

Assessment and recommendations

- *The economy is growing solidly*
- *The financial system appears sound, but housing-related risks remain*
- *Well-being is high, but income inequality has risen*
- *Reducing skills shortages*
- *Improving fiscal sustainability*
- *Managing non-renewable resource revenues and economic disparities*
- *Ensuring growth is environmentally sustainable*

Canada has experienced fairly solid employment and output growth since the trough of the global recession and is projected to use up spare capacity by mid-2015. Labour force participation has remained near the pre-recession peak, and unemployment is only one percentage point higher than the pre-recession low. Fiscal consolidation is well advanced at the federal level, although less so at the provincial level, and underlying inflation is expected to slowly rise back towards the 2% target midpoint. The sound banking system and strong corporate balance sheets provide a favourable backdrop for a strengthening in business investment. In addition, Canadians enjoy one of the world's highest levels of well-being.

However, high levels of household debt continue to constitute a risk to the outlook. In particular, in the event of a significant negative external shock, such as a large increase in global long-term interest rates, resulting in higher unemployment, Canadian consumers would likely cut back spending to a greater degree than if they had lower debt levels. Such a pullback would be accentuated if already high house prices fell significantly. Similarly, persistently weak non-commodity export performance has limited growth. Output and incomes have soared in resource-rich regions, but little of the fiscal gains have been saved. Skills shortages have developed in a few occupations, especially in the resource-rich provinces of Alberta and Saskatchewan, which could impede growth. Oil-sands development has contributed to growth but has also generated environmental damage that, in some cases, has adversely affected local communities.

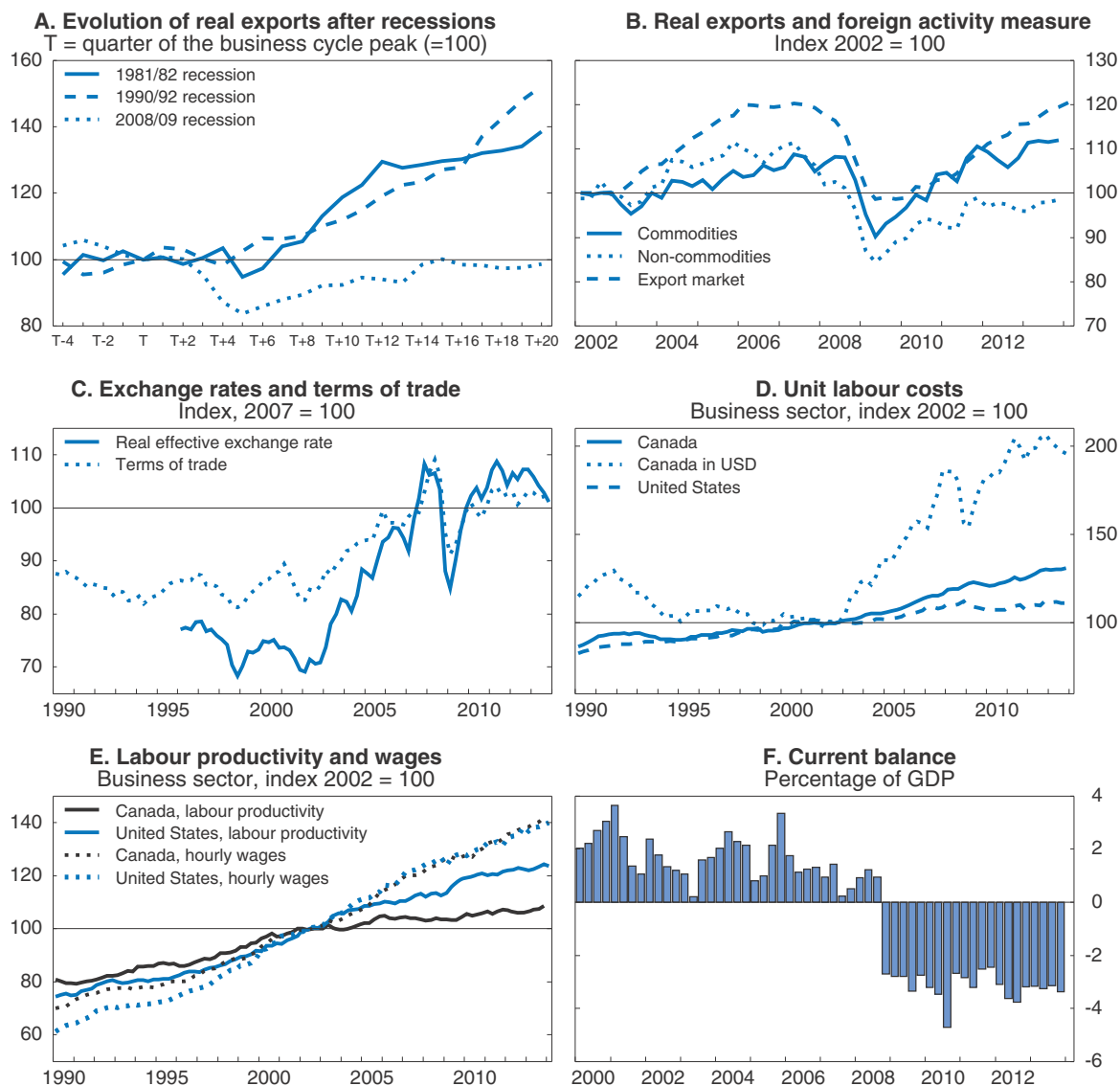
Policymakers have made good progress in responding to these challenges by taking measures to slow the build-up of risks in household finances, strengthen public finances, save a greater share of resource rents for future generations and ease skills shortages. This *Survey* reviews this progress, with a particular focus on housing issues (Chapter 1) and skills shortages (Chapter 2), and, where appropriate, suggests how further reforms could help sustain strong, inclusive growth and high levels of well-being.

The economy is growing solidly


The economic expansion strengthened in the second half of 2013, with growth rising to 2.8% on average, after a soft patch that began in late 2011. This acceleration has been led by private consumption, underpinned by income and wealth gains. Non-commodity export performance has continued to deteriorate (Figure 1), while business investment growth has recently been rather soft, albeit less so than in most other G7 countries (Figure 2).

Exports are now close to their 2007 cyclical peak but are well below levels that might be expected at this stage of the recovery, with non-commodity exports being particularly weak. This weakness is partly attributable to the hesitant global economic expansion, notably in the United States, but is also due to a loss of international competitiveness. Business-sector unit labour costs in US dollars increased by 98% between 2002 and 2011, compared with a US increase of only 9%. Most (73 percentage points) of this difference is attributable to exchange rate appreciation. The remainder largely reflects lower labour productivity growth in Canada (6%) than in the United States (21%); increases in hourly

Figure 1. **Non-commodity export performance has been undermined by a loss of cost competitiveness**



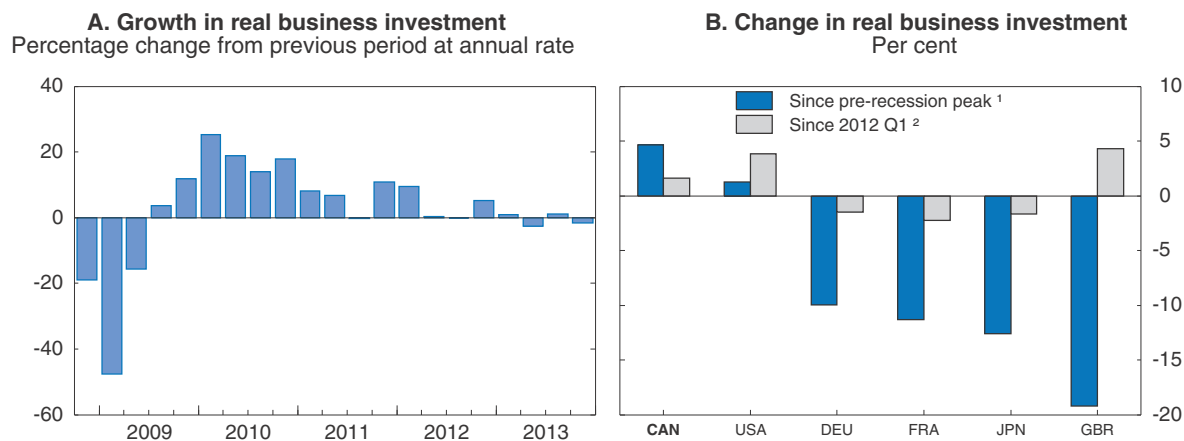
Source: OECD calculations from Statistics Canada, Bank of Canada, US Bureau of Labour Statistics and OECD (2014), OECD Economic Outlook 95 Database.

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compensation rates were almost the same, at 33% in Canada and 32% in the United States. Despite exchange rate depreciation, this loss of competitiveness was only slightly reversed (3 percentage points) by the fourth quarter of 2013. The IMF (2014a) estimated that the real effective exchange rate was overvalued by some 7% in the last quarter of 2013; since that point the Canadian dollar has depreciated by 4%. As a result of the energy boom, Canada's real effective exchange rate compatible with a sustainable current account position has appreciated substantially over the past decade.

The recent weakness in business investment follows strong growth coming out of the recession, when it rebounded even more strongly than in the United States, the only other

Figure 2. Real business investment




Note: Last observation is 2013 Q4 for all countries.

1. The pre-recession peak in real GDP was 2007 Q4 for the United States; 2008 Q1 for the United Kingdom, France, Germany and Japan; and 2008 Q3 for Canada.

2. Average quarterly growth at annual rate.

Source: OECD, OECD Economic Outlook 95 Database.

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G7 country where full recovery has occurred. The gains reflect increases in both non-residential construction and machinery and equipment investment and are at least in part attributable to several government actions since 2006, such as lowering the corporate tax rate.

Nevertheless, there is little evidence of any sustained pickup in productivity growth, which was unchanged at a lacklustre 1.5% per year over each of the last two multi-factor productivity (MFP) growth cycles, despite an increase in the contribution of capital deepening (Table 1). This performance lags far behind that in the United States, where labour productivity growth increased to 2.7% per year over the last cycle (1995-2009). The difference in labour productivity growth over the last cycle is entirely attributable to Canada's shortfall in MFP growth. In the current recovery, MFP gains have been broadly in line with the experience of past cycles, whereas in the United States they have been higher than in previous cycles and almost twice as high as in Canada. A persistently low rate of MFP growth is of particular concern, because MFP captures the main sources of rising living standards over the medium term, and it remains Canada's single largest long-term challenge. This challenge was discussed in the 2012 *Survey*, which also provided policy recommendations for enhancing innovation outcomes and improving tertiary education. Progress in implementing these reforms is discussed in the Annex.

Job creation has been robust since 2009, nudging the employment rate up (Figure 3). The unemployment rate has fallen from a recession peak of 8.7% to 6.9%, which is still about a percentage point above the pre-recession low. The share of long-term unemployed (26 weeks or more) in total unemployment, at 20%, is below the post-recession high and far below outcomes elsewhere. Annual real hourly compensation growth picked up to 1.9% in the fourth quarter of 2013, which was less than hourly productivity gains (2.4%). Growth in business-sector unit labour costs eased to around 0.5%.

Underlying consumer price inflation has fallen to the lower end of the official 1-3% target range owing to economic slack and heightened competition in the retail sector (Figure 4). The Bank of Canada (2014) estimates that each of these factors has reduced inflation by

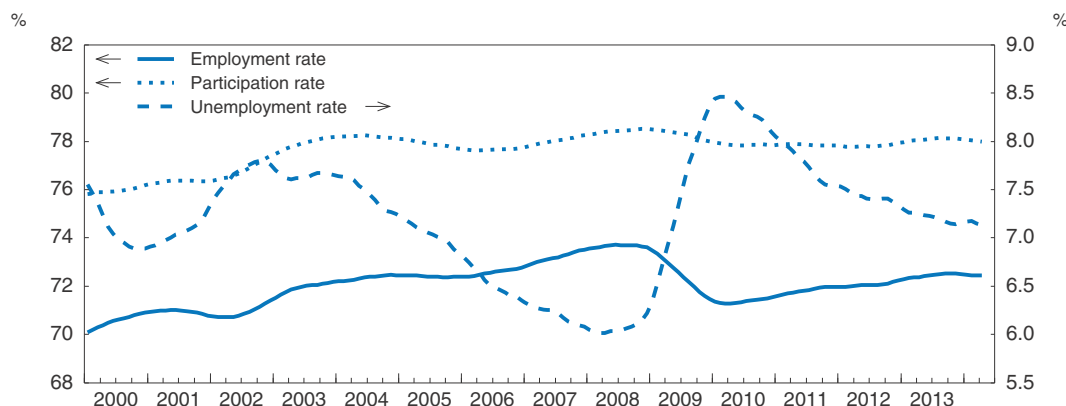
Table 1. Productivity growth has been weak
Business sector, annual average, per cent

	Labour productivity growth	Contribution of capital deepening	Multifactor productivity growth
Canada¹			
1991-96	1.5	0.9	0.7
1996-2009	1.5	1.5	0.0
2009-11	1.4	0.5	0.9
1996-1998	2.5	1.6	1.0
1991-1993	2.0	1.3	0.8
United States¹			
1991-95	1.4	0.6	0.8
1995-2009	2.7	1.5	1.2
2009-11	1.8	0.2	1.6
1995-97	2.5	1.2	1.3
1991-93	2.3	0.9	1.4

1. The first two periods correspond to multifactor productivity (MFP) growth cycles, which begin and end in trough years, when MFP is lowest relative to its trend. The other periods are the first two years of each productivity cycle.

Source: Statistics Canada and the US Bureau of Labor Statistics.

Figure 3. Canada has enjoyed solid labour-market performance
Population aged 15-64, 12-month moving average



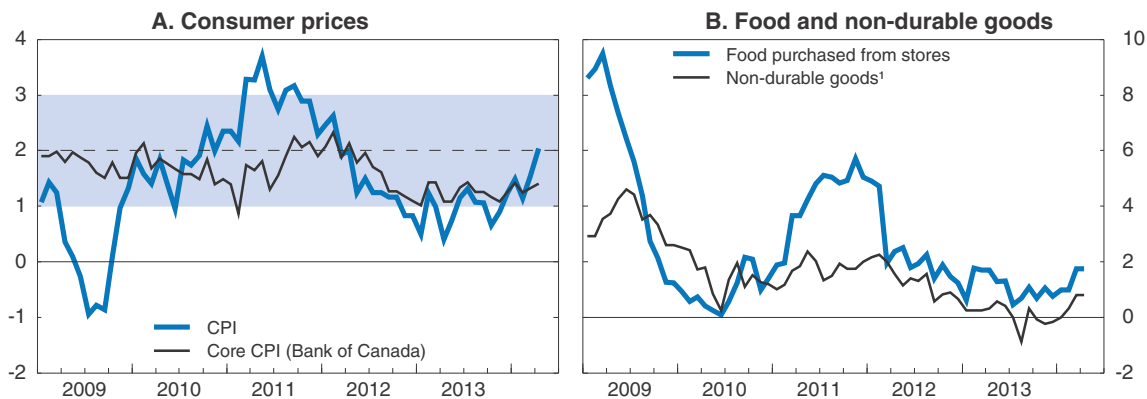
Source: Statistics Canada.

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0.3 percentage points (for a total of 0.6 points) over the past year. Inflation expectations remain well anchored, with the latest 2015 Consensus Economics forecast reaching the 2% target.

Monetary policy remains highly accommodative (Figure 5). The Bank of Canada has held the policy rate at 1% since September 2010. Business credit is growing faster than its historical average, but household credit growth has been tepid, in line with deleveraging. Given the current low underlying inflation rate, uncertainty surrounding the amount of economic slack and signs of housing-market stabilisation, the Bank should maintain its supportive policy stance for the time being. But as slack diminishes, headwinds dissipate and inflation pressures rise, monetary accommodation will need to be progressively withdrawn to stabilise inflation around 2%. Earlier tightening would have desirable household deleveraging effects but would be likely to lead to undershooting of the inflation target.

Figure 4. **Headline inflation has returned to the centre of the target range**
Year-on-year percentage change

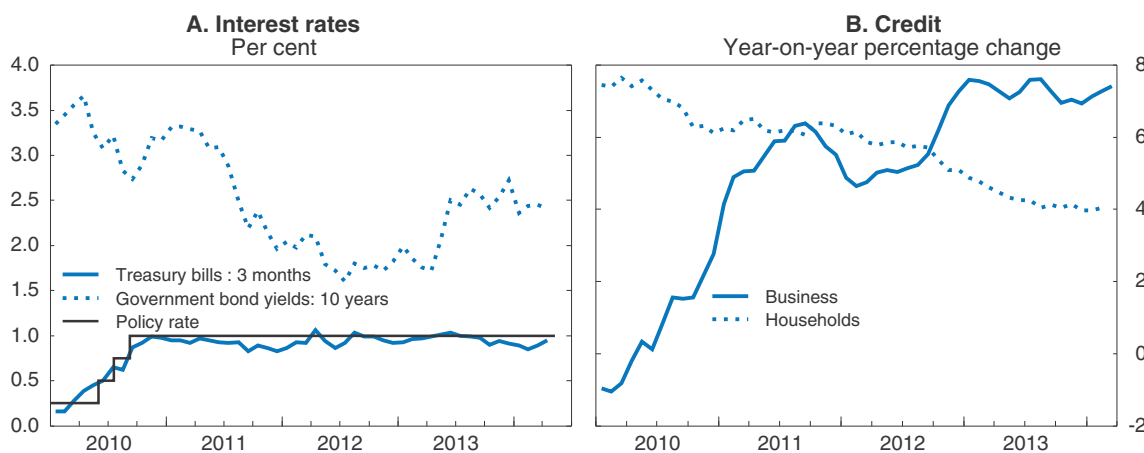


1. Excluding food purchased from stores and energy.


Source: Statistics Canada, Bank of Canada.

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Figure 5. **Monetary policy remains accommodative**



Source: Statistics Canada and Bank of Canada.

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Annual real GDP growth is projected to increase to 2.7% in 2015 – somewhat above potential rates of about 2% (Table 2). Non-commodity exports should be supported by the recent currency depreciation and stronger foreign market growth, notably in the United States, which takes 60% of Canadian exports (on a value-added basis). Energy exports are also likely to pick up, reflecting announced expansion plans, the growing use of Canadian heavy oil in US refineries and further growth in rail capacity. As uncertainty surrounding the global economic outlook diminishes, non-financial firms are well placed to increase investment to boost capacity and cost competitiveness, given their large cash buffers and supportive financial conditions. Consumption growth is likely to remain solid, while housing investment should fall. With economic slack absorbed, underlying inflation is projected to rise to near 2% by late-2015.

The main upside risk to the economic outlook is that US investment growth rebounds with unexpected vigour thanks to healthy corporate balance sheets. One of the main

Table 2. Macroeconomic indicators and projections
Annual percentage change, volume (2005 prices)

	2010	2011	2012	2013	2014	2015
	Current prices (billion CAD)					
GDP	1 663	2.5	1.7	2.0	2.5	2.7
Private consumption	939	2.3	1.9	2.2	2.7	2.7
Government consumption	366	0.8	1.1	0.8	0.8	0.7
Gross fixed capital formation	388	4.2	4.3	0.0	1.8	2.8
Housing	115	2.0	5.2	-0.3	0.2	-1.7
Business	195	10.0	5.1	0.8	3.0	5.2
Government	77	-6.9	0.6	-1.5	0.6	2.3
Final domestic demand	1 693	2.4	2.3	1.4	2.1	2.3
Stockbuilding ¹	1	-0.1	0.0	0.4	0.1	0.0
Total domestic demand	1 694	2.3	2.2	1.8	2.2	2.3
Exports of goods and services	483	4.7	1.5	2.1	4.1	6.6
Imports of goods and services	515	5.7	3.1	1.1	3.1	5.0
Net exports ¹	-32	-0.4	-0.5	0.3	0.3	0.4
Other indicators (growth rates, unless specified)						
Potential GDP	-	1.8	1.9	1.9	2.0	2.1
Output gap ²	-	-0.7	-0.9	-0.8	-0.4	0.2
Employment	-	1.5	1.2	1.3	0.9	1.3
Unemployment rate	-	7.5	7.3	7.1	6.9	6.6
GDP deflator	-	3.2	1.7	1.2	1.6	1.8
Consumer price index	-	2.9	1.5	1.0	1.6	1.8
Core consumer prices	-	1.7	1.7	1.2	1.4	1.7
Household saving ratio, net ³	-	4.4	5.0	5.2	5.0	5.1
Trade balance ⁴	-	-1.2	-2.0	-1.7	-1.7	-1.3
Current account balance ³	-	-2.8	-3.4	-3.2	-3.2	-2.9
General government financial balance ⁴	-	-3.7	-3.4	-3.0	-2.1	-1.2
Underlying government primary balance ²	-	-3.0	-2.5	-2.4	-1.6	-0.9
General government gross debt ⁴	-	93.6	96.1	93.6	94.2	93.6
General government net debt ⁴	-	42.5	43.6	40.4	40.9	40.3
Three-month money-market rate, average	-	1.2	1.2	1.2	1.2	1.8
Ten-year government bond yield, average	-	2.8	1.9	2.3	2.7	3.3

1. Contribution to changes in real GDP.

2. As a percentage of potential GDP.

3. As a percentage of household disposable income.

4. As a percentage of GDP. SNA basis excluding unfunded liabilities of government-employee pension funds.

Source: OECD (2014), OECD Economic Outlook 95 Database.

downside risks is that non-commodity exports take longer to recover than projected owing to weak competitiveness and reduced production capacity in some export sectors. Another is that the global economy may not recover as projected. China may be facing more growth headwinds than assumed, notably owing to financial-market stresses, and instability could re-emerge in the euro area. The main domestic downside risk is that there could be a disorderly housing-market correction (see below). There is also a risk that at some point the commodity “super cycle” could come to an end, and prices could reverse some or perhaps all the gains over the past decade or so. Canada’s flexible labour and product markets and well-educated labour force would be major advantages for effecting the necessary economic rebalancing in the face of such a shock.

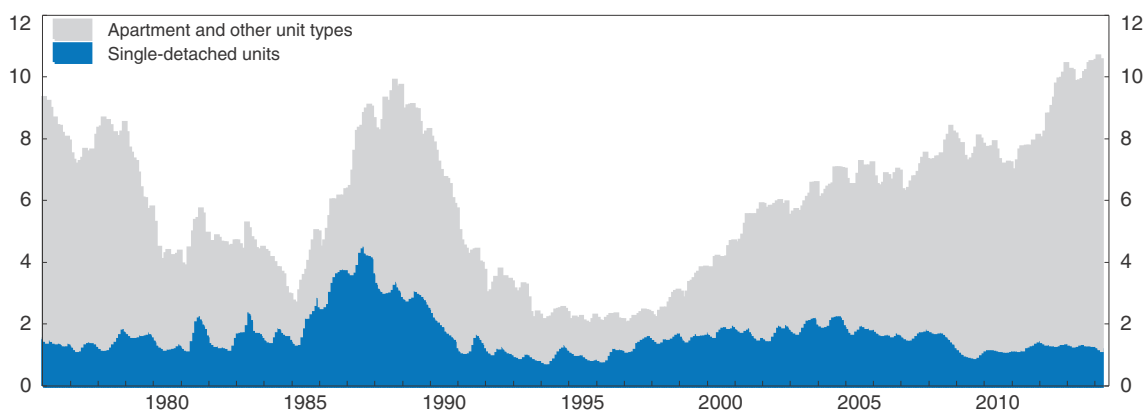
The financial system appears sound, but housing-related risks remain

High house prices and household debt create concerns

As in many other countries, real house prices have increased substantially over the past decade. Following an almost uninterrupted boom, they have reached record levels relative to incomes, and residential investment has expanded to 7% of GDP. This has fuelled debates over whether a bubble exists, with some observers claiming that housing is overvalued (e.g. Roubini, 2013; O'Brien, 2013), and others suggesting that prices are consistent with fundamentals, including unusually low interest rates (e.g. Wiebe, 2014; Dunning, 2014). While house prices look remarkably high in certain markets, the probability of a major broad-based correction appears low: the quality of mortgage loans remains high, and recent macro-prudential tightening has moderated household borrowing. Risks remain in the condominium sector in cities like Toronto, where the number of apartments under construction is three times the long-term average (Figure 6). This supply overhang has recently slowed condominium price increases. The main source of price pressure comes from single-detached dwellings in major cities (Demographia, 2014), where supply has lagged demand in part due to growing regulatory constraints on land use (see below). Despite diverging trends across markets, a shock to even one segment could have spill-over effects to the broader economy if banks respond by tightening credit significantly, or if negative wealth effects depress consumption.

Figure 6. **Housing units under construction in Toronto**

Per 1 000 population



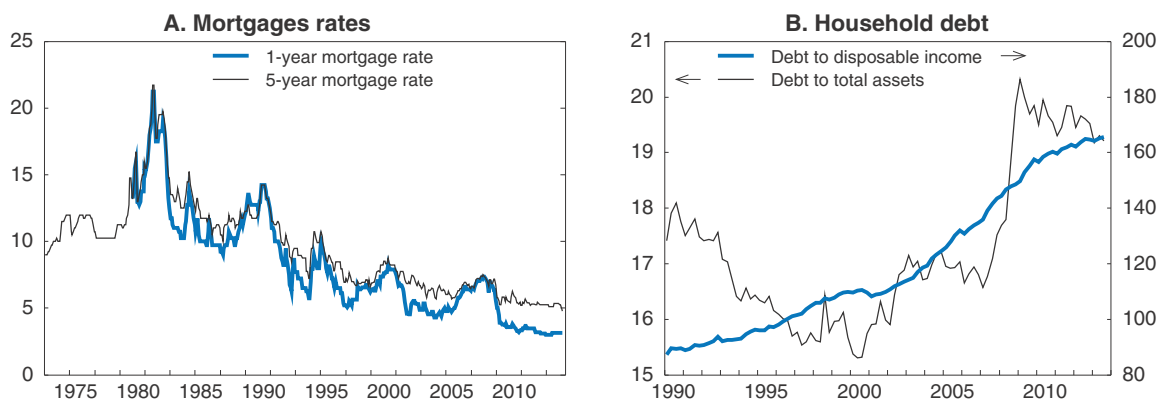
Source: Statistics Canada.

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Furthermore, high indebtedness exposes households to the risk of rising interest or unemployment rates, or of falling house prices. Mortgage payments are currently affordable for most, given record low mortgage rates (Figure 7). Some private-sector estimates suggest that a 2 percentage point rate hike could push 10% of mortgage holders into what are commonly considered unaffordable (over 40%) debt-service ratios (Alexander, 2012), although these estimates may be upwardly biased, as household incomes have continued to grow since these estimates were made. Low borrowing costs and loosening credit restrictions over the mid-2000s made it easier for homeowners to carry larger mortgages, driving household debt to a historical high of 166% of disposable income. Easier credit over this period partly reflected growing mortgage securitisation by the Canada Mortgage and

Figure 7. **Mortgage rates and household debt**

Per cent



Source: Statistics Canada.

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Housing Corporation (CMHC), which is wholly owned by the federal government. Furthermore, government-backed insurance was extended to a wider range of what are often labelled “non-prime” mortgage products, including interest-only and 40-year mortgages, plus loans to the self-employed requiring little income documentation.

To contain housing-related risks, the federal government has tightened mortgage-insurance regulations since 2008. It cut the maximum amortisation period on insured mortgages to 25 years and imposed a minimum 5% down payment. In 2012, the Office of the Superintendent for Financial Institutions (OSFI) issued guidelines to strengthen mortgage underwriting practices that toughened loan-eligibility criteria and also began formal supervision of CMHC’s commercial activities. Together, these measures helped cool the housing market and credit growth, although home sales and prices have rebounded in certain markets since mid-2013. If household debt were to reaccelerate relative to income growth, further tightening measures may be needed to reduce the risk that some homeowners cannot withstand projected interest-rate hikes. For example, the authorities could impose an interest-rate floor on all income tests to qualify for mortgages, as suggested by Alexander (2012). However, the authorities have at their disposal a wide range of other instruments as well. In that context, in April 2014 OSFI released a draft guideline for public consultation to strengthen mortgage insurance underwriting.

Bank asset quality has remained high

Thanks to strong regulation, conservative lending practices and extensive government backing of the mortgage market, the banking system fared well throughout the global financial crisis. The share of mortgages in arrears has remained low (0.32% in early 2014). Banks rely on a stable supply of retail deposits for mortgage funding, rather than securitisation. In early 2014 OSFI announced plans to replace its longstanding Asset Capital Multiple with the Basel III leverage standard of 3%, which includes more off-balance sheet exposures and defines capital more narrowly. Canada has adopted the Basel III capital standard and established a Domestic Systemically Important Bank framework. The IMF’s 2014 Financial Sector Assessment Programme (FSAP) review concluded that Canada’s major financial institutions were sufficiently well capitalised to withstand the credit, liquidity and contagion effects of a severe shock (IMF, 2014b).

Widespread government-backed mortgage insurance has allowed the government to maintain control over underwriting standards and helped limit the growth in subprime lending. Although CMHC began insuring certain types of Canadian “non-prime” mortgages over 2004-07 (Chapter 1), it generally imposed higher minimum credit scores on such borrowers. Most subprime loans were not eligible for government-backed insurance, and they therefore expanded only to an estimated 5% of the pre-crisis market, compared with 22% in the United States (MacGee, 2009). As a result, the quality of insured mortgage originations remained steady throughout the boom, and it has improved since the crisis as banks pared risk exposure. Also, whereas much of the growth in US mortgage debt went to new low-income homebuyers, in Canada most reflected net refinancing by existing owners taking on longer or larger mortgages.

Mortgage securitisation, much of which is guaranteed by CMHC, has grown substantially since the crisis and warrants close monitoring. Securitisation generally raises complexity and interconnections in the financial system and has supported the rapid expansion of non-traditional mortgage lenders, which are not regulated by OSFI, generally have higher leverage and specialise in non-prime lending (though such loans are not securitised). Nevertheless, in 2013 such lenders accounted for only 5% of outstanding mortgages (Bank of Canada, 2013). Some are regulated at the provincial level, but provincial regulators may not have the capacity and resources for rigorous supervision; greater cooperation and information sharing between OSFI and its provincial counterparts would be beneficial (IMF, 2014b). The same goes for provincial securities regulators. Despite legal setbacks in forming a national securities regulator, the establishment of a cooperative arrangement between the federal government and those of Ontario and British Columbia is a welcome step that should help support financial system stability.

Shifting more housing risk to the private sector would strengthen financial stability

The extent of federal government involvement in mortgage markets via mortgage insurance and CMHC securitisation operations is unusual by international standards. Some 65% of mortgages in Canada are insured, three-quarters of them by CMHC and the rest by private-sector insurers. The government fully backs all CMHC-insured mortgages and, in the event that a private insurer becomes insolvent, 90% of the value of the mortgages it insures (i.e. the government would honour lender claims for privately insured mortgages under insolvency, less 10% of the original principal amount of the mortgage and any applicable liquidation proceeds). Furthermore, mortgage insurance covers 100% of the loan balance (less the 10% in the event of private insurer insolvency), compared with losses of only up to 10-30% of outstanding balances in most other countries (BIS, 2013).

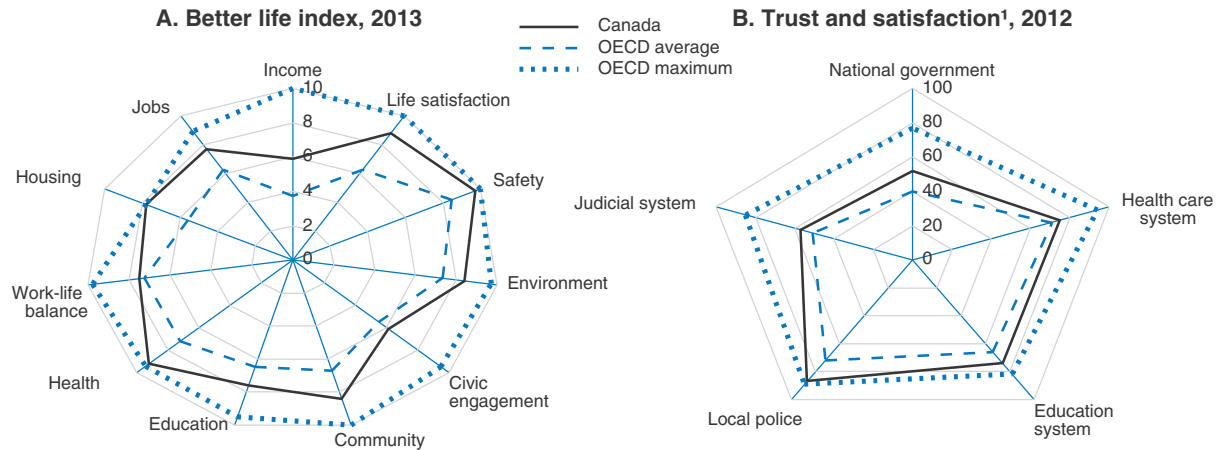
This extensive role exposes the taxpayer to potentially large risks, although the track record has been good so far. The government has taken some measures to reduce this exposure, for example by introducing a risk fee on CMHC’s mortgage insurance activities that exceeds what private insurers pay. Imposing a deductible on mortgage insurance, as is common in other lines of insurance, would help promote stability by better aligning the interests of the lenders and those of the insurer, thereby reducing moral hazard. CMHC’s currently dominant role could be reduced by progressively lowering the amount of insurance it can write (currently capped at CAD 600 billion) and raising that of the private providers (currently CAD 300 billion). Over the longer run the insurance activities of CMHC could be privatised, shifting the government’s role to one of guaranteeing only against catastrophic losses. Such a change would not reduce the government’s control over

prudential lending standards, since it could continue to require all private insurers to adhere to regulations to qualify for the government guarantee. To avoid disruptions, such a change would need to be conducted gradually, following proper consultation with major stakeholders. The government would also need to carefully consider its ability to achieve its housing-finance and financial-stability objectives in the context of a smaller mortgage-insurance market share for CMHC.

Well-being is high, but income inequality has risen


Canadians enjoy high levels of well-being and social progress according to the OECD's Better Life Index (Figure 8). All of Canada's component scores exceed the OECD average, with particularly high outcomes in safety, health and housing. Its overall score (based on equal weights for the dimensions considered) ranks more favourably (3rd) than does its GDP per capita in PPP terms (11th), underlining the importance of considering other measures of well-being than income.

Figure 8. **Canadians enjoy high levels of well-being and social progress**



1. Percentage points.

Source: OECD (2013), *Better Life Index*, www.betterlifeinitiative.org and OECD (2013), *Government at a Glance*.

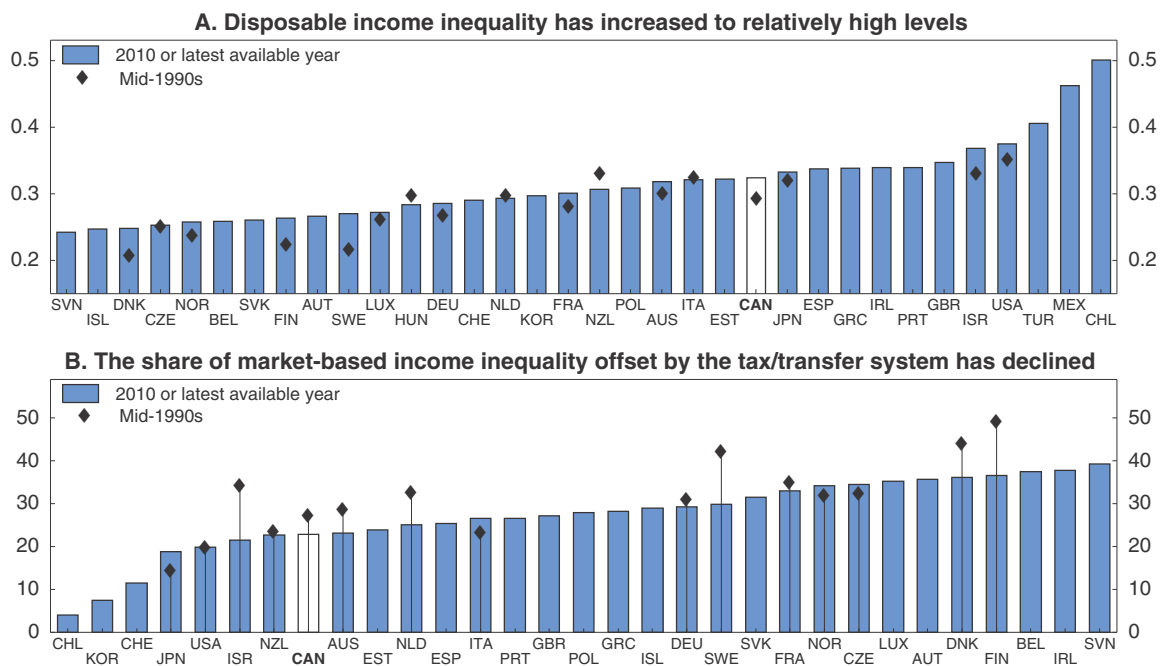
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However, disposable income inequality has increased by considerably more in Canada since 1995 (11%) than in other countries with data (2%) to a level that is now 12th highest in the OECD. Yet, this increase occurred entirely in the late 1990s. It reflects both higher market income inequality and a lower share that is offset by the tax/transfer system (Figure 9). The decline in the role of transfers (which are largely means tested) in the late 1990s reflects improved economic conditions. When comparing across similar years in the business cycle, the effectiveness of Canada's tax and transfer system has remained largely unchanged over the last three decades.

Housing affordability is a concern

Overall, Canadian residents generally enjoy good quality and affordable housing: the share of household income spent on shelter costs is close to the OECD average (Figure 10), and a higher-than-average 90% are satisfied with their current dwelling conditions (OECD, 2013a). However, residents of some major cities like Vancouver face very high median

Figure 9. **Income inequality has increased, and redistribution has declined**
Population aged 18-65



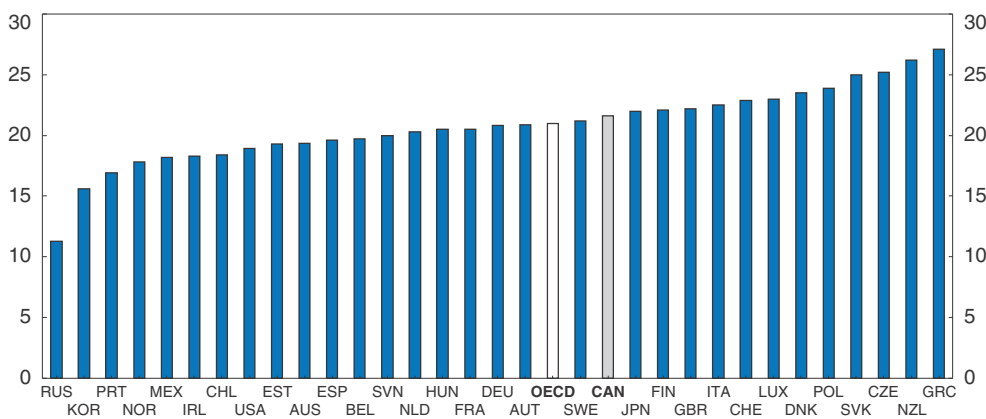
Note: The Gini coefficient takes values between 0 for maximum equity (all households receive the same income) to 1 for maximum inequality (one household receives all income).

Source: OECD Income and Poverty Distribution Databases.

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Figure 10. **Housing expenditures**

As a percentage of household gross adjusted disposable income,¹ 2011 or latest available year



Note: Housing expenditures include actual and imputed rents, expenditure on maintenance and repair of the dwelling, on water supply, electricity, gas and other fuels, furniture, furnishings and household equipment, goods and services for routine maintenance of the house.

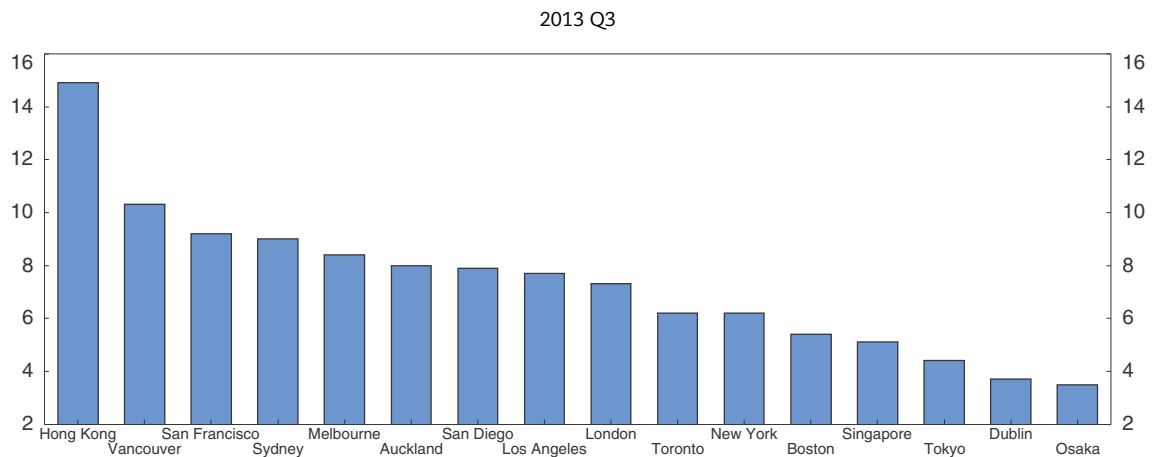
1. Gross of depreciation but after taxes and transfers as well as social transfers in kind such as education and health care.

Source: OECD (2013), *How's Life? 2013 – Measuring Well-being*.

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house prices relative to median household incomes by international comparison (Figure 11). Based on this metric, almost 40% of the country's population lives in a city where house prices are seriously or severely unaffordable (Demographia, 2014).

Figure 11. **Housing affordability: median house price relative to median household income**



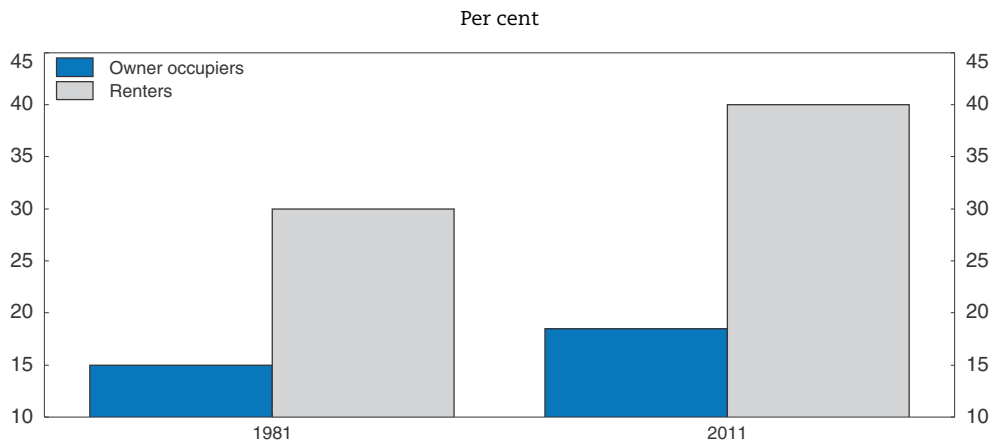
Source: Demographia (2014), 10th Annual International Housing Affordability Survey: 2014.

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Price premiums for single-detached homes (relative to multi-unit dwellings) have risen most markedly in Vancouver, and to a lesser extent Toronto, where regional planning policies have increasingly restricted land use through urban containment boundaries (Chapter 1). Such policies generally aim to achieve more sustainable growth by reducing urban sprawl and encouraging densification. Most Canadian urban areas have low-density housing that makes public transit uneconomical. This has created heavy dependence on automobile use, thus contributing to very high per capita transport-related carbon emissions by OECD standards (see below) and reduced mobility for those unable to access a car. Because housing is cheaper further from the city centre, low-income households, at least in Toronto, have gradually been pushed to distant suburbs with the poorest access to transit, services and jobs (Hulchanski, 2010). Even if policies encouraging more compact growth generate higher property prices within the containment area, they may improve environmental and social outcomes if well integrated with public transit planning.


Rising house prices have worsened affordability disproportionately for renters, who tend to have lower incomes than homeowners (Figure 12). Multi-unit housing construction has increasingly favoured condominiums over purpose-built rental buildings over the past decade. Although a significant share of condominiums in major cities is rented out, they typically have higher rents and represent a less stable housing supply for tenants. Policies such as allowing homeowners to rent out secondary suites have raised densities and the supply of lower-cost accommodation in cities like Vancouver, and such measures should be encouraged more broadly. As urban cores reach their densification capacity, planning efforts should be directed towards improving employment densities and suburban public transit connectivity (Chapter 1).

Figure 12. **Share of households spending above 30% of pre-tax income on shelter costs**



Note: Shelter costs for owner households include, where applicable, mortgage payments and costs of electricity, heat, water, other municipal services, property taxes and condominium fees. For tenant households, they include rent and costs of electricity, heat, water and other municipal services.

Source: Statistics Canada.

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Recommendations on monetary policy and housing-related financial-stability risks

Key recommendations

- Tighten mortgage insurance to cover only part of lenders' losses in case of mortgagor default. Continue to increase the private-sector share of the market by gradually reducing the cap on the Canada Mortgage and Housing Corporation's (CMHC) insured mortgages. The government would also need to carefully consider its ability to achieve its housing-finance and financial-stability objectives in the context of a smaller mortgage insurance-market share for CMHC.
- At the municipal level, expand low-cost rental housing supply and densification by adjusting zoning regulations to promote more multi-unit dwellings.
- Increase the policy rate as underlying inflation pressures rise to stabilise the inflation rate at the 2% target-range midpoint.

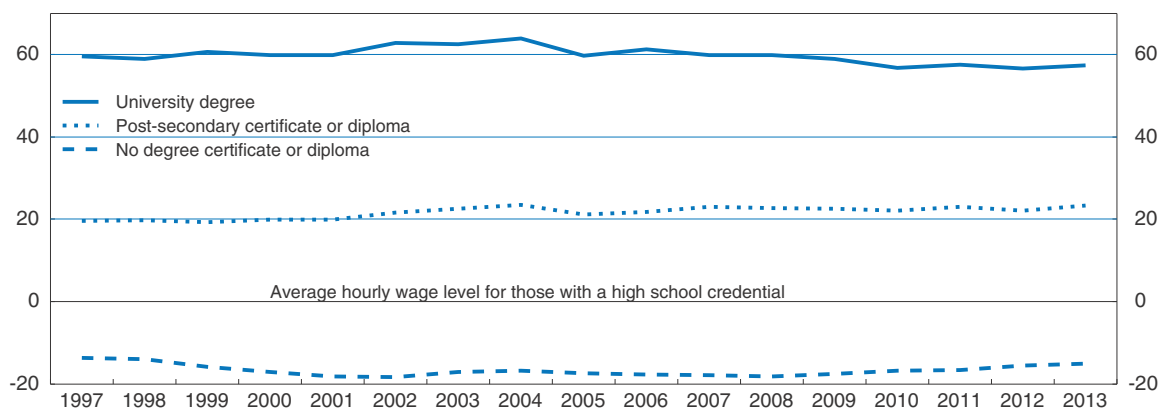
Other recommendations

- Employ further macro-prudential measures as needed if household debt ratios continue to rise.
- Increase cooperation and information sharing between federal and provincial financial regulators.

Reducing skills shortages

Earnings premiums suggest generalised shortages of post-secondary education (PSE) skills have not developed in recent years. Earnings premiums for people with PSE over those with only a high-school diploma have been broadly stable since 1997, reflecting a small increase in the premium for a post-secondary certificate/diploma and a small decrease for a university degree (Figure 13). Nevertheless, pressures might still exist in specific fields of study. In fact, university-degree premiums increased substantially

Figure 13. **Post-secondary education earnings premiums have been stable**
Relative to earnings of a high school graduate



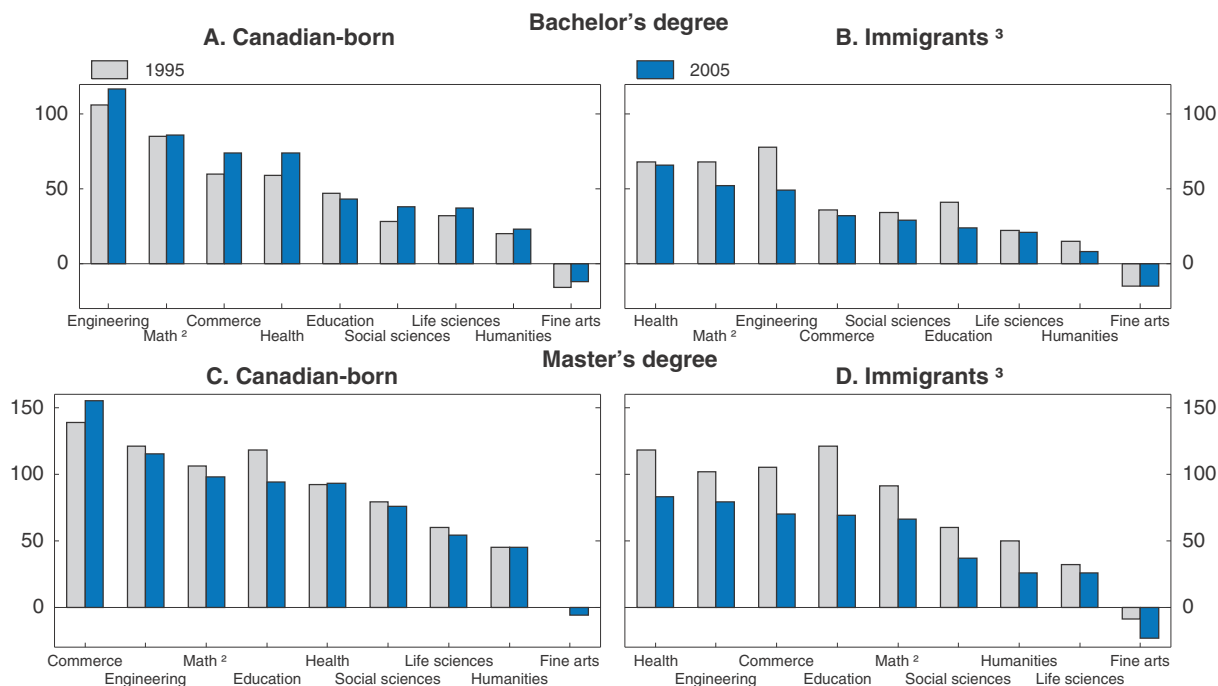
Source: OECD calculations using *Labour Force Survey* data from Statistics Canada.

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between 1995 and 2005 for Canadian-born workers, especially in engineering, management and health care (Figure 14). By contrast, the corresponding earnings premiums for immigrants were stable or declined and remained much lower than for the native born, indicating that their qualifications and foreign work experience do not have the same value in the labour market. With the change in immigrant source countries since

Figure 14. **Earnings premiums for university degrees by field of study¹**

Population aged 25-64 in the labour force, percentage gap over average earnings for high school graduates



1. Earnings are not adjusted for the number of hours worked.

2. Including computer science and physics.

3. Immigrants include both those who earned their degrees abroad and those who earned them in Canada.

Source: Internal Employment and Social Development Canada (ESDC) analysis using census data.

the early 1990s, foreign qualifications increasingly are not equivalent to Canadian qualifications, and immigrants often do not have adequate skills in English or French to perform well in highly skilled roles. However, this earnings gap diminishes markedly over time since arrival as immigrants improve their official-language skills, gain Canadian work experience and become qualified to local standards (see Chapter 2).

Skills shortages also have an important regional dimension. Ontario and the Atlantic provinces have had the largest rises in earnings premiums at the post-secondary certificate/diploma level and the smallest declines at the university degree level (Table 3). But it is wage differences, not differential skills premiums, that matter for interprovincial migration. Real earnings have risen more in the Prairie provinces than elsewhere at all education levels, boosting mobility incentives across the board. The earnings increases were greatest at the post-secondary certificate/diploma and high-school graduate levels, suggesting that labour shortages were most intense there.

Table 3. Regional changes in real earnings and in earnings premiums relative to high-school graduate earnings

1997-2013, per cent

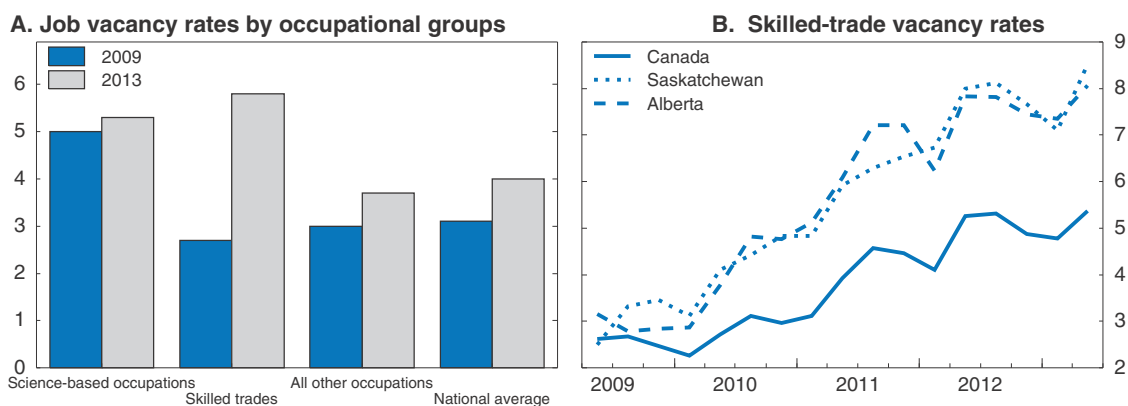
	Increase in real earnings	Increase in earnings relative to earnings for a high-school graduate
Post-secondary certificate/diploma (PSCD)		
Atlantic Provinces	17.0	2.0
Québec	6.2	1.8
Ontario	5.7	3.3
Prairie Provinces	24.4	0.5
British Columbia	10.2	0.4
Canada	10.4	1.2
University degree		
Atlantic Provinces	14.0	-0.6
Québec	2.9	-1.4
Ontario	2.0	-0.2
Prairie Provinces	15.0	-7.1
British Columbia	5.5	-3.8
Canada	5.6	-3.2
Memorandum:		
High-school diploma		
Atlantic Provinces	14.8	-
Québec	4.4	-
Ontario	2.3	-
Prairie Provinces	23.8	-
British Columbia	9.7	-
Canada	9.0	-

Source: OECD calculations using *Labour Force Survey* data from Statistics Canada.

Job-vacancy data indicate that skills shortages have worsened in the skilled trades, where vacancy rates now exceed those in science-based occupations (e.g. engineers) (Figure 15). Skilled-trade vacancy rates have risen more and are higher in Alberta and Saskatchewan than in the rest of the country.

Figure 15. **Vacancy rates have increased most in the skilled trades and in Alberta and Saskatchewan**

Per cent



Note: The job vacancy rate is the number of online job postings divided by labour demand, i.e. online postings plus employment.

Source: Department of Finance (2014), *Jobs Report: The State of the Canadian Labour Market* and D. Burleton et al. (2013), "Jobs in Canada, Where, What and For Whom", TD Economics Special Report, 22 October.

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Further reforms to reduce skills shortages

Labour-market information (LMI) can help to reduce skills shortages by facilitating job matching and informing education decisions (Sharpe and Qiao, 2006). Employment and Social Development Canada's new website providing easily accessible information linking fields of study to occupational outcomes will improve LMI. Moreover, Statistics Canada began to publish job-vacancy data in 2011, although this would be more effective if they were more occupation- and economic-region-specific. For human-capital investment decisions a major need is better career counselling, which can be very cost effective for directing students into the best courses, which in some cases may be in colleges or by apprenticeships rather than university courses (Johnson et al., 2006; Chapter 2).

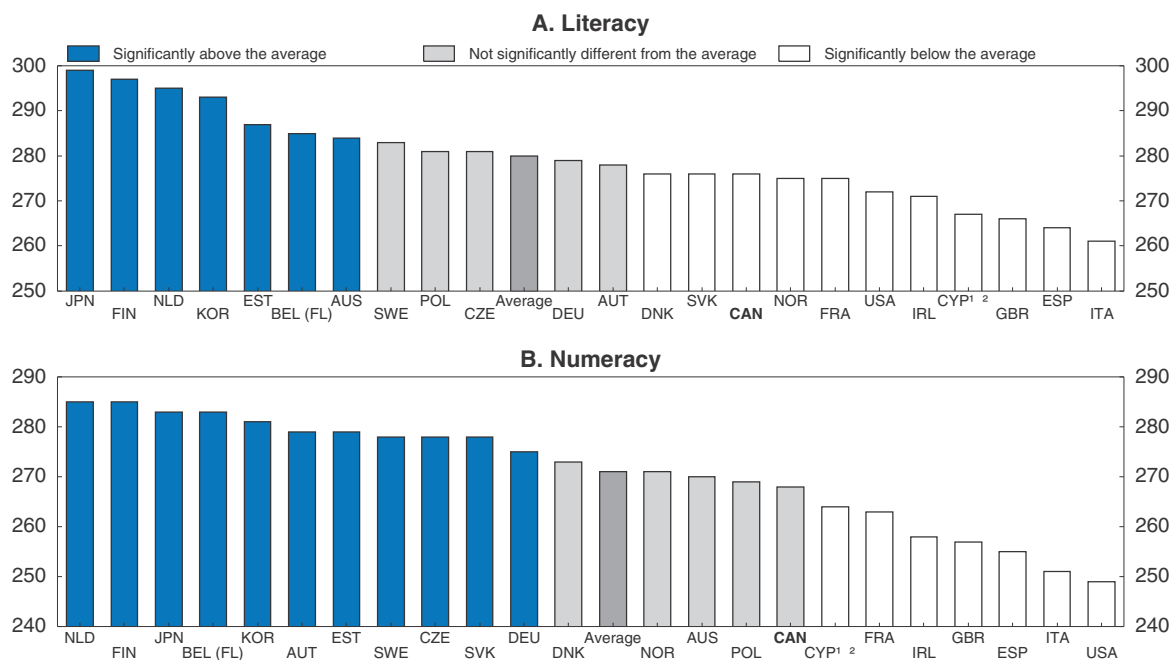
Strong basic literacy and numeracy skills help people to acquire qualifications. While Canadian 15 year-olds score well in the PISA studies, average adult (PIAAC) literacy and numeracy scores for the 16-24 age group are less impressive (Figure 16). Upper secondary education should therefore place greater emphasis on developing these skills, perhaps by requiring students to study mathematics and English/French until school completion, and post-secondary institutions should consider investing more in remedial education.

For youths to be able to enter fields in high demand post-secondary institutions need to make the necessary places available. These places are likely to be more expensive if they are in science/technology/engineering/mathematics (STEM) fields than elsewhere (Center for STEM Education and Innovation at American Institutes for Research, 2013). Universities would need larger budgets to adapt the places they make available to such a shift in demand.

Many employers would also like to see graduates with better soft skills, such as communications and teamwork (Canadian Council of Chief Executives, 2014). As recommended in the 2012 *Survey*, increasing the weight of practice-intensive programmes would be effective for developing creativity, teamwork and leadership skills (Avvisati et al., 2013). Experiential learning (such as co-op placements) during university education has proven to be highly effective in developing the soft skills valued by employers (Sattler, 2011).

Figure 16. **Literacy and numeracy scores for 16-24 year-olds, 2012**


Mean proficiency scores



Note: Statistical significance at the 5% level. Literacy-related non-response (because of a lack of background information due to language difficulties, or learning or mental disabilities) is excluded from the calculation of mean scores. However, these figures present an estimate of lower-bound mean scores by attributing a very low score (85 points) to such adults.

1. Note by Turkey: The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.
2. Note by all the European Union Member States of the OECD and the European Union: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Source: OECD (2013), OECD Skills Outlook 2013, Figures 2.3a and 2.7a.

StatLink  <http://dx.doi.org/10.1787/888933079250>

The new Canada Job Grant is intended to orient public training expenditures towards meeting labour market demand, which would improve job matching. It will enable employers to participate in decisions about who gets training and what type of training, to ensure that training is better aligned with job opportunities. Two-thirds of the costs will be paid by governments, with the remainder cost-shared by employers. Provincial/territorial governments have some flexibility as to how the government contribution is funded, be it from the new Canada Job Fund Agreements, the Labour Market Development Agreements or other provincial/territorial own-source revenues. As part of implementation, the Canada Job Grant will be reviewed in the second year to allow time to make adjustments as necessary to ensure that it is meeting the needs of employers and jobseekers.

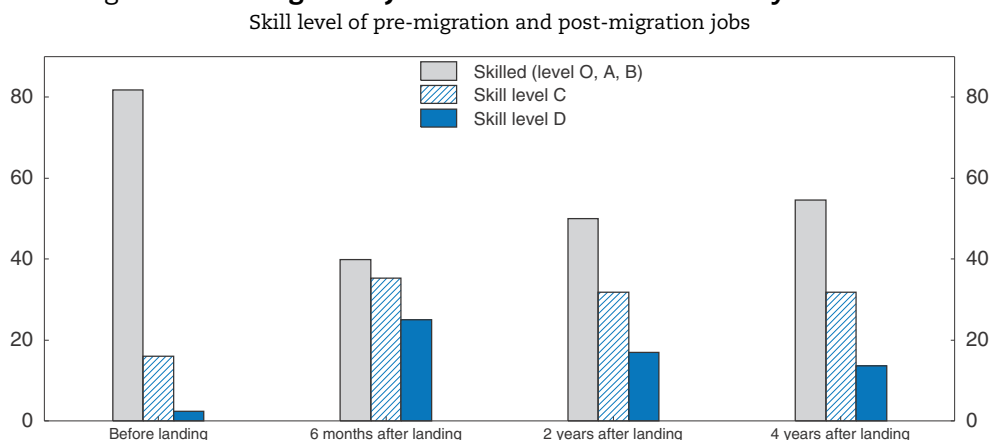
Strong demand for tradespersons and an expansion of trades covered by the Red Seal programme (which harmonises trade certification regimes by developing common provincial standards, but is primarily focused on certification and not apprenticeship training) led to a doubling in the number of apprenticeship registrations and completions between 2000 and 2011. However, the average completion rate remained at only about 50%, which may be in part due to the significant costs and lack of income during in-class training. The government offers a suite of supports to apprentices and employers to

promote apprenticeships and stimulate employment in the skilled trades. More recently, the 2014 federal budget announced the Canada Apprentice Loan to provide apprentices registered in their first Red Seal trade with interest-free loans of up to CAD 4 000 per period of technical (in-class) training.

Apprentices moving between provinces can face incomplete recognition of in-school training credits and could be placed in a lower year because material is covered in a different order from province to province. While the Red Seal Program has contributed to some harmonisation of the scope of trades, inconsistencies remain. Inconsistencies in systems are a barrier for employers to recruit and a disincentive for apprentices to move for on-the-job training. The federal government should continue to work with provinces to harmonise apprenticeship training and certification requirements of apprenticeship programmes.


Immigration constitutes around 0.8% of the population annually, and about 60% of immigrants are chosen on economic criteria. Integration of highly skilled immigrants, who often initially take less skilled jobs, is a major challenge (Figure 17). The development of the Pan-Canadian Framework for the Assessment and Recognition of Foreign Qualifications in 2009 was an important step in this regard. To reduce barriers to integration, since 2013 applicants under the Federal Skilled Worker Program (which is an immigration path for skilled workers) must supply assessments of their education credentials and proficiency in English or French.

Figure 17. **Immigrants' jobs before and after arrival by skill level**



Note: Immigrants who arrived in Canada during the year to 30 September 2001. Occupational skill levels as defined in the National Occupation Classification Matrix 2006. O corresponds to management occupations, A to occupations that usually require university education, B to occupations that usually require college education or apprenticeship training, C to occupations that usually require secondary education and/or occupation-specific training, and D, the lowest skill level, to occupations for which training is usually provided.

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, Detailed information for 2005 (Wave 3).

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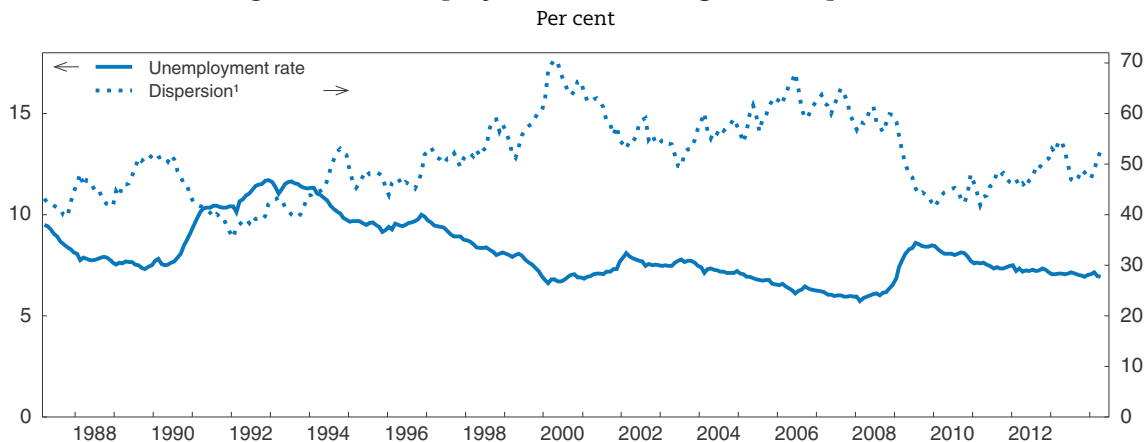
Canada's economic immigration programmes do not sufficiently prioritise applicants according to labour-market needs. To overcome this shortcoming, in 2015 the federal government will introduce the "Express Entry System", based on an "Expression of Interest" model, which will establish a pool of qualified potential immigrants from which governments and employers may consider candidates based on their immigration and labour market needs.

Greater geographical mobility could also reduce skills mismatches. Although already quite high by international comparison, internal migration is impeded by inter-provincial

barriers, such as occupational licensing (Amirault et al., 2013). A variety of reforms have reduced such impediments, including the harmonisation of qualification requirements and mutual recognition of qualifications for Red Seal trades, and the implementation of the 1995 Agreement on Internal Trade (AIT). The AIT was strengthened in 2009 when mutual recognition of workers' occupational credentials took effect. However, the AIT Dispute Resolution Panel does not appear to be very accessible. Only two cases have ever been brought before the tribunal, even though according to a 2004/05 survey of regulatory bodies commissioned by the Forum of Labour Market Ministers (2005) 35% of regulated workers moving province had their qualifications rejected in the receiving province; these cases took up to 10 years to resolve. To make the Panel more effective, access should be improved and its procedures streamlined, perhaps by setting a time limit for its deliberations, after which qualifications would be deemed to be accepted.


While the regional dispersion of unemployment rates might be expected to decline in the long term as workers move from high- to low-unemployment regions, this has not occurred (Figure 18). This may be partly because the Employment Insurance (EI) scheme provides incentives for seasonal work in high-unemployment regions, where contribution periods to qualify are shorter and maximum benefit periods are longer than elsewhere (Riddell and Kuhn, 2010). EI effectively subsidises workers to remain in seasonal jobs that would not otherwise provide an acceptable income for many such workers, instead of moving to full-time work elsewhere. As might be expected, high unemployment persistence occurs mainly in rural areas with a heavy concentration of seasonal workers. The EI programme has long required claimants to conduct reasonable job search and accept a reasonable offer of suitable work to avoid EI benefit suspension. New EI rules that clarify what a reasonable job search for suitable employment means came into effect at the beginning of 2013. As benefit duration increases, claimants are required to expand their job search and reduce restrictions with regard to acceptable type of work and earnings. Those claimants who make frequent use of the EI programme are subject from the beginning of their claim to these more stringent job-search criteria. However, given that seasonal workers in many rural areas are unlikely to get any such job offers, this reform may not be

Figure 18. **Unemployment and its regional dispersion**



1. The dispersion is measured by the coefficient of variation (standard deviation divided by the mean) across 69 regions.

Source: Statistics Canada, CANSIM table 2820054 and OECD calculations.

StatLink  <http://dx.doi.org/10.1787/888933079288>

effective in reducing EI usage in many cases. If it proves ineffective overall, it could be worth introducing experience-rated EI premiums for employers (whereby their contribution rates depend on their past record of laying off worker) to further discourage repeat usage, as suggested in the 2008 OECD Survey. This reform could be supported by better access to training opportunities, including EI support while in training for seasonal workers who wish to retrain to obtain year-round employment.

Recommendations to reduce skills shortages

Key recommendations

- Build on announced new measures to provide better information on expected returns to post-secondary education to improve students' study choices.
- Strengthen the single market for labour by making the Agreement on Internal Trade Dispute Resolution Panel more accessible and expediting its procedures. In addition, continue to work with provinces and territories to harmonise training and certification requirements of all apprenticeship programmes across the country to increase completion rates and inter-provincial mobility of apprentices.
- If recent Employment-Insurance reforms do not clearly cut repeat use, adopt experience-rated premiums and enhance opportunities for seasonal workers to retrain.

Other recommendations

- Reduce the incidence of weak numeracy or literacy skills being a barrier to post-secondary education (PSE) completion, perhaps by requiring students to study mathematics and English/French until the end of secondary school or by investing in remedial education in PSE institutions. Increase experiential-learning components of university programmes to develop the soft skills sought by employers.
- Sustain programmes for immigrants to complement their foreign credentials and become qualified to local standards.

Improving fiscal sustainability

In recent years, fiscal policy has focused on reversing the deterioration in public finances that occurred over 2008-10 to ensure fiscal sustainability and rebuild room for manoeuvre in the event of future adverse shocks. The federal deficit (Government Financial Statistics basis) fell from a peak of 2.5% of GDP in 2010 to 0.7% in 2013 (Table 4). This decline was achieved by containing expenditure. Most provincial/territorial and local governments also cut spending as a share of GDP, but their combined deficit barely declined because revenue also fell. In all, the general government budget deficit narrowed from a peak of 4.9% of GDP in 2010 to 3.0% in 2013. Most of this improvement is estimated to be structural.

The federal government has reaffirmed its commitment to eliminate its budget deficit by FY 2015/16, mainly through further expenditure restraint: notable developments include the announcement in its 2013 Fall Update of Economic and Fiscal Projections to reintroduce a two-year departmental operating budget freeze, and additional reforms to federal government employee compensation announced in Budget 2014. In the years thereafter it projects sustained small surpluses on unchanged policies, in which case federal debt (public accounts basis) would continue declining steadily, reaching the target of 25% of GDP by 2021. The federal government has not yet moved to follow through on its election promise to use part of the surpluses to reduce the tax burden on couples with children by allowing the

Table 4. Fiscal consolidation is ongoing¹
Per cent of GDP unless otherwise indicated

	Actual		Projections			
	2010	2013	2014	2015	2016	2017
Federal government²						
Revenue	13.9	13.9	14.1	14.3	14.3	14.2
<i>of which:</i> Taxes on income, profits and capital gains	9.1	8.9	9.0	9.2	9.3	9.3
Expenditure	16.4	14.6	14.2	13.9	13.8	13.7
<i>of which:</i> Consumption	3.6	3.3	2.8	2.8	2.6	2.6
Grants, expense ³	5.8	5.1	5.0	4.8	4.8	4.8
Budget balance	-2.5	-0.7	-0.1	0.4	0.5	0.5
Federal net debt⁴	35.0	35.5	34.2	32.3	30.4	28.6
Provincial/territorial and local governments⁵						
Revenue	25.6	24.7	24.8	24.9	24.9	25.0
<i>of which:</i> Taxes on income, profits and capital gains	5.4	5.7	5.8	5.9	6.0	6.1
Grants, revenue	4.5	4.0				
Expenditures	28.7	27.7	27.6	27.5	27.3	27.2
<i>of which:</i> Consumption	18.7	18.3	18.2	18.1	17.9	17.7
Gross investment	4.2	3.7	3.7	3.7	3.7	3.7
Budget balance	-3.2	-3.1	-2.9	-2.7	-2.5	-2.3
Provincial and local government net debt⁴	26.0	31.3	33.0	34.3	35.2	36.0
Canada/Québec Pension Plans⁵						
Budget balance	0.6	0.8	0.7	0.7	0.7	0.7
Canada/Québec Pension Plans net debt⁴	-10.0	-12.6	-12.8	-12.9	-13.1	-13.2
Consolidated general government						
Revenue	38.3	38.1	38.5	39.1	39.1	39.1
<i>of which:</i> Taxes on income, profits and capital gains	14.5	14.6	14.8	15.1	15.3	15.4
Taxes on goods and services	7.0	7.0	7.0	7.0	7.0	7.0
Social contributions	4.6	4.7	4.7	4.8	4.7	4.7
Expenditures	33.3	41.1	40.7	40.5	40.3	40.0
<i>of which:</i> Consumption	22.3	21.6	21.1	20.9	20.6	20.3
Social benefits	8.0	7.9	7.9	7.9	7.9	7.9
Gross investments	4.7	4.1	4.1	4.1	4.1	4.1
Budget balance	-4.9	-3.0	-2.2	-1.4	-1.2	-0.9
Cyclically adjusted balance	-4.2	-2.7	-2.1	-1.5		
Primary balance	-4.3	-2.6	-1.8	-1.0	-0.8	-0.6
General government net debt⁴	35.4	41.0	41.1	40.2	39.1	37.8
<i>Memorandum items:</i>						
Real GDP growth ²	3.4	2.0	2.3	2.5	2.5	2.3
Nominal GDP growth ²	6.1	3.4	3.9	4.5	4.5	4.4
Three-month treasury bill (per cent)	0.6	1.0	1.0	1.5	2.7	3.6
Ten-year government bond (per cent)	3.3	2.3	3.0	3.5	4.1	4.6
Consolidated general government gross debt – SNA basis ⁶	89.5	93.3	92.1	89.5	86.9	84.1
Consolidated general government net debt – SNA basis ⁶	37.4	39.9	40.6	40.3	39.8	39.0

1. Government Financial Statistics (GFS) basis unless otherwise stated.
2. Projections for 2014-17 are based on the 2014 federal budget or, in the case of GDP, are the same as in the budget.
3. Grants to provinces were inflated in 2010 by one-off payments of 0.4% of GDP for the conversion to Harmonised Sales Tax.
4. Accumulated deficits.
5. Projections for 2014-17 are based on those in the IMF 2013 Article IV Consultation for Canada.
6. At market value. Excludes unfunded-government-employee pension liabilities (14.6% of GDP in 2010 and 13.3% in 2013).

Source: Statistics Canada; Finance Canada; IMF (2014a) "Canada: 2013 Article IV Consultation for Canada", IMF Country Report, No. 14/27, February; and OECD calculations.

higher earning spouse to transfer – up to a limit – part of his or her income to the lower-earning spouse in a lower tax bracket. This would be a disincentive to second earners (mainly married women) to work and benefit largely high-income families.

Provincial governments have also announced plans to eliminate their deficits. But the deadlines for doing so are distant (Ontario, New Brunswick and Nova Scotia, FY 2017/18) for the provinces with some of the largest imbalances. Aggregate provincial/local deficits are projected to edge down from 3.1% of GDP in 2013 to 2.3% in 2017, primarily by restraining consumption expenditure. Their total net debt is projected to continue rising slowly as a share of GDP over the next few years.

Based on these budget plans the general government deficit is projected to fall to 0.9% of GDP in 2017, with most of this decline occurring over the next two years and most assessed as structural. This consolidation effort is estimated to reduce average economic growth by around 1/3 per cent per year over the next two years. General government net debt is projected to start falling in 2015, reaching 38% of GDP in 2017, which is far below the projected OECD average of 71% for 2015 (OECD, 2014). Indeed, the difference would be even greater if the assets contained in Canada's funded government-employee pension plans were included (worth an estimated 45.5% of GDP in 2012), given that most other countries have pay-as-you-go pension schemes for government employees with little or no such assets.

As elsewhere, the main longer-term fiscal-sustainability challenge comes from rising spending on health and long-term care, most of which is paid by provincial governments. Such outlays are projected to rise by 2.7% of GDP by 2030 and 7.5% of GDP by 2060 in a “cost pressure scenario” in which health expenditures grow by the historical average of 1.7% per year on top of demographic, price and income effects (OECD, 2012). These projected increases are close to the OECD average. Rising health-care costs will put provincial finances on an unsustainable path. Based on similar health-spending assumptions to those above, the IMF (2014a) projects an increase in provincial/local net debt to 115% of GDP by 2050. Hence, all provinces should continue to work on reforms that would limit health-care expenditure growth. As recommended in the 2010 *Survey*, some have done so in recent years by moving away from global budgeting toward patient- or activity-based hospital funding models, increasing ambulatory care and consolidating purchases of drugs, medical supplies and equipment with other provinces. These reforms are believed to have helped to slow the growth of provincial health-care expenditure to 2.7% in 2013, according to the Canadian Institute for Health Information.

By contrast, old-age pensions are unlikely to pose a significant fiscal challenge, according to projections by the Office of the Chief Actuary (2012, 2013). Old Age Security (OAS) spending is projected to rise only from 2.5% of GDP in 2013 to 2.8% by 2030, as the eligibility age is set to rise from 65 to 67 over 2023 to 2029, and then to fall back to 2.4% by 2050 when most baby boomers will have died. Spending by the Canada Pension Plan (CPP) is projected to rise from 2.1% to 2.7% of GDP from 2013 to 2050. The Chief Actuary estimates that current contribution rates are sufficient to fund this increase.

Concerns have risen that many middle-income households are not saving enough for retirement, perhaps because of accumulated housing wealth. In response, some provinces favour increasing CPP pensions and contribution rates. To avoid increasing labour costs, notably for low-income workers, it may be preferable to increase OAS pensions, which are means-tested, and to expand the means test to cover wealth (including owner-occupied housing).

To increase transparency and awareness of the challenges that lie ahead, and to build consensus for needed reforms, provinces should follow the example of the federal government and Ontario and establish an independent budget office; a single office covering all provinces would be the best bet. This could examine budgets and spending programmes and publish long-term fiscal sustainability assessments, as recommended in the 2010 *Survey*.

There is also scope for the federal government to increase efficiency and reduce income inequality (see above) by further reducing tax expenditures that benefit relatively higher-income households, such as the pension income credit, the First-Time Home Buyers Tax Credit, the exclusion of health-insurance premiums paid by employers from taxable income, the non-taxation of capital gains on principal residences and preferential treatment of stock options.

Recommendations to improve fiscal sustainability

Key recommendations

- Continue to implement reforms to slow growth in provincial health-care costs, including patient- or activity-based funding for hospitals, increasing the share of ambulatory care and consolidating input purchases with other provinces.
- Establish a single independent budget office for the provinces.

Other recommendations

- Reduce personal income tax expenditures no longer in line with policy objectives to improve the efficiency and fairness of the tax system.

Managing non-renewable resource revenues and economic disparities

The resource boom has increased economic disparities

Globalisation has produced significant structural changes within Canada's economy over the past decade. Growth in emerging market economies has both pushed up commodity prices and economic activity significantly (IMF, 2014b) while challenging the competitiveness of its manufacturing sector. These forces have shifted the terms of trade and generated large regional disparities: higher oil prices have mostly benefitted residents of Alberta, Saskatchewan, and Newfoundland and Labrador, and other factors such as the emergence of low-cost competitors in emerging economies and exchange-rate appreciation resulted in slower growth in the manufacturing-based economies of Ontario and Québec.

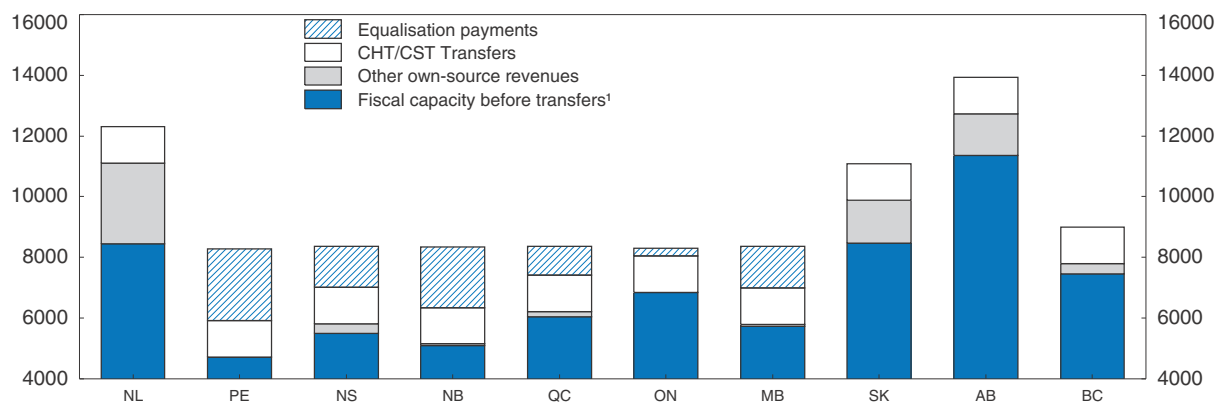
The federal and provincial governments have a responsibility to mitigate income disparities through their constitutional commitments to promote equal opportunity and provide a reasonable quality of public services for all. Income redistribution generally occurs via the progressive tax system combined with federal transfers to both individuals and provinces, which have jurisdiction over health, education and social assistance. The federal government transfers funds for health (CHT) and social services (CST) to the provinces on an equal per capita basis. As of 2012-13, these transfers amounted to 2% of GDP for the CHT and 0.8% for the CST. It also provides equalisation payments to compensate for differences in "fiscal capacity" (the per capita revenue that provinces could generate using average tax rates for five major revenue sources). In 2009, the federal government began capping equalisation payment increases to the rate of nominal GDP growth to contain costs (CAD 15.4 billion in 2012-13, 0.8% of GDP). The

federal government also provides Territorial Formula Financing (TFF) payments to address fiscal disparities of the northern territories (CAD 3.1 billion in 2012-13, 0.2% of GDP). In aggregate, major federal transfers (CHT, CST and Equalization/TFF) represent about a quarter of total federal spending and about a sixth of total provincial revenues.

With significant disparities in fiscal capacity remaining even after transfers (Figure 19) and the possibility that global forces will further widen inter-provincial disparities, reforms may be needed to ensure low-income provinces can continue to finance a reasonable standard of public services, especially as population ageing drives up health-care costs. In particular, federal-provincial transfer entitlements should factor in inter-provincial expenditure differences arising from differential elderly population shares. For example, CHT entitlements could be based on a formula that incorporates the estimated impact of ageing on health-care expenditures, or a similar adjustment could be made through the equalisation programme.

Figure 19. Provincial fiscal capacities

2012/13, CAD per capita



1. Fiscal capacity is defined as the per capita revenue that a province could generate from five major revenue sources, using average tax rates for corporate and personal income, consumption and property taxes as well as 50% of natural resource revenues. The federal government makes equalisation payments to provinces with fiscal capacity below the national average (of 10 provinces) to bring them up towards the average, subject to an overall cap on increases in line with nominal GDP growth.

Source: T. Courchene (2013), "Surplus Recycling and the Canadian Federation", *Mowat Centre Fiscal Transfer Series*, University of Toronto.

StatLink  <http://dx.doi.org/10.1787/888933079307>

The impact of the resource boom on Aboriginal communities has been mixed

Many Aboriginal communities have supported resource development as an opportunity to participate in economic activity and escape from poverty. The mining industry is now the country's largest employer of Aboriginal people (NAEDB, 2012). However, not all Aboriginal groups endorse nearby resource development activities, which can undermine traditional land-use patterns, displace wildlife habitats and migration corridors and harm indigenous cultures and livelihoods (NAHO, 2008; First Peoples' Worldwide, 2013). Aboriginal communities have opposed mining projects where they feel they have been insufficiently consulted or compensated for the impacts on their quality of life. At the same time many Aboriginal communities lack the technical and business expertise to negotiate fair agreements with industry, which limits their participation in nearby projects (NAEDB, 2012). The government's commitments to streamline regulatory and environmental approvals for responsible resource development and to provide funding

for consultation with Aboriginal communities are intended to help Aboriginal communities to benefit from these projects.

One study examining 370 oil, gas and mining projects worldwide argues that Canada has the most with high risk of disruption due to conflicts with indigenous communities (First Peoples' Worldwide, 2013). Federal and provincial governments have a legal duty to consult, and where appropriate, accommodate, Aboriginal groups when the Crown contemplates conduct that may adversely affect established Aboriginal or Treaty rights. The federal government has undertaken significant efforts in recent years to enhance the consistency and effectiveness of consultations, including through the integration of consultation into project reviews and through guidelines for federal officials. However, practical guidelines for industry have yet to be provided. Governments should lead development of such guidance through engagement with Aboriginal rights holders and industry representatives to provide clarity to all stakeholders and ensure resource activities are managed in a way that brings long-term benefits to Aboriginal communities.

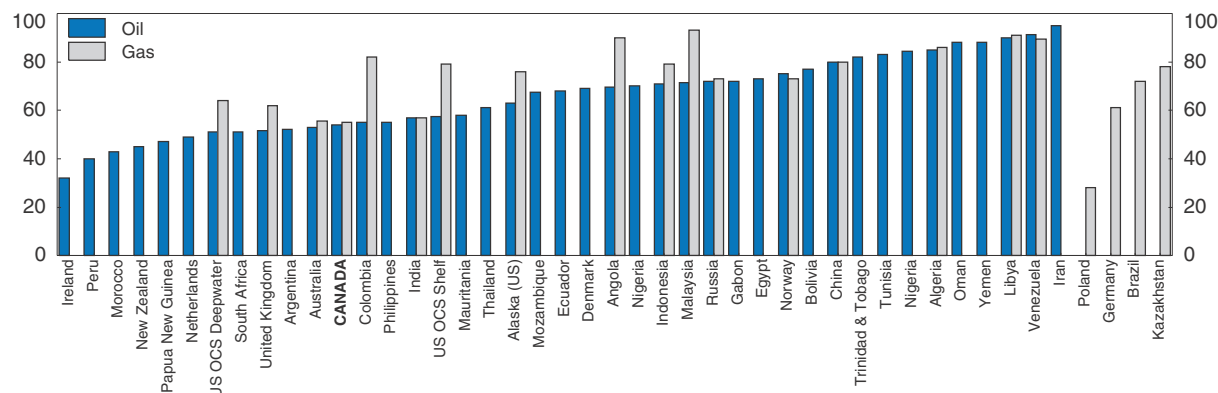
Managing revenues from non-renewable resources prudently and equitably

Canada's large non-renewable resource extraction sector generates significant income gains but also poses vulnerabilities due to the volatility of revenues and uncertainties about long-term sustainability. These issues were discussed in detail in a special chapter on the energy sector in the 2008 *Survey* (OECD, 2008; Mourougane, 2008). Canadian natural gas exports have been declining for several years, and this is likely to continue. On the oil side, concerns over potential environmental damage from Canada's oil sands are hindering the development of pipelines needed to access US and Asian markets, but in the near term exports continue to grow via rail transport.

Prudence and equity argue for saving gains from exploiting a finite resource and sharing them with future generations. Revenues could be invested exclusively in foreign assets to offset pressures on the exchange rate and limit negative effects on other industries, as in Norway. The federal government has limited powers in this area, although it receives revenues from corporate, wage and consumption taxes, because the provinces have exclusive constitutional rights to manage natural resources (with some exceptions like those located offshore and in the three northern territories), and since the early 1980s the federal government has left the field of resource-specific taxation to the provinces. The provinces collect royalties from oil and gas development, but some estimates suggest that Canada's take is comparatively low (Figure 20).

In particular, the Alberta government has relied heavily on non-renewable resource revenues to support current spending programmes at low tax rates, with one study estimating that it has saved as little as 8% of total revenues since 1983 (Kneebone, 2013). The province's main long-term savings vehicle, the Alberta Heritage Fund, is worth only CAD 17.3 billion (5.3% of Alberta's GDP). The Alberta government recently passed legislation to allocate a share of annual non-renewable resource revenues to the Fund and to retain all net earnings from 2017-18 onwards. This will improve transparency and help impose discipline on future governments to continue systematically saving some resource revenues, but the share is limited and the majority of energy revenues will continue to be spent on current goods and services.

Figure 20. **Average government take in oil and gas fiscal regimes**
Share of profits captured by the state



Source: I. Agalliu (2011), “Comparative Assessment of the Federal Oil and Gas Fiscal Systems”, US Department of the Interior, Bureau of Ocean Energy Management, Herndon, VA, for oil; and D. Johnston (2008), “Changing Fiscal Landscape”, *Journal of World Energy Law and Business*, Vol. 1, pp. 31-54, for gas.

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Recommendations to improve management of non-renewable resources and address regional disparities

Key recommendations

- Factor in provincial differences in demographics when calculating federal transfers to provinces.
- At the provincial level, increase taxes from non-renewable resource development, and raise the share of revenues that are saved.
- Provide clear guidelines for resource companies on how to engage with affected Aboriginal groups so that projects bring long-term benefits to these communities.

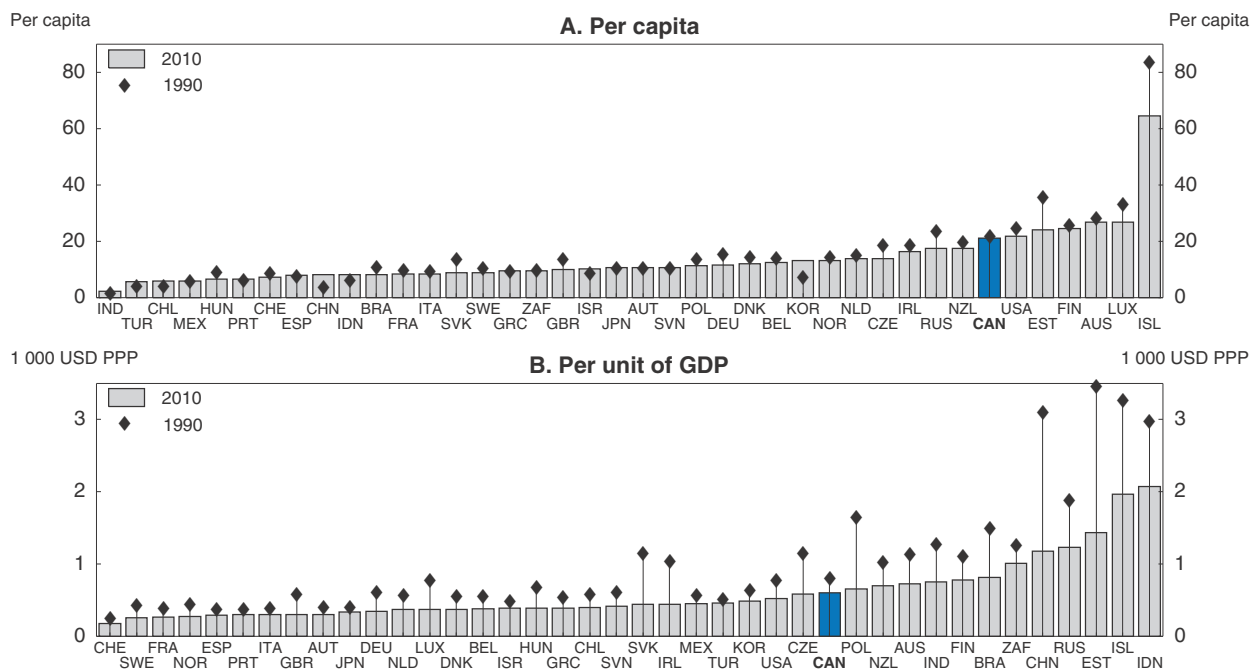
Ensuring growth is environmentally sustainable

Greater efforts are needed to address the environmental costs of resource extraction

Canada ranks 7th among OECD countries for greenhouse gas (GHG) emissions, both per capita and per unit of GDP, though production has become more efficient since 1990 (Figure 21). The oil and gas sector is the largest contributor (Figure 22), accounting for two-thirds of the total increase since 1990, with oil-sands production the fastest growing source. Technological investments have helped to reduce the emissions intensity of oil-sands production by 28% from 1990 to 2012, mostly by 2004 as intensity since then has remained relatively stable (Environment Canada, 2014) with shifts towards more emissions-intensive “in situ” extraction techniques and declining reservoir quality in recent years (Environment Canada, 2013).

All levels of government (federal, provincial/territorial and municipal) are involved in addressing climate change, as the environment is an area of shared jurisdiction. Provinces have authority over energy policies as well as many other domains that influence climate change, such as land use, building codes and electricity supply decisions. Several provinces have put in place regulations to address GHG emissions; concurrently, the federal government is implementing a sector-by-sector regulatory plan to reduce them. The federal government also has responsibility over negotiating international agreements. It

Figure 21. **Greenhouse gas emissions intensities**
Including positive value of LULUCF,¹ tonnes CO₂ equivalent

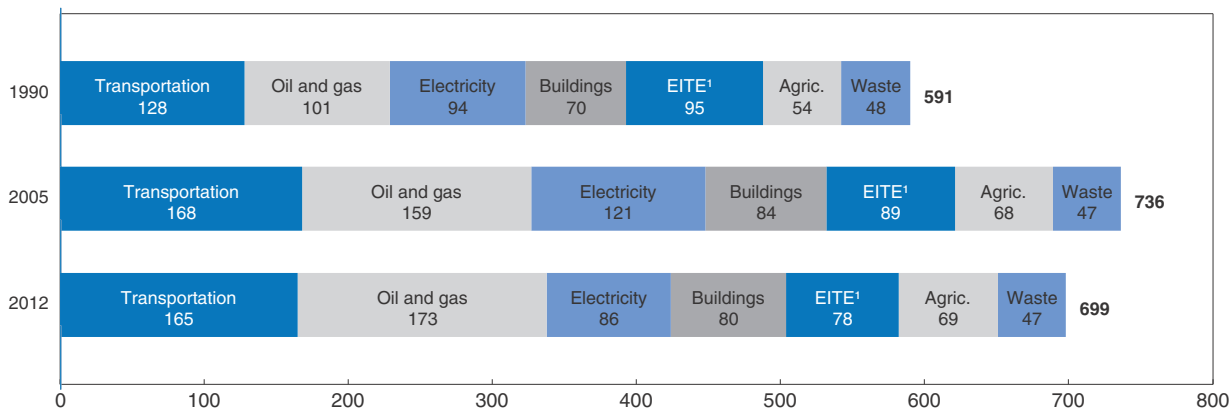


1. Land use, land-use change of forest.

Source: OECD, OECD Energy Database and OECD Economic Outlook 95.

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Figure 22. **GHG emissions by economic sector**
Mt CO₂ equivalent, excluding LULUCF



1. Emissions-intensive and trade-exposed industries.

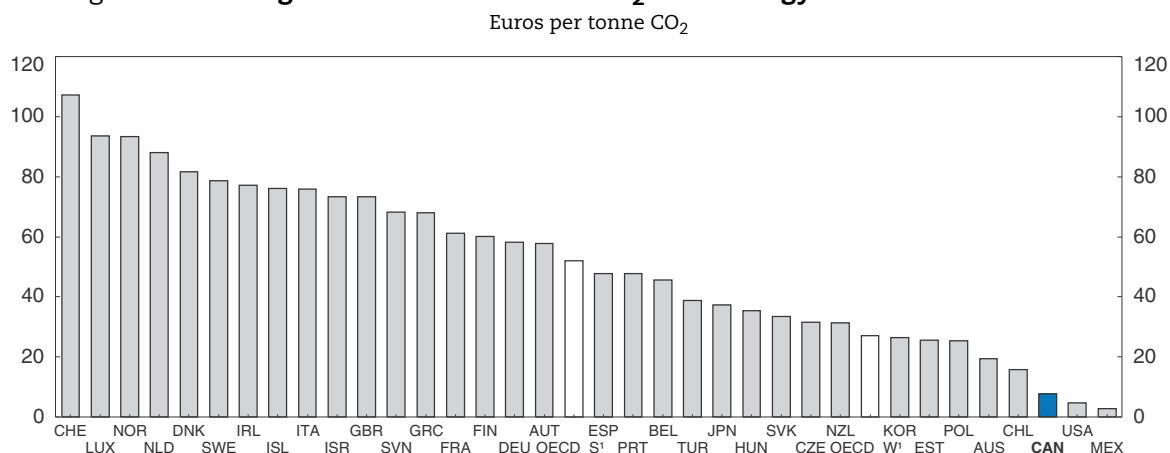
Source: Environment Canada (2014), "National Inventory Report 1990-2012: Greenhouse Gas Sources and Sinks in Canada", The Canadian Government's Submission to the UN Framework Convention on Climate Change.

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has aligned its climate-change policy, where appropriate for Canadian circumstances, with that of the United States, given the two countries' close trade links and highly integrated energy markets. Both nations signed the Copenhagen Accord in 2009 and pledged to reduce absolute GHG emissions to 17% below 2005 levels by 2020. Neither country has

international emissions commitments pre-2020, as they are not party to the Kyoto Protocol. Due to political obstacles US climate-change policies have relied primarily on regulation rather than market-based mechanisms. Canada has also relied primarily on regulation, tailoring policies to address specific circumstances of individual sectors. Market-based instruments such as tradable permits and carbon taxes tend to be more efficient than regulation where emissions are easily measured, since such instruments provide a dynamic incentive to reduce emissions where it is least costly to do so. Given generally low taxes on energy use nationwide, Canada effectively taxes carbon at one of the lowest rates in the OECD (Figure 23).

Figure 23. **Average effective tax rates on CO₂ from energy use in OECD countries**



Note: OECD_S signifies the simple average and OECD_W the weighted average. Figures for Canada and the United States include only federal taxes; for Canada including provincial taxes would, generally, more than double the tax rate on automotive fuels, increasing the average effective tax rate on CO₂ from energy sources.

Source: OECD (2013), *Taxing Energy Use: A Graphical Analysis*, OECD Publishing.

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The federal government's approach to addressing climate change involves implementing sector-specific regulations to limit GHG emissions from major emitters, including transportation, coal-fired electricity generation, and oil and gas production. Since 2010, it has introduced regulations on renewable fuels and emissions standards on motor vehicles and new coal-fired plants. The federal government is currently working with the provinces to develop regulations for the oil and gas sector, which has taken longer than expected, and for other major emitting industrial sectors. However, since 2007 the federal government has legislated the phase-out of various tax preferences for the mining and oil and gas sectors, as recommended in the 2008 Survey, with all changes to be fully implemented by 2021. It has also been expanding tax support to clean energy technologies and increasing R&D investments in "green" technologies. As a share of GDP, Canada's spending on "green" energy R&D (i.e. excluding fossil fuels and nuclear) ranks in the top half of 28 OECD countries. This includes over CAD 1.8 billion in funding for carbon capture and storage (CCS) technologies, which to date has produced four large-scale demonstration projects that are either operational or under construction. In addition, it implemented an energy retrofit programme in 2007-12 that helped to stabilise buildings' emissions.

The federal government projects that, based on policies currently in place, emissions would fall by only 0.4% below 2005 levels by 2020 rather than the targeted 17%

(Environment Canada, 2013). The main reason is that expanded oil-sands production in Alberta is projected to push oil and gas emissions 23% higher by 2020, completely offsetting improvements in the electricity sector through the phasing out of coal-fired power generation. In addition, Alberta's current emissions targets are less stringent than national commitments, although its policy is currently under review as its GHG regulation expires in September 2014. However, these projections exclude the impact of any future regulations on oil and gas emissions.

Alberta was the first province to introduce a price on emissions in 2007 through its Specified Gas Emitters Regulation. This programme requires heavy industry to reduce GHG emissions intensity each year by 12% below a 2004-05 baseline. Companies may instead choose to pay CAD 15 per tonne of emissions exceeding this target into a fund. However, this price has been too low to induce significant abatement: in the first five years of the programme 42% of compliance came from companies choosing the lower-cost option of paying the fine. One recent study estimates that for Canada to meet its 2020 target Alberta would need to aim for a 42% intensity reduction, requiring a carbon price of CAD 100/tonne (Horne et al., 2013).

Several Canadian provinces have adopted more ambitious climate-change strategies, which vary widely in approach and targets. In 2008, British Columbia introduced a carbon tax to support the province's GHG reduction target of 33% below 2007 emissions levels by 2020. The tax is now at CAD 30/tonne, which applies to three-quarters of its emissions. In 2013, Québec implemented a cap-and-trade system as part of the Western Climate Initiative with California, and three other provinces (British Columbia, Ontario and Manitoba) also plan to join. Most of these provinces have among the lowest per capita emissions intensities in the country, however. To make significant progress towards international commitments, stronger abatement incentives will be needed in the high-emission provinces of Alberta and Saskatchewan, where per capita emissions are more than three times the national average. To avoid leakage and loss of competitiveness, this would ideally involve harmonising regional schemes to produce a single carbon price signal, with a view to eventually linking with international emissions-trading schemes.

Oil-sands production in Alberta also requires substantial volumes of water and natural gas, resulting in significant waste accumulation in tailings ponds and air pollution. To date, monitoring and study data show some evidence of oil-sands development impacting the surrounding environment (Frank et al., 2014). Although in 2009 the Alberta government set regulations for managing and reducing waste, the province's energy regulator released a 2013 report revealing that the methodologies used by mining operators failed to meet the 2011/12 targets (ERCB, 2013). The government has identified concerns with the performance of mining operators and has stated that it will assess enforcement options if operators do not meet expectations for the next tailings management assessment report in 2015.

Recommendations to make economic growth more environmentally sustainable

Key recommendations

- Continue expanding the use of market instruments to price carbon emissions. Work with provinces to ensure coherence of provincial climate-change strategies with international commitments.
- Ensure that regulatory objectives for treating waste from oil-sands projects are met.

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