle. However, this would most likely require periodic adjustments to the structural deficit target to avoid a sustained accumulation or depletion of resources in the copper fund when copper prices change on a sustained basis. Adjustments could be made if an accumulation or depletion of funds continued for more than five years and the size of the fund was judged to be too big or too small, which would be similar in spirit to the UK debt ceiling. This is similar to Chile's current rule, except that the structural non-copper deficit can currently increase whenever the panel of experts revises the long-term copper price, and thus structural copper revenues, upwards. With the suggested rule, this would happen only once a ceiling or a floor for assets in the sovereign wealth fund were to be hit.

If Chile does not want to change the fiscal rule to such an extent, it could simply convene the expert committee for the determination of long-term copper prices less frequently. Convening the expert panel less frequently could help limit the risk of pro-cyclical errors in copper price projections. Estimating the copper price less frequently does not automatically make the estimates more accurate. However, there is some evidence that it is easy to overestimate trend growth and thus underestimate the cyclical budget component during long-lasting asset price booms (Jäger and Schuhknecht, 2004), and the same may well apply to copper price booms. A longer interval for re-estimates could potentially limit this danger provided that the interval was long enough so that re-estimations occurred at different phases of the cycle. Lengthening the interval would increase chances that this would be the case. The ideal in this respect would probably be to re-estimate the copper price only once a full copper price cycle has been completed. To achieve this, the committee of experts could be asked to date the cycle and re-estimate the long-term price once it judges a full cycle to be completed.

In addition, Chile could consider complementing the structural fiscal rule with a multi-annual expenditure ceiling. This has worked well in a number of OECD countries, including Sweden and the Netherlands. The cap on spending should not be set so low as to rule out that the share of spending in GDP can increase over time, as this is to be expected as the country grows richer. However, the expenditure ceiling should be low enough to be a constraint in times of strong increases in output and copper price growth, so as to avoid an additional impulse from fiscal policy in booms. Complementing the current structural fiscal rule with an expenditure ceiling would potentially lead to structural surpluses beyond the current target and thus to a faster accumulation of funds during copper price booms. To maintain the symmetry of the fiscal rule, Chile could consider using these in severe downturns, like the current one, to relax the structural balance rule and allow for a discretionary fiscal stimulus. For this it would be important that the expenditure ceiling does not constrain spending increases in severe downturns when a discretionary fiscal stimulus would be warranted. Using a multi-annual expenditure ceiling should be sufficient to prevent this from happening, as sizeable discretionary fiscal stimuli with strong spending increases should only be necessary in exceptional crisis situations. Moreover, strong spending increases would rarely continue for several years. While Chile has increased spending by 15% in real terms in 2009, average spending growth would be less than half of this over the 2009-11 according to the budget 2010 and spending scenarios beyond that (Ministry of Finance, 2009). For extreme cases, when even a multi-annual ceiling could become a constraint for fiscal stimuli in times of crisis, Chile could introduce an escape clause into the fiscal rule. However, this would have to be weighed against making the rule more complicated.

Chile could consider building flexibility into its fiscal rules *a priori* for times of exceptional crises. As the current crisis has shown, the economy is not immune to very large terms of trade shocks. Moving into structural deficit in the current situation was the right decision, but returning to a structural balance or a small surplus too fast may endanger the recovery. Chile has built a lot of credibility in the past and there is probably no problem with relaxing the fiscal rule spontaneously in a severe crisis like this. But the government might be more comfortable to relax the structural deficit target and return only gradually to it, if this did not imply a breach of the fiscal rule. Chile could consider allowing for structural deficits *a priori* in well-defined exceptional crisis situations, for example in recession when output contracts for more than two consecutive quarters. These exceptions could come with principles on how to return to the rule gradually without jeopardising the recovery.

There are further refinements to the fiscal rule that Chile could consider. This includes adjusting the structural balance for cyclical changes in expenditures, as only revenues are adjusted now. Spending is likely to react more strongly to the cycle than until recently, as Chile has expanded its unemployment insurance system. Chile could also consider adjusting the structural balance for short-term changes in the exchange rate, which is important in particular for copper revenues. Finally, as birth rates have started to decline in Chile it could start to complement its fiscal reporting system with longer-term projections to get a feeling for sustainability issues.

Making protection against unemployment more efficient and effective

Chile could also strengthen its automatic stabilisers to cushion its economy against shocks. Currently, job creation programmes are launched only in periods of high

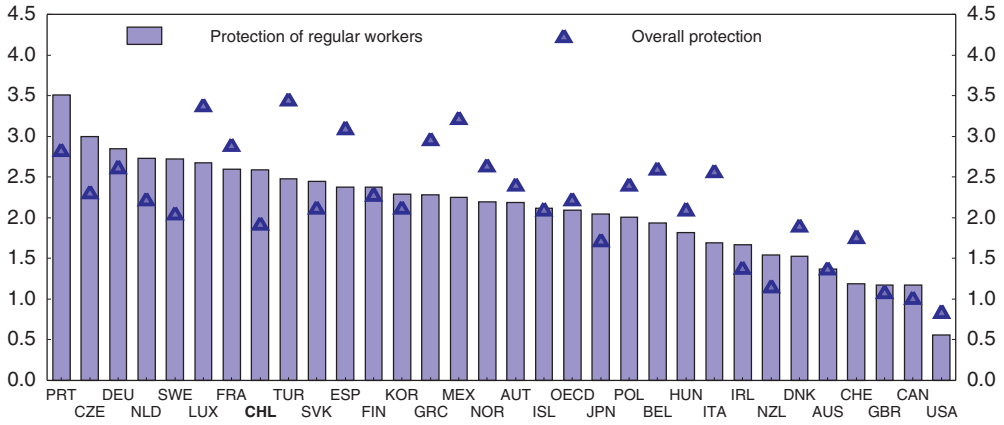
unemployment to provide some protection against employment losses. There is also a limited unemployment insurance system, which the government has strengthened recently, however. This should reinforce automatic stabilisers as well as providing more effective protection for the unemployed, thereby allowing for better matches between laid-off workers and job vacancies. The government should evaluate the recent reform of the unemployment benefit system to assess whether the extension of benefit duration has been sufficient.

Unemployment benefits are based on a system of forced savings accumulated in individual accounts with small complements from a fund called *Fondo Solidario* if the account balance is below a certain level. Until recently, only workers on indefinite contracts who were laid off for economic reasons could apply for payments from this fund. Before the reform, the average benefit payment was 30% of the average wage and the duration was limited to a maximum of 5 months, but for many workers it was shorter due to insufficient savings in their accounts (OECD, 2009a). Workers on fixed-term contracts, who are most likely to be unemployed, contribute less regularly and with low average contributions resulting in a low balance in their accounts. In fact, a large minority has accumulated less than one monthly minimum wage in their accounts (*ibid*). Unemployment benefits with excessively high replacement rates and long duration can lower work incentives. However, they should not be too low either, as they have an important role to play in ensuring households against excessive income losses in the event of a layoff with a stabilising effect on the macroeconomy in downturns. Benefits need to be available for long enough to put unemployed workers in a position to search until they find a job which matches their abilities, as mismatches are likely to lower productivity (Acemoglu and Shimer, 1999 and 2000). In Chile, the replacement rate of unemployment benefits is relatively low and so is their duration compared to OECD countries, not least owing to the fact that many workers are not able to save enough. In addition, access to the *Fondo Solidario* has been rather restrictive until recently. Up until 2008 it has been involved in less than 6% of the benefit cases (OECD, 2009a).

The government has strengthened unemployment benefits to some extent, which is welcome. After evaluating the effects of the changes, it could consider moving further in this direction. The reform has eased access to the Solidarity Fund and workers on fixed-term contracts are now sure to receive benefits for 5 months, with the benefit replacement rate tapering off from 50% at the first payment to 25% at the last. Payments can be prolonged for a further month in times of high unemployment. The government has also made the Solidarity Fund available for workers on short-term contracts and has eased the conditions for access, now allowing the minimum number of 12 monthly contributions to be discontinuous. Workers on fixed-term contracts can receive two monthly benefits from the Solidarity Fund replacing previous earnings at rates of 35% and 30%. In situations of high unemployment, the government can extend the benefits for two further months. This is an improvement that provides welcome income support in the current crisis and future downturns. The government should evaluate the recent reform and consider whether there would be merit in increasing benefit replacement rates which remain low compared to OECD countries. To achieve this, it would be efficient to strengthen the Solidarity Fund further, as insurance provides more effective income protection for contingent events, such as unemployment, than individual savings. Moral hazard can be contained by keeping duration short enough and continuing to let benefits taper off.

In return for better protection through unemployment benefits, the government could reconsider severance pay provisions. Overall, Chile's employment protection legislation (EPL) is not particularly rigid by OECD standards (Figure 2.7) but this is mainly due to relatively lax protection of temporary forms of employment and an absence of specific requirements for collective dismissals. In contrast, job security provisions for permanent workers are at the stricter end with an EPL-score close to that in France and higher than in Mexico, Turkey and Korea. This is mainly due to relatively high severance pay for this group of workers in Chile. There is some evidence that severance pay that increases with job tenure has negative effects on employment and participation rates of young workers in Chile, while favouring prime-aged and older workers, although with no significant effects on aggregate employment and labour participation (Pages and Montenegro, 2009). This study finds that the adverse effect on youth employment is essentially driven by the link between severance pay and job tenure. Caballero *et al.* (2006) show that in countries with stricter job security regulation the adjustment of employment to its optimum level after shocks is slower, also reducing output and productivity growth. Taken at face value, this study would suggest that high severance pay in Chile could explain to some extent why unemployment is more persistent than in countries with lower severance pay. Micco and Pages (2006) obtain the result that job security legislation reduces employment and output in very volatile sectors, mainly through a reduction in net entry.

Figure 2.7. **Employment protection, 2008**
Scale from 0 (least stringent) to 6 (most restrictive)



Source: OECD, *Indicators of Employment Protection.*

StatLink http://dx.doi.org/10.1787/776368355547

However, severance pay is in fact paid only to a relatively small section of the labour force. Only workers with job tenures above 12 months are entitled to severance pay and this group is as small as 6% of all formal and informal employees who become unemployed. This is because 60% of annual labour turnover is accounted for by workers on contracts with limited duration (Dirección del Trabajo, 2007), although approximately 70% of all formal jobs are of indefinite duration. This is an indication that employers react strongly to severance pay by dismissing mainly those workers without entitlements. Moreover, a significant part of laid-off workers who do have a right to severance pay seem to receive none or less than they are entitled to. Many firms going bankrupt have not provisioned for severance pay, as there is no obligation to do so, and cannot pay (Cowan

and Micco, 2005). Other employers negotiate or refuse to pay the full amount or to pay at all, disregarding the law. Some estimates suggest that only 1.25% of all dismissed workers actually receive severance pay (Escobar, 2009).

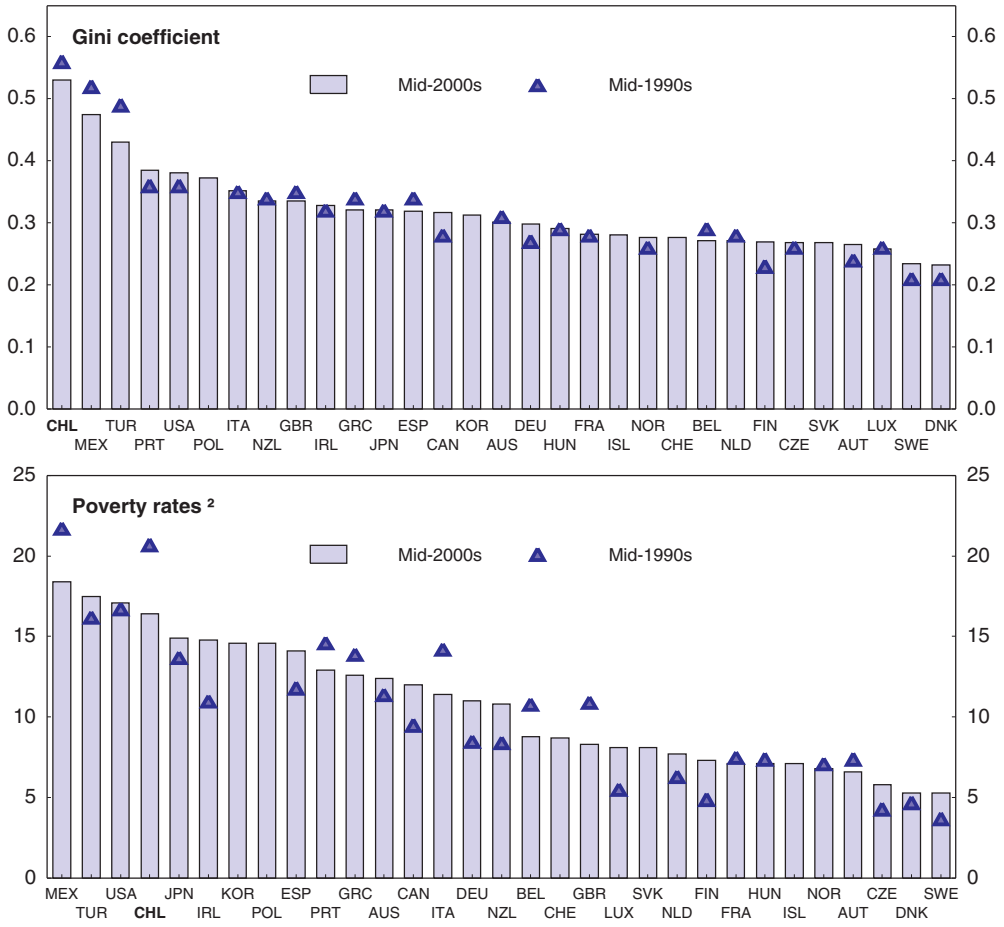
Evidence for OECD countries suggests that maintaining high dismissal costs for indefinite contracts along with relatively liberal regulations for fixed-term contracts, as in Chile, can lead to a dual labour market (Blanchard and Landier, 2002; Dolado *et al.*, 2002; OECD, 2004). This is mainly because employers have an incentive to recruit through temporary contracts and refrain from converting these into permanent ones to avoid severance pay. Both for employers and for the temporary workers themselves incentives to invest in training are reduced, especially if it is job-specific, given that the employment is likely to be terminated before the return on such investments is fully reaped. The result can be an increased concentration of labour turnover on people in temporary jobs, potentially trapping some of them permanently in employment with a high level of insecurity and under-investment in their education and training, which wastes part of their productivity potential. The high incidence of job turnover on temporary employment in Chile is testimony to this. Therefore, limiting severance pay, in particular its relation with job tenure, might improve the functioning of the Chilean labour market and in the end the quality of jobs. However, reducing severance pay is highly unpopular and for political-economy reasons Chile should best consider such a reform in a package, for example with higher unemployment benefits or possibly a strengthening of unions' bargaining power along the lines suggested in Chapter 1. Employers could be obliged to make a payment into the unemployment insurance savings accounts of workers with accrued rights, possibly with matching grants from the government, to compensate for at least some of the loss. Such a rebalancing of protection against unemployment should be acceptable to workers, as unemployment benefits would be available for a larger group, and they would be more reliable even for those workers who are now entitled to severance pay given that it is often not paid today.

Strengthening tax revenues for targeted social spending

Expenditure on education and social programmes is increasing

Despite good growth performance in recent times, inequality remains very high in Chile by international comparison (Figure 2.8). Poverty, in turn, has decreased substantially no matter what particular level for the poverty line is chosen and whether it is defined in absolute or in relative terms. Nevertheless, many people continue to hover around the poverty line (Larrañaga, 2009). In addition to its policies to enhance growth performance Chile uses well-targeted social policies to make progress to reduce poverty, which however remain limited in size in comparison with most OECD countries (Figure 2.9), although like in some OECD countries publicly mandated social spending is higher than it appears in Figure 2.9. Pension benefits accruing from the private compulsory system accounted for about 1.5% of GDP in 2007 and spending on healthcare by private insurers accounted for another 1% of GDP, although not all of this corresponds to compulsory health insurance. In addition, private spending on education below the tertiary level, which is mostly public in most OECD countries, accounted for close to 1% of GDP in 2006. Chile has recently substantially increased spending targeted at poorer households. This includes: school subsidies for poor children; in-work benefits for young low-wage workers; easier access to the Solidarity Fund of the unemployment benefit system, which is partly funded from the general budget; a substantial expansion of subsidised places in nurseries and

Figure 2.8. **Inequality and poverty across OECD countries**[1]



1. After taxes and transfers.
2. Poverty line defined at 50 per cent of the current median income.

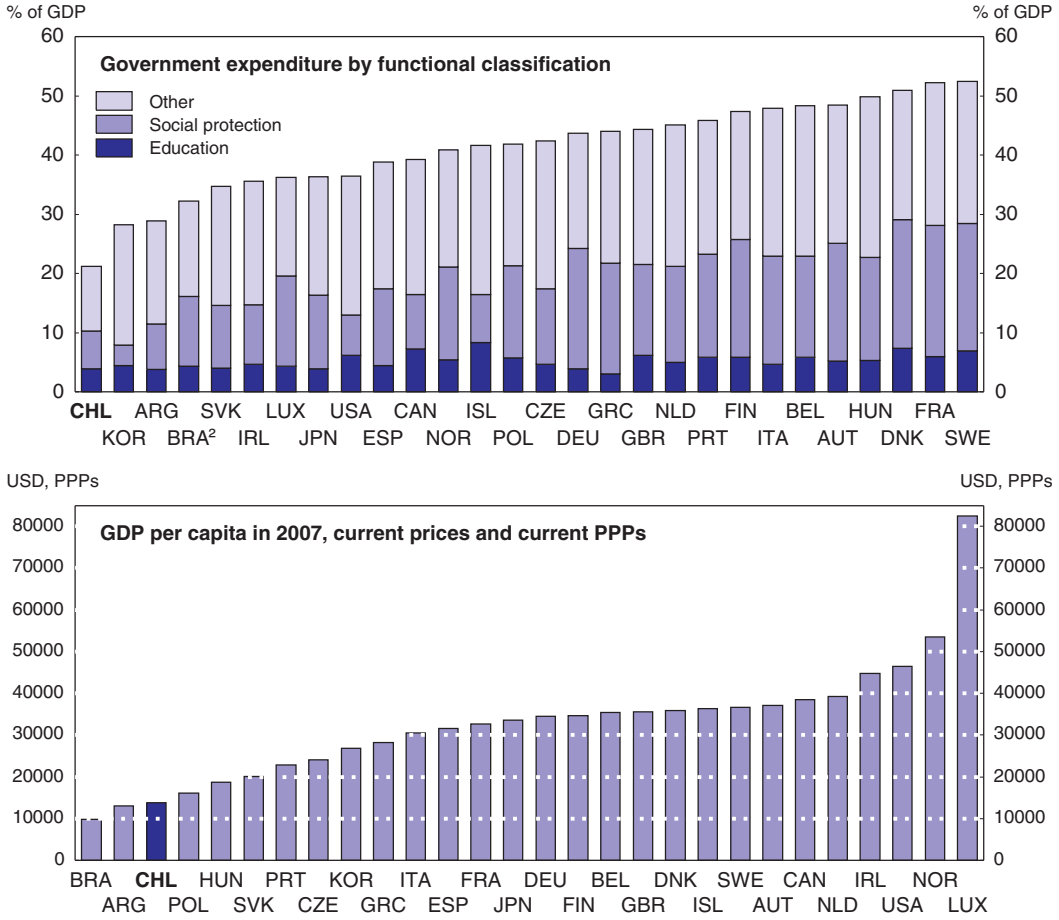
Source: OECD, *Growing Unequal? Income Distribution and Poverty in OECD Countries; OECD Social, Employment and Migration Working Papers No. 85*, "Inequality, Poverty and Social Policy: Recent Trends in Chile".

StatLink http://dx.doi.org/10.1787/776378802605

kindergartens and higher tax-paid minimum pensions along with top-up payments for those individuals who are not or insufficiently covered by the private pension system (around 70% of the labour force). These initiatives should help reduce poverty further, improve employment chances for young low-wage workers and provide better opportunities for poor children to develop their abilities to their full potential.

Tax revenues in Chile are relatively low in relation to GDP and overall the tax system is slightly regressive (Engel *et al.*, 1998; Cantallopts *et al.*, 2007). This is due to a relatively low yielding progressive income tax and a high share of indirect taxes in overall revenues (Figure 2.10), a combination which is not atypical for middle-income countries. It should be noted, though, that tax revenues, like public spending, are somewhat underestimated to the extent that the main pensions system and parts of the health care system are private and contributions are not recorded as public revenues. In 2007 they accounted for more than 6% of GDP. This section makes suggestions to limit or abolish some of the less efficient and more regressive tax expenditures. Proceeds can be used to target the commensurate

Figure 2.9. **Government expenditure and GDP per capita**
2007 [1]



1. Or latest year available, 2008 for Chile.
2. Excludes outlays on debt service.

Source: Ministerio de Hacienda; OECD, *National Accounts Database*; IMF, *GFS Database*; STN.

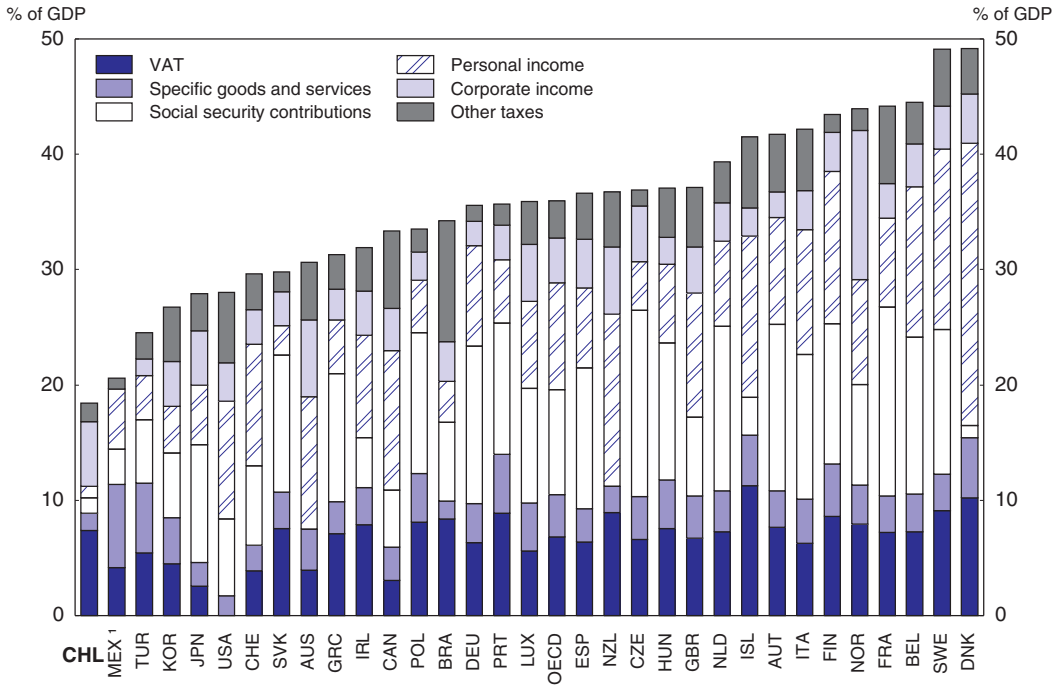
StatLink http://dx.doi.org/10.1787/776387775851

subsidies better at lower income households, to finance higher social spending or to lower tax rates, thus making the tax system more efficient.

Given that the tax system plays no role in Chile's redistributive efforts, spending on education and social programmes will remain important to reduce poverty and attenuate inequality Approved social reforms, including the pensions reform, are expected to be financed by future revenues and to a lesser extent by assets accumulated in sovereign wealth funds, including the *Fondo de Reserva de Pensiones*, which was set up to pre-finance a part of future pension benefits. Decreasing outlays for the public pension system, which is being phased out, are also going to contribute. On the other hand, the long-term development in revenues could be weaker than projected if recent copper price increases were not sustained or if the longer term impact of the crisis on potential output was stronger than currently expected. First, Chile should ensure that spending is effective and efficient. But government tax revenues may need to be expanded in the medium term in order to finance higher spending on social programmes and important public goods, such as education, while keeping public finances sustainable. Broadening the tax base by

Figure 2.10. **Tax revenue from different sources across selected countries**

2006



1. Personal income tax collections include revenue from taxes on corporate income/profits in Mexico.

Source: OECD, *Revenue Statistics Database*; SII for Chile and SRFB for Brazil.

StatLink http://dx.doi.org/10.1787/776401813781

abolishing some of the less efficient and regressive tax exemptions and working to increase the yield of the income tax system would contribute to this goal. As Chile is making important progress in reducing informality, including by improving the efficiency of its tax administration, it will become possible to strengthen tax revenues over time without risking an increase in the informal sector.

Chile has a commendable reporting system for tax expenditures. The nature and size of tax expenditures is reported every year in the budget report. Their costs in terms of foregone tax revenues are estimated to amount to around 5% of GDP (Ministry of Finance, 2009). The cost of tax expenditures is not comparable across countries given that estimates depend on the definition of what would be the benchmark. Judging from self-reported foregone tax revenues of the biggest tax expenditures in selected OECD countries, however, Chile's tax expenditures should be comparable in size to those of other countries (OECD, *forthcoming*). Limiting or abolishing tax expenditures that are thought to be unnecessary is often difficult, because in many cases they favour well-organised interest groups. Chile could therefore consider complementing its reporting system with an independent evaluation of the effectiveness and efficiency of tax expenditures in reaching their stated goals compared with alternative instruments. This could give the government reassurance when the tax expenditures are well designed. When they are not, the evaluation would provide the government with arguments to limit or abolish them. It would also be desirable to publish the distributive features of tax expenditures more regularly. An analysis in the budget report of 2006 shows that tax expenditures benefit mainly the wealthiest parts of the population, owing largely to the fact that few Chileans actually pay income taxes. As an

example, 85% of the tax deferrals in the personal income tax system, including the one for retained corporate earnings, benefit the wealthiest 5% of the population and 66.6% benefit the wealthiest 1% (Ministry of Finance, 2006).

Limiting less efficient tax exemptions could help finance higher spending…

The government might want to review remaining exemptions and preferential tax treatments. With a uniform rate at 19% and few exemptions, VAT in Chile has a rather broad base compared with OECD countries, which explains its relatively high contribution to overall revenues (see Figure 2.10). However, a few exemptions and tax credits remain, amounting to around 0.8% of GDP of foregone tax revenues. The government has recently capped the VAT credit for housing construction for more expensive buildings so as to reduce the foregone tax revenue and make the tax credit less regressive. The tax exemptions for health and education services could be reviewed, as well. They have a regressive impact as both are mainly consumed by higher-income households, while poorer households consume free public education and health services. Limiting these exemptions or abolishing them altogether could help finance recent increases in education and social spending or alternatively help to reduce the VAT rate to make the tax system more efficient and somewhat less regressive.

Chile could reconsider the tax treatment of private pension savings to further strengthen subsidies for medium- and low-income earners to save, while capping tax benefits for higher-income earners. The private pension system in Chile has contributed to the deepening of the financial market. At the same time it is characterised by low coverage, as around 55% of the working age population were not covered in 2005, and low density of contributions, as many more contribute for less than half of their working lives. Chile has made commendable progress by increasing tax-financed minimum and top-up pensions for this group and introducing subsidies for young low-wage workers and mothers. However, income tax allowances to promote pension contributions mainly benefit higher-income groups given that a majority of Chilean workers have earnings below the exemption threshold and do not pay income taxes. Mandatory contributions also benefit from tax subsidies, although the need to provide savings incentives for higher-income individuals is likely to be limited when coverage is compulsory. Some of the public revenues now foregone due to tax incentives for higher-income individuals might be better spent on subsidies for low-income individuals to save. The main challenge that Chile's private pension system needs to confront is low coverage and density of contributions of low-income workers who struggle to save sufficiently for old age. Subsidies should be well targeted at this group.

Contributions to the private pension system and the accrued return on accumulated funds are tax-free in Chile, while the benefits are treated as taxable income upon withdrawal. This regime is often referred to as exempt-exempt-tax (EET, see OECD 2006, Antolin *et al.,* 2004; OECD, 2004b). It is a common treatment of voluntary private pension savings in OECD countries. In Chile, it is applied both to mandatory contributions and to voluntary top-up contributions up to a ceiling, including employer-sponsored programmes. It is considered a favourable tax treatment compared with the so-called comprehensive income tax regime that treats all sources of income equally (Antolin *et al.*, 2004, de Serres and Yoo, 2004). In such a regime, saving contributions and accrued returns would be subject to income tax, while benefits would remain tax-free (tax-tax-exempt, TTE). Compared to this the treatment of pensions in Chile is a tax deferral. The main

rationale for the EET-regime is that it does not distort the decision between current and future consumption. In practice, however, tax regimes rarely achieve neutrality, not least because other savings instruments are rarely subject to an EET-regime. Estimates of the net cost of different tax treatments for pension savings in OECD countries suggest that the EET regime is a particularly expensive model to favour pension savings (Antolin *et al.,* 2004; de Serres and Yoo, 2004). Countries who tax contributions or accrued returns to some extent incur lower foregone revenues compared to the benchmark TTE. In Chile the treatment of pension savings is one of the costliest tax expenditures according to government calculations.

In principle, Chile could treat compulsory private pension savings like any other savings instrument, as compulsory savings need not be supported with tax incentives at least for those individuals who are able to save sufficiently without subsidies. However, the government may still wish to apply a favourable tax regime to pensions, especially for the part that goes beyond the compulsory level to encourage higher pension savings. Evidence suggests, however, that a favourable tax treatment of pension savings is more likely to distort the composition of savings, while doing little to increase overall savings, especially when tax incentives benefit mainly higher-income earners (OECD 2006, Antolin *et al.,* 2004: OECD, 2004b). In Chile the low coverage of self-employed workers of 3.3% in 2007 is testimony to this, as these workers are eligible for the favourable tax regime, but their contributions were voluntary until recently.

Making private pension savings compulsory for additional programmes and groups is probably more effective to increase the coverage of the pension regime and the density of contributions. For example, in the longer term Chile could consider whether it is feasible to make occupational pension programmes mandatory, as they are in a number of OECD countries (Antolin *et al*., 2004). The government has made pension savings mandatory for the self-employed who declare income taxes, which will be gradually phased in over 2012-18. This is a welcome initiative. Making pension contributions mandatory for the self-employed will require enhanced control efforts, because even those who pay income taxes now could start under-declaring their income. Extending the reach of mandatory pensions would allow the government to lower fiscal incentives to contribute to the system, freeing resources to support pensions of low-income households.

Subsidies for pension savings could be better targeted, by concentrating them more on workers with middle and low incomes. The government has already taken measures to improve access to subsidies for some contributors who pay little or no income tax, as workers who contribute voluntarily can now opt for a direct subsidy instead of tax breaks. It could consider strengthening subsidies for medium- and low-income earners further and capping the tax relief for pension contributions by providing a flat non-wastable tax credit or a subsidy instead of a tax allowance. This way the subsidy would be available for middle- and low-income earners with earnings below the tax exemption threshold, who are most likely to need support to be able to save sufficiently for old age. At the same time, the tax incentive would no longer increase with marginal tax rates and thus income. Limiting the subsidy for higher-income workers is justified, because they are likely to be able to save even without support. Higher pension savings subsidies for low- and middle-income earners who declare taxes can also be a powerful incentive to move into the formal sector.

To limit the cost of fiscal savings incentives further, the government could even consider applying a low flat tax rate to accrued earnings. This can reduce the net fiscal

costs of savings incentives substantially, even when applied at a relatively low rate (Antolin *et al.*, 2004). It would be important to calibrate such a tax carefully, however, so as not to endanger the adequacy of future pension income. Providing tax credits for pension contributions and taxing accrued returns at a low rate can still be calibrated so that the net present value of tax payments is lower than for other saving instruments. This could remain true even if the income tax were continued to be applied to benefits at the full rate, given that pension income is likely to be lower than previous earnings. However, if the government is concerned about double taxation it could apply some tax relief to benefits. What is important in the end is to reduce the fiscal cost of savings incentives, while targeting them at those who need them most.

The rental income derived from much of the country's real estate is tax exempt and there would be merit in reviewing this measure. Rents derived from properties that are smaller than 140 square meters and have been built in line with the provisions of Law Decree No. 2 of 1959 (*Decreto con Fuerza de Ley* No. 2, DFL 2) are tax exempt. This was originally designed to encourage the building of affordable housing. According to estimations of the internal revenue service, only 20% of residential housing do not benefit from this measure. The rationale and the effectiveness of this tax expenditure could be reviewed not least because the VAT tax credit for housing construction serves the same goal. In addition there are well-targeted demand-oriented housing subsidy programmes (OECD, 2007). The government should evaluate the effectiveness and efficiency of the instruments it uses to promote affordable housing, including their interaction. It might well be preferable to retain only the most effective instrument.

... and Chile could work towards increasing its income tax revenues

The contribution of the personal income tax to overall tax revenues in Chile is low in international comparison. This is due to a relatively high exemption threshold, low rates for most tax payers (Box 2.2) and the difficulty to tax high-income earners at the rates foreseen in the personal income tax schedule. Retained earnings are taxed at the corporate tax rate of 17%. Corporate tax earnings have recently increased substantially, because private mining companies have started to pay taxes, after benefitting from accelerated depreciation allowances on their original investments. The personal income tax rate, which is significantly higher than 17% for higher incomes, is applied only once earnings are distributed. This creates an incentive for high-income individuals to keep most of their income as retained earnings of corporations. The existence of more than 30 000 investment societies (*sociedades de inversión*) that are exclusively created to manage retained profits is testimony to this (Cantallopts *et al.*, 2007). The fiscal revenues losses associated with deferring personal income taxation for retained corporate earnings is estimated to be around 2% of GDP (Ministry of Finance, 2009).

The government could consider closing the tax loopholes associated with corporations that are created for the sole purpose of deferring taxes or avoiding them altogether, such as *sociedades de inversión*. It has recently suppressed the possibility for such vehicles to defer payment of corporate income taxes to the moment when profits are withdrawn, a treatment to which some small companies in Chile are eligible. It could consider moving further into this direction by banning *sociedades de inversión* altogether or by applying the personal income tax rate to savings retained in such vehicles. As a complementary measure, the government could also consider bringing the corporate income tax rate and the top personal income tax rates closer together to reduce incentives

Box 2.2. **The Chilean tax system**

Personal and corporate income taxes are fully integrated and together account for about one third of tax revenues. The corporate tax rate (impuesto de primera categoría, IPC) is flat at 17%. The earnings tax for dependent workers (impuesto de segunda categoría, ISC) and the general income tax (impuesto global complementario, IGC) are subject to the same progressive tax schedule. They are filed on an individual basis.

Table 2.1. **Number of taxpayers in Chile per income brackets (Consolidated Personal Taxes)**

Annual Tax Unit (UTA)	2009		
	Marginal rate (%)	Number of taxpayers	% of taxpayers
0 to 13.5	0	6 346 693	82.68
13.5 to 30	5	872 082	11.36
30 to 50	10	242 104	3.15
50 to 70	15	102 080	1.33
70 to 90	25	49 589	0.65
90 to 120	32	33 284	0.43
120 to 150	37	13 260	0.17
150 and above	40	16 898	0.22
Total		7 675 990	**100**

1. One UTA is equivalent to 442,356 pesos (810 USD in November 2009).
Source: Servicio de Impuestos Internos – Chile.

Retained profits are taxed at the corporate profit rate. Once they are distributed, the corporate tax is creditable against the IGC which then becomes due at the individual level. Individuals or legal entities that are not residents in Chile pay a 35% additional tax on dividends, withdrawals and/or remittances of profits (against which paid corporate taxes can be claimed as a tax credit).

There is a presumptive tax system for unincorporated businesses in selected sectors (agriculture, small mining and transport) subject to turnover thresholds. Special tax regimes are also in place for small enterprises based on simplified accounting and for small taxpayers (street vendors, miners and craftsmen, etc.) based on turnover.

The Value Added Tax (VAT) with a uniform rate of 19% is the main indirect tax accounting for more than 40% of total tax revenues. Education and health care services, public transport services, real estate rents and life insurance are tax exempt. There are no registration thresholds. Other indirect taxes include excise taxes on tobacco, alcohol and fuel.

Chile introduced a small royalty on operating profits (after normal depreciation) of mining companies in 2005. The tax rate increases with sales above 12 000 equivalent tonnes of copper (metallic and non-metallic minerals) and can reach up to 5% for sales above 50 000 equivalent tonnes of copper.

Municipal taxes account for 1.5% of GDP and comprise a property tax, municipal licenses and a vehicle registration tax.

for aggressive tax planning. Lowering top personal income rates could be justified politically if the tax base could be broadened at the same time by eliminating regressive tax exemptions. However, to strengthen tax revenues through such a measure this would also need to involve increasing the corporate income tax rate at least a bit.

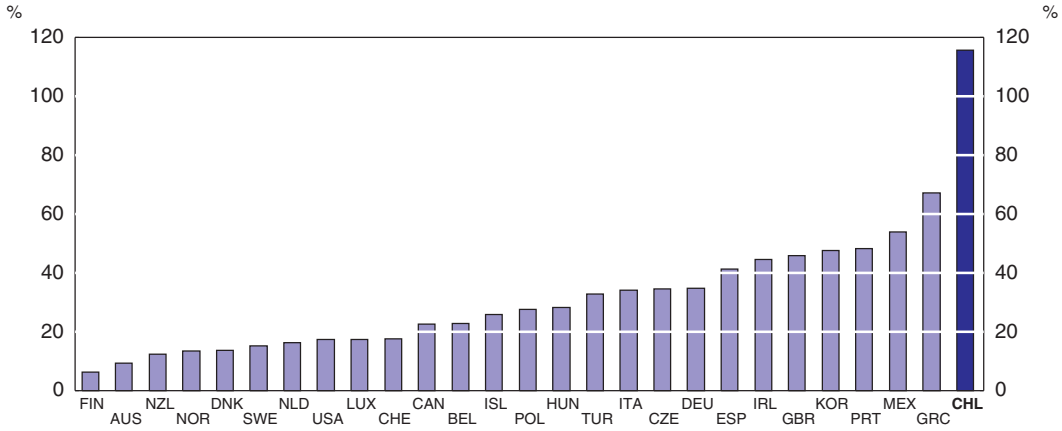
Increasing the corporate tax rate involves more difficult decisions, but as long as the increase is not too high, ensuing problems should be limited. The corporate tax rate in Chile is among the lowest in the OECD and depreciation allowances are very generous. Depreciation allowances are worth more the higher the capital income tax rate. The government could evaluate whether low corporate tax rates and high depreciation allowances are needed at the same time. In fact, there is evidence that at least for large firms that are not credit-constrained the corporate tax rate does not influence investment decision in Chile (Bustos *et al.,* 2003), mainly because of the high depreciation allowance and interest rate deductibility. On the other hand, there is some – although not entirely conclusive evidence – that the reduction of the corporate tax rate on retained profits in 1984 has helped spur the ensuing investment boom, possibly by helping credit-constrained firms to finance this investment (Hsieh and Parker, 2006) in a context of weakly developed financial markets. However, it should be noted that the tax rate was lowered from 40% to 10% at the time and financial markets have developed since then. A moderate increase in the corporate tax rate should do little harm to firms' ability to finance profitable investments, especially if the government continues its efforts to improve the access of small and medium enterprises to capital markets. It is also important to consider that depreciation allowances that go beyond economic depreciation are likely to distort the allocation of resources in favour of particularly capital-intensive sectors, such as mining in Chile, with potential damage to employment.

Increasing income tax revenues need not imply lower work incentives for many. Recent OECD work suggests that while income taxes are preferable over consumption taxes in terms of their effects on distribution, a revenue-neutral shift from income to consumption taxes may have slightly positive effects on growth (Johansson *et al.,* 2009). This is because consumption taxes often have a broader base than income taxes, because they apply to all forms of income, and because they are proportional, while income taxes are progressive which is found to be less beneficial for growth. However, this empirical result is obtained for OECD countries with comparatively high and progressive marginal income tax rates that cover large parts of the population. In Chile increasing income tax revenues by bringing the personal and the corporate income tax rate closer together might have some negative effect on the incentives of high income individuals to work and save as they might effectively pay a higher income tax than before. However, this effect could be kept relatively low as long as higher personal income tax rates were lowered sufficiently. Moreover, some of the higher income tax revenues along with proceeds from abolishing the remaining VAT exemptions could be used to lower the VAT rate, which would produce countervailing effects. This is because VAT lowers the purchasing power of real after-tax wages, weakening work incentives in much the same way as the income tax. Since marginal consumption tax rates are high in Chile compared to marginal income tax rates for most individuals, this could raise the efficiency of the tax system.

Chile could also consider applying a very low income tax rate to an income bracket that is below the exemption threshold so that more people with lower income pay income taxes. Today, the exemption threshold is very high in international comparison (Figure 2.11). Simulations suggest that if Chile were to apply a 3% tax rate to individuals who are currently not taxed it could raise its income tax revenues by almost 2% of GDP, although this is an

Figure 2.11. **Income tax exemption threshold for a single person**

As a percentage of GDP per capita, 2008



Source: OECD, *Taxing Wages 2007-2008* and OECD calculations; Servicio de Impuestos Internos – Chile.

StatLink http://dx.doi.org/10.1787/776406814823

accounting exercise that does not take into account people's reactions (OECD, 2009b). It is also important to note that while it may be possible to lower the tax exemption threshold, it would not be advisable to abolish it altogether as assumed in this simulation exercise. Lowering the tax exemption threshold, however, would not be politically feasible unless it came in a package with important improvements for low-income earners, such as stronger unemployment benefits or lower indirect taxes after a broadening of its base. If indirect taxes could be lowered sufficiently, however, this could well result in a lower tax wedge for these low-income earners, as the impact of a low income tax rate on their tax wedge could well be lower than the impact of a VAT rate of 19%.

To strengthen tax revenues property tax would also be a good candidate. Taxes on immovable property are relatively growth-friendly, because they do not affect decisions to supply labour, produce, invest and innovate to the same extent as other taxes. Also, these taxes are more difficult to evade because real estate and land are highly visible and immovable. Property taxes with regular updating of valuation can also contribute to the progressivity of the tax system (Johansson *et al.*, 2009). This should be the case in Chile where the exemption threshold for housing real estate corresponds approximately to the median value of homes owned by the lowest income quintile. The median value of residential property rises sharply for higher income deciles (Torche and Spilerman, 2004). While the revenues of the real estate tax go to municipalities, higher property tax revenues could still free resources for the central government, as municipalities are dependent on central government transfers. Alternatively, the central government could increase its surcharge on the municipal tax.

Box 2.3. **Recommendations to strengthen the fiscal framework**

- Consider possibilities to further strengthen the fiscal rule.
- Consider strengthening the insurance element of the unemployment benefit system, by easing access to the *Fondo Solidario* further and allowing to some extent for higher benefits. Severance pay could be lowered in return, for example by keeping it flat rather than letting rights increase with job tenure.

Box 2.3. **Recommendations to strengthen the fiscal framework** *(cont.)*

- Complement reports about the size of tax expenditures with evaluations of their effectiveness and efficiency.
- Consider abolishing or limiting remaining VAT exemptions.
- Consider strengthening subsidies for pension savings supporting low- and medium-income earners further, while capping tax benefits for high income earners.
- Close tax loopholes associated with corporations created for the sole purpose of deferring the payment of personal income taxes.
- Consider increasing the property tax rate, if needed.

Bibliography

Acemoglu, D. and R. Shimer (1999), "Efficient Unemployment Insurance", *Journal of Political Economy,* Vol. 107, No. 5, pp. 893-928.

Acemoglu, D. and R. Shimer (2000), "Productivity Gains from Unemployment Insurance", *European Economic Review,* Vol. 44, No. 7, pp. 1195-1224.

Antolin, P., A. de Serres, and C. de la Maisonneuve (2004), "Long-Term Budgetary Implications of Tax-Favoured Retirement Savings Plans", *OECD Economic Studies No. 39,* OECD Paris

Blanchard, O. and A. Landier (2002), "The Perverse Effect of Partial Labour Market Reform: Fixed-Term Contracts in France", *Economic Journal*, Vol. 112, No. 480, pp. 214-244.

Bustos, A., E. Engel and A. Galetovic (2004), "Could higher Taxes increase the Long-Run Demand for Capital in Chile? Theory and Evidence for Chile", *Journal of Development Economics,* Vol. 73, No. 2, pp. 674-679.

Caballero, R., K. Cowan, E. Engel and A. Micco (2006), "Effective Labor Regulation and Microeconomic Flexibility", *Cowles Foundation Discussion Paper*, No. 1480, Yale University.

Cantallopts, J., M. Jorratt and D. Scherman (2007), "Equidad Tributaria en Chile: Un Nuevo Modelo para Evaluar Alternativas de Reforma", *mimeo*.

Cowan, K. and A. Micco (2005), "El Seguro de Desempleo en Chile: Reformas Pendientes", *En Foco 53,* Expansiva, Santiago.

Dirección del Trabajo (2007), *ENCLA 2006 – Resultados de la Quinta Encuesta Laboral,* Santiago.

Dolado, J.J., C. Garcia and J.F. Jimeno (2002), "Drawing Lessons from the Boom of Temporary Jobs in Spain", *Economic Journal*, Vol. 112, No. 480, pp. 270-295.

de Serres, A. and K.-Y Yoo (2004), "Tax Treatment of Private Pension Savings in OECD Countries", *OECD Economic Studies No. 39,* OECD Paris.

Escobar, L.E. (2008), "El Seguro de Cesantía en Chile: Diagnóstico y Propuestas para Fortalecerlo", in Escobar *et al., Un Seguro de Desempleo Universal para Chile: El Inicio de un Debate*, Chile 21, Santiago.

Engel, E.M.R.A., A. Galetovic and C.E. Raddatz (1999), "Taxes and Income Distribution in Chile: Some Unpleasant Redistributive Arithmetic", *Journal of Development Economics*, Vol. 59, No. 1, pp. 155-92.

Hsieh, C. and J. Parker (2007), "Taxes and Growth in a Financially Underdeveloped Country: Evidence from the Chilean Investment Boom", *Economía* , Vol. 8, No. 1, pp. 121-160.

Jaeger A. and L. Schuhknecht (2004), "Boom-Bust Phases in Asset Prices and Fiscal Policy Behaviour", *IMF Working Papers 04/54,* International Monetary Fund, Washington.

Johansson, A., C. Heady, J. Arnold, B. Brys, L. Vartia (2009), "Taxation and Economic Growth", *OECD Economics Department Working Papers No. 620,* OECD, Paris.

Larrañaga, O. (2009), "Inequality, Poverty and Social Policy: Recent Trends in Chile", *OECD Social, Employment and Migration Working Papers No. 85,* OECD, Paris.

Micco, A. and C Pages (2006), "The Economic Effects of Employment Protection: Evidence from International Industry-Level Data", *IZA Discussion Paper2433,* Forschungsinstitut zur Zukunft der Arbeit, Bonn.

Ministry of Finance (2009), *Informe de Finanzas Públicas,* Ministry of Finance, Santiago.

Ministry of Finance (2006), *Informe de Finanzas Públicas,* Ministry of Finance, Santiago.

OECD (2004a), *OECD Employment Outlook*, Paris.

OECD (2004b), *OECD Economic Studies*, "Special Issue: Tax-Favoured Retirement Saving", *OECD Economic Studies No.* 39, 2004/2, OECD, Paris.

OECD (2006), "Fundamental Reform of Personal Income Tax", *OECD Tax Policy Studies No. 13*, OECD, Paris.

OECD (2007), *OECD Economic Surveys,* OECD, Paris.

OECD (2009a), *OECD Reviews of Labour Market and Social Policies – Chile,* OECD, Paris.

OECD (2009b), *Latin American Economic Outlook,* OECD, Paris.

OECD (2010), *Tax Expenditure and Base-Broadening*, forthcoming.

Pagés, C. and C. Montenegro (2007), "Job Security and the Age Composition of Employment: Evidence from Chile", *Estudios de Economía,* Vol. 34 , No. 2, pp. 109-139.

Torche, F. and S. Spilerman (2004), "Parental Wealth Effects on Living Standards and Asset Holdings: Results from Chile", Institute for Social and Economic Research and Policy Working Paper 04-06, Columbia University, New York.