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This Survey is published on the responsibility of the Economic and Development Review Committee of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Canada were reviewed by the Committee on 14 May 2018. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 28 May, 2018.

The Secretariat's draft report was prepared for the Committee by Mr. David Carey and Mr. Andrew Barker under the supervision of Mr. Peter Jarrett. Research assistance was provided by Ms. Isabelle Luong. Ms. Heloise Wickramanayake formatted and produced the layout. The previous Survey of Canada was issued in June 2016.

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Basic statistics of Canada, 2017

(Numbers in parentheses refer to the OECD average)*

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	36.6		Population density per km² (2016)	4.0	(37.2)
Under 15 (%, 2016)	16.0	(18.0)	Life expectancy (years, 2013[2])	81.7	(80.5)
Over 65 (%, 2016)	16.6	(16.5)	Men	79.6	(77.9)
Foreign-born (%, 2016)	21.9		Women	83.8	(83.1)
Latest 5-year average growth (%)	1.1	(0.6)	Latest general election	October 2015	
ECONOMY					
Gross domestic product (GDP)			Value added shares (%, 2014[1])		
In current prices (billion USD)	1 653.3		Primary sector	1.8	(2.5)
In current prices (billion CAD)	2 144.4		Industry including construction	28.9	(26.6)
Latest 5-year average real growth (%)	2.1	(2.1)	Services	69.3	(70.9)
Per capita (000 USD PPP)	46.8	(43.9)			
GENERAL GOVERNMENT Per cent of GDP					
Expenditure[1]	40.3	(40.6)	Gross financial debt[1]	93.8	(110.2)
Revenue[1]	39.3	(37.7)	Net financial debt[1]	24.8	(71.2)
EXTERNAL ACCOUNTS					
Exchange rate (CAD per USD)	1.297		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	1.251		Machinery and transport equipment	27.9	
In per cent of GDP			Mineral fuels, lubricants and related materials	20.2	
Exports of goods and services	30.9	(55.0)	Manufactured goods	12.1	
Imports of goods and services	33.2	(50.5)	Main imports (% of total merchandise imports)		
Current account balance	-3.0	(0.4)	Machinery and transport equipment	44.0	
Net international investment position	19.3		Miscellaneous manufactured articles	12.2	
			Manufactured goods	12.0	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate for 15-64 year-olds (%)	73.4	(67.7)	Unemployment rate, Labour Force Survey (age 15 and over) (%)	6.3	(5.8)
Men	76.3	(75.4)	Youth (age 15-24, %)	11.6	(11.9)
Women	70.6	(60.1)	Long-term unemployed (1 year and over, %, 2016)	0.8	(2.0)
Participation rate for 15-64 year-olds (%)	78.5	(72.0)	Tertiary educational attainment 25-64 year-olds (%, 2016)	56.3	(35.7)
Average hours worked per year (2016)	1 703	(1 763)	Gross domestic expenditure on R&D (% of GDP)[1]	1.5	(2.3)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2015)	7.6	(4.1)	CO2 emissions from fuel combustion per capita (tonnes, 2015)	15.3	(9.2)
Renewables (%, 2015)	18.2	(9.6)	Water abstractions per capita (1 000 m³, 2013)	1.0	
Exposure to air pollution (more than 10 µg/m³ of PM2.5, % of population, 2015)	21.0	(75.2)			
SOCIETY					
Income inequality (Gini coefficient, 2015[3])	0.318	(0.311)	Education outcomes (PISA score, 2015)		
Relative poverty rate (%, 2015[3])	14.2	(11.3)	Reading	527	(493)
Median disposable household income (000 USD PPP, 2015[3])	31.5	(22.9)	Mathematics	516	(490)
Public and private spending (% of GDP)			Science	528	(493)
Health care (2016)	10.6	(9.0)	Share of women in parliament (%, 2016)	26.0	(28.7)
Pensions (2014d[4])	4.6	(9.1)	Net official development assistance (% of GNI)	0.26	(0.38)
Education (primary, secondary, post sec. non tertiary, 2014)	3.6	(3.7)			

Better life index: www.oecdbetterlifeindex.org

*Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exist for at least 29 member countries.

1. 2016 data for the OECD.
2. 2015 data for the OECD.
3. 2014 data for the OECD.
4. 2013 data for the OECD.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

Glossary

AIT	Agreement on Internal Trade
ALMPs	Active Labour Market Programmes
BDC	Business Development Bank of Canada
BLI	Better Life Index
CEC	Canadian Experience Class
CFTA	Canadian Free Trade Agreement
CHT	Canada Health Transfer
CLB	Canadian Language Benchmark
CMAs	Census Metropolitan Areas
CMHC	Canada Mortgage and Housing Corporation
COPS	Canadian Occupational Projections System
CPI	Consumer Price Index
CPP	Canada Pension Plan
CRS	Comprehensive Ranking System
CRTS	Constant Returns to Scale
ECEC	Early Childhood Education and Care
ESCS	Economic, Social and Cultural Status
FBI	Federal Business Immigration
FST	Federal Skilled Tradespersons
FSW	Federal Skilled Workers
GDI	Gross Domestic Income
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIS	Guaranteed Income Supplement
GST	Goods and Service Tax
IMDB	Longitudinal Immigration Database
IMF	International Monetary Fund
IMP	International Mobility Program
IRCC	Immigration, Refugees and Citizenship Canada
IRPA	Immigration and Refugee Protection Act
IRPP	Institute for Research on Public Policy
IRTS	Increasing Returns to Scale
LINC	Language Instruction for Newcomers to Canada
LMIA	Labour Market Impact Assessment
METR	Marginal Effective Tax Rate
NAFTA	North American Free Trade Agreement
NEET	Not in Employment, Education or Training
OAS	Old Age Security
OFCs	Offices of the Fairness Commissioner
ONPHA	Ontario Non-Profit Housing Association
OSFI	Office of the Superintendent of Financial Institutions
PBO	Parliamentary Budget Officer
PCF	Pan-Canadian Framework on Clean Growth and Climate Change
PNP	Provincial Nominee Program
QBI	Quebec Business Immigration
PISA	Programme for International Student Assessment
PIAAC	Programme for the International Assessment of Adult Competencies
QPP	Quebec Pension Plan

QSB	Quebec Skilled Workers
R&D	Research and Development
RHAs	Regional Health Authorities
SMEs	Small and Medium Enterprises
SPSD	Social Policy Simulation Database
SR&ED	Scientific Research & Experimental Development
STEM	Science, Technology, Engineering and Mathematics
TFWP	Temporary Foreign Worker Program
TRIEC	Toronto Region Immigrant Employment Council
VET	Vocational Education and Training
WITB	Working Income Tax Benefit
WTO	World Trade Organisation

Executive summary

Economic growth remains buoyant

- *Well-being in Canada is high.*
- *Economic growth has eased back to potential rates since mid-2017 following problems in pipeline capacity.*
- *Macroeconomic policies are becoming less expansionary.*
- *GDP growth is projected to remain fairly robust.*
- *The greatest uncertainty in the outlook relates to increased global trade restrictions.*

High house prices create risks

- *In recent years, house prices have soared.*
- *Household debt has expanded alongside house prices, exceeding 170% of disposable income.*
- *A series of macro-prudential measures since 2008 have mitigated housing market risks.*
- *Unaffordability and affordable housing shortages raise inclusiveness issues.*

Workforce inclusion can be improved

- *The federal government is working hard to improve female labour market outcomes.*
- *Initiatives underway to improve labour market information offer benefits especially for youth*
- *Later retirement can be supported through flexibility in working hours and skills development.*

Immigrant labour market integration lags

- *Immigrants earn less than the comparable native-born.*
- *Immigration policy has been changed to select immigrants with better earnings prospects.*
- *Canada has an extensive array of programmes that facilitate integration.*

More should be done to raise productivity

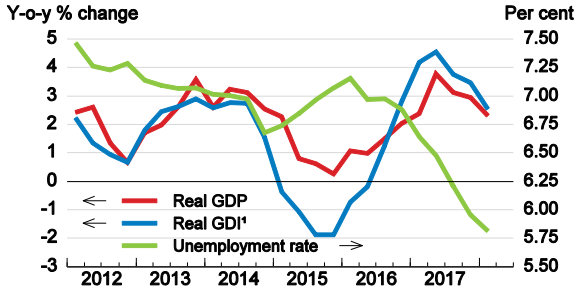
- *Hourly labour productivity continues to lag behind the upper half of OECD countries.*
- *Implementing past OECD recommendations would increase productivity.*

Economic growth remains buoyant

Well-being in Canada is high, underpinned by good health, strong education and skills and high environmental quality. Income inequality is close to the OECD mean, but the working-age poverty rate is well above the OECD average. And meeting Canada's climate-change commitments will be challenging.

Economic growth has eased back to potential rates since mid-2017 following problems in pipeline capacity. Strong economic growth in 2017 supported employment, with unemployment reaching record lows (Figure A). Labour market strength is beginning to feed into wage growth.

Figure A. Economic growth is strong



1. Real Gross Domestic Income (GDI) equals real GDP adjusted for changes in the terms of trade.
Source: Statistics Canada, Table 380-0065; OECD, *Economic Outlook database*.

StatLink
http://dx.doi.org/10.1787/888933779409

Macroeconomic policies are becoming less expansionary. Some monetary policy stimulus has already been withdrawn, but with the economy operating close to potential and core inflation near the mid-point of the official target band, further interest rate increases will be needed. Similarly, the overall fiscal stance is set to become less stimulatory.

GDP growth is projected to remain fairly robust (Figure B)**.** Private consumption gains are set to slow as interest rates rise further, house price appreciation eases and job growth moderates. Rising interest rates and the US corporate tax cut will hold back investment. Export growth has been held back by exchange rate strength but is underpinned by improving global demand.

Figure B. Growth is projected to remain solid

	2017	2018	2019
Gross domestic product (GDP)	3.0	2.1	2.2
Private consumption	3.4	2.4	1.8
Government consumption	2.2	2.1	1.8
Gross fixed capital formation	2.8	4.2	3.2
Exports	1.0	1.7	4.4
Imports	3.6	3.7	3.9
Unemployment rate	6.3	5.7	5.5
Consumer price index	1.6	2.3	2.2
Government deficit (% of GDP)	-1.0	-1.0	-1.0
Current account deficit (% of GDP)	-3.0	-2.7	-2.5

Source: *OECD Economic Outlook 103 database*.

The greatest uncertainty in the outlook relates to increased global trade restrictions. Outcomes will depend on political decisions, notably in the United States, but the associated uncertainty may be dampening Canadian investment. Termination of the North American Free Trade Agreement (NAFTA) would have a small but material effect (around -0.5%, but with considerable uncertainty) on GDP. The other major risk is a disorderly housing market correction, which would reduce residential investment, household wealth and consumption.

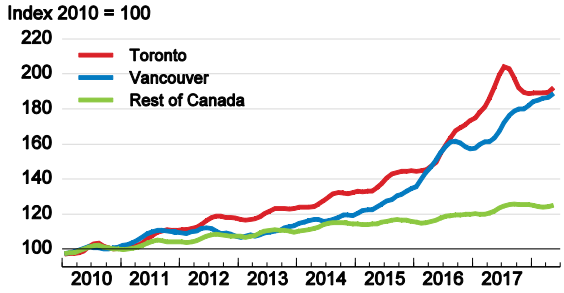
High house prices create risks

In recent years, house prices have soared in the major fast-growing centres of Toronto and Vancouver, which face supply constraints (Figure C). They have outpaced incomes and rents, driven by low interest rates, population growth, foreign buying and speculation. However, national house price appreciation has eased since mid-2017 following federal and provincial policy measures.

Household debt has expanded alongside house prices, exceeding 170% of disposable income. Debt-servicing costs have been held down by low interest rates but could reach levels not seen since at least 1990 with projected policy rate normalisation. Highly indebted new borrowers are particularly vulnerable and are disproportionately likely to be young, living in

Toronto or Vancouver and to have lower incomes than other recent mortgage borrowers.

Figure C. House prices have increased most in Toronto and Vancouver



Source: Teranet and National Bank of Canada, *House Price Index*.

StatLink
http://dx.doi.org/10.1787/888933779428

A series of macro-prudential measures since 2008 have mitigated housing market risks. Federally and provincially regulated institutions operate side by side in mortgage markets, which makes close coordination important in monitoring the effects of recent tightening and in preparing to act further as circumstances change.

Unaffordability and affordable housing shortages raise inclusiveness issues. Homelessness is high, and the stock of social housing is low relative to other high-income OECD countries. Waiting times for social housing are as long as 14 years for recent applicants in urban, high demand regions of Ontario, for example. The CAD 40 billion National Housing Strategy seeks to address these problems through construction of new social and affordable housing units, repair or renewal of existing units and provision of housing allowances directly to households.

Workforce inclusion can be improved

The federal government is working hard to improve female labour market outcomes. Greater-than-planned improvements in access to high-quality, affordable early childhood education and care would support women's participation and child development, particularly for those from disadvantaged backgrounds. It would also help to address the sizeable gender earnings gap, which is particularly large for Canadian mothers. The introduction of non-transferable parental benefits and leave for the second parent (usually fathers) announced in the 2018 federal budget should also help reduce that gap.

Initiatives underway to improve labour market information offer benefits especially for youth and could increase productivity by reducing the high rate of qualification mismatches. The Labour Market Information Council should build on the national Job Bank website to provide school leavers and existing workers with detailed, nationally consistent information.

Later retirement can be supported through flexibility in working hours and skills development. The age of eligibility for public and basic contributory pensions has remained fixed despite steadily rising life expectancy, holding back seniors' labour force participation. It should be indexed to such increases.

Immigrant labour market integration lags

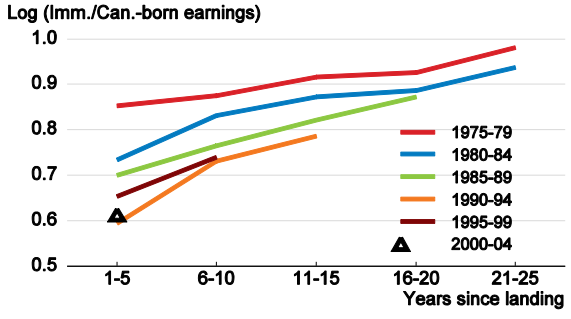
Immigrants earn less than the comparable native-born, but the gap shrinks as they spend more time in Canada. Controlling for relevant characteristics, the initial earnings of male immigrants fell sharply in relation to those of the native-born until the early 1990s and then probably remained too low for catch-up to occur during most immigrants' working lives (Figure D); similar trends are observed for female immigrants. Major causes of the fall include a deterioration in official language skills and in returns to foreign work experience.

Immigration policy has been changed to select immigrants with better earnings prospects. More are selected for their human capital, and greater weight has been given to official language competence, age (inversely related to foreign work experience) and Canadian work experience. Further changes that give extra weight to factors that affect the likelihood of immigrants finding good job matches would help to narrow the earnings gap.

Canada has an extensive array of programmes that facilitate integration. The Targeted Employment Strategy for Newcomers facilitates foreign-credentials recognition and helps immigrants gain Canadian work experience in their profession. Bridge programmes, which help with post-secondary credentials recognition in regulated occupations, and mentoring programmes, which help immigrants overcome underrepresentation in high-quality jobs by developing professional networks, have proved effective and should be expanded. The federal government's settlement programmes are extensively used, especially by immigrants with the greatest barriers to integration, but it is not clear whether utilisation patterns reflect differences in needs or availability. There are large differences in efficiency of government language programmes, pointing to possibilities for reorganisation to improve outcomes. Private management of government-assisted refugees is being trialled to see if it yields better results.

Figure D. Predicted male immigrant earnings relative to those of comparable Canadian-born

Full-time, full-year male workers, by years since landing, 1975-2004



Source: G. Picot and A. Sweetman (2012), "Making It in Canada - Immigration Outcomes and Policies", *IRPP Study*, No. 29, April, Figure B1.

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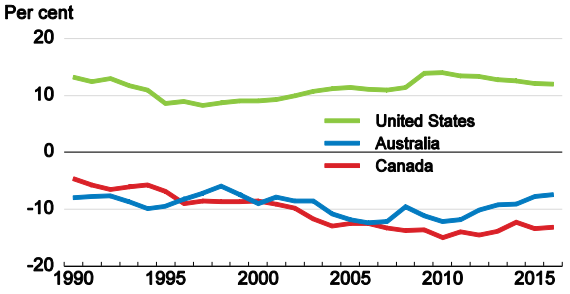
More should be done to raise productivity

Hourly labour productivity continues to lag behind the upper half of OECD countries (Figure E)**.** Disappointing productivity performance reflects low growth in both capital intensity and multifactor productivity.

Figure E. Gaps in labour productivity relative to the upper half of OECD countries



Source: OECD (2018), *Economic Policy Reforms: Going for Growth 2018*.

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Implementing past OECD recommendations would increase productivity. Barriers to entry in network and services sectors should be reduced as should non-tariff barriers to internal trade. The innovation framework would benefit from focusing measures on correcting market failures. And the tax system should be reformed by reducing the reliance on taxes with high efficiency costs and phasing out tax expenditures not warranted by clear market failures or equity objectives, such as the preferential small business corporate tax rate.

The authorities are rightly putting more resources into infrastructure investment, but good project selection will be critical. The Canada Infrastructure Bank offers potential gains from access to private technology and innovation, enhanced incentives for project delivery and increased efficiency through user charging. However, rigorous cost-benefit analysis has been lacking from recent large public infrastructure projects in some jurisdictions. It will be important for the Bank to develop robust selection processes.

MAIN FINDINGS	KEY RECOMMENDATIONS
Making growth stronger, more sustainable and more inclusive	
With the economy operating around potential and growth near its potential rate, the need for macroeconomic stimulus is steadily waning.	Gradually withdraw monetary and fiscal stimulus as capacity constraints tighten and inflation returns to the midpoint of the 1-3% official target band, as foreseen.
Rapid growth in resale prices of houses, elevated household debt and a high housing investment share of GDP pose risks to the economy.	Monitor the effects of recent macro-prudential tightening, and stand ready to act should the balance of risks change.
Housing affordability has worsened, homelessness is high, and there are long waiting lists for social housing in some major urban centres.	Increase the supply of affordable housing and better maintain the existing social housing stock, as planned. Improve targeting of social housing to those with the greatest needs.
Infrastructure investment has the potential to boost productivity if well implemented.	Ensure projects supported by the Canada Infrastructure Bank meet cost–benefit criteria through existing infrastructure planning processes.
Rising health-care costs associated with population ageing contribute to unsustainable provincial/territorial fiscal positions, which are highly heterogeneous across these jurisdictions.	Adjust the Canada Health Transfer (and other social transfers from the federal government) for provinces' and territories' varying age structures.
Although important actions have been taken over the years to improve the competitiveness of the Canadian corporate tax system, a comprehensive review of the overall tax system may be helpful in determining how it can further attract investment.	Review the tax system to ensure that it remains efficient -- raising sufficient revenues to fund public spending without imposing excessive costs on the economy -- equitable and supports the competitiveness of the Canadian economy.
Canada has overlapping and potentially expensive measures to reduce carbon emissions, many of which would be redundant if all emissions were adequately priced.	Progressively increase the carbon price to the extent necessary to meet Canada's GHG abatement objectives, and eliminate redundant abatement measures.
Increasing inclusiveness for women, youth and seniors	
Gender employment gaps within Canada increase with childcare costs, which are high by international comparison. Increasing government spending on early childhood education and care to match leading countries would significantly lift female employment.	Further increase federal and provincial funding of childcare with a goal of making access to affordable high-quality childcare available to all children aged three and under. Extend kindergarten so that all four year-old children have access to affordable pre-school education.
The gender earnings gap is large, especially for women with children, in part due to the large disparity in time spent on childcare.	Support take-up of new parental leave by fathers through information provision and, if necessary, increasing payment rates.
Fragmented labour market information has contributed to a high rate of qualifications mismatch and fails to provide clear signals to young Canadians regarding career prospects.	Consolidate the existing range of career guidance and education information into a single national portal to provide a comprehensive one-stop shop.
Many people retire at 60 or 65 despite increasing life expectancy, holding back incomes.	Index the eligibility age for public pensions to life expectancy, supported by encouraging flexibility in working hours and skill development.
A shortage of formal long-term care puts considerable strain on carers, the majority of whom are women, and hospitals.	Manage growing demand for long-term care by improving targeting of public payments, wider application of user charging and further encouraging home-care services.
Enhancing labour-market integration of immigrants	
Prior Canadian skilled work experience boosts immigrant earnings. Canadian post-secondary education and a relevant job offer are advantageous when combined with such experience.	Increase the weight given to skilled Canadian work experience in selection of economic immigrants. Condition points for post-secondary Canadian education and a relevant job offer on such experience.
Employer demand continues to play a minor role in immigrant selection through Express Entry.	Process Express-Entry applications of immigrant candidates with skilled Canadian experience and a relevant job offer before others, and reduce administrative complexity.
Many Provincial Nominee Program (PNP) immigrants lack human capital levels associated with long-term economic success and flexibility.	Channel more PNP candidates through the federal government's Express Entry system, which selects candidates with high levels of human capital.
Immigrants who work in their pre-immigration regulated occupation earn more than those who do not.	Enhance norms for provinces' foreign qualifications recognition, and take into account the gap between applicants' credentials and requirements in regulated professions when awarding points. Expand bridge programmes to help bring credentials up to the required level and mentoring programmes to help immigrants into high-quality jobs.
Government settlement services are widely used, but it is not clear whether service patterns reflect needs or availability.	Assess the extent to which utilisation patterns reflect needs and, insofar as they do not, redirect resources.
There are large differences in the efficiency of government language programmes by type of programme and client.	Increase resources for the more effective programmes, such as occupation-specific training, to reduce queueing.

Key Policy Insights

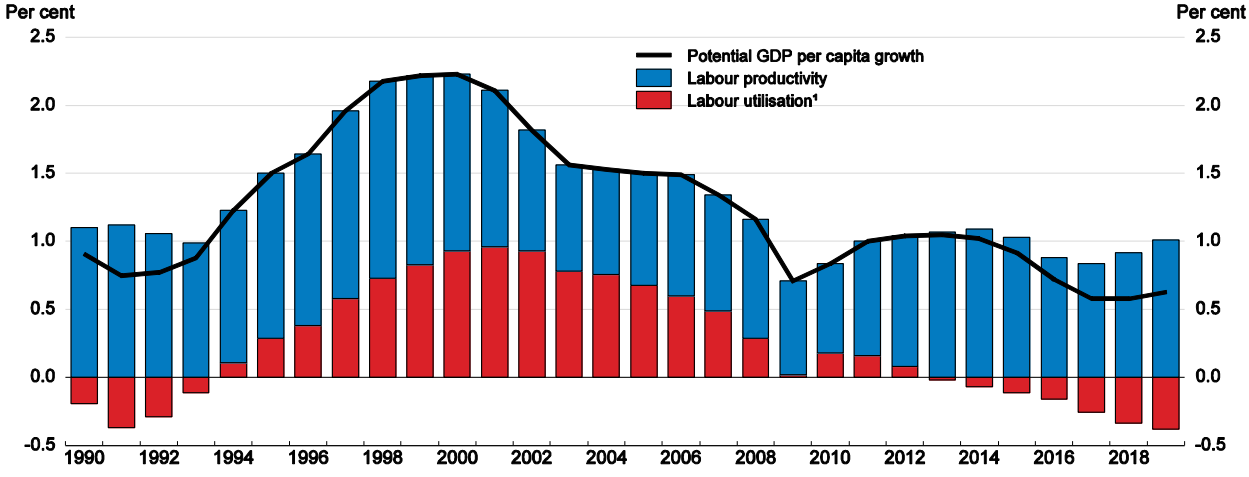
- *Recent developments, macroeconomic policies and short-term prospects*
- *The housing boom*
- *Fiscal sustainability*
- *Inclusiveness for women, youth and seniors*
- *Immigration policy*
- *Reforms to increase productivity*
- *Environmental sustainability*

The Canadian economy has recovered from the weak patch caused by the 2014 energy price slump. Good policy settings supported this recovery. Monetary policy was quickly eased and fiscal policy became stimulatory. The stimulus measures taken by the federal government were also aimed at making economic growth more inclusive and stronger in the long term. They included income tax cuts for the middle class, the introduction of the Canada Child Benefit and a large increase in infrastructure investment. And structural policy settings that contribute to the flexibility of the Canadian economy further supported the return to buoyant growth.

House price increases have been among the fastest in the OECD, creating affordability challenges that are most acute in fast-growing major cities. Macro-prudential measures have mitigated associated economic risks, but highly indebted borrowers will be vulnerable to high debt-service loads as interest rates increase.

Canada faces longer-term challenges associated with an ageing population and weak productivity growth. Already, population ageing has reduced the contribution of labour utilisation (i.e. employment as a share of the population) to growth in potential real GDP per capita, cutting its annual average growth rate to 0.6%, which is less than the OECD average (1.1%) (Figure 1). The effects of population ageing are set to intensify over coming decades. And labour productivity growth remains below the OECD average. Labour productivity continues to be well below that in the top half of OECD countries.

Figure 1. Decomposition of potential real GDP per capita growth in Canada



1. Population aged 15-74 years old.
Source: OECD (2018), *OECD Economic Outlook 103 database*.

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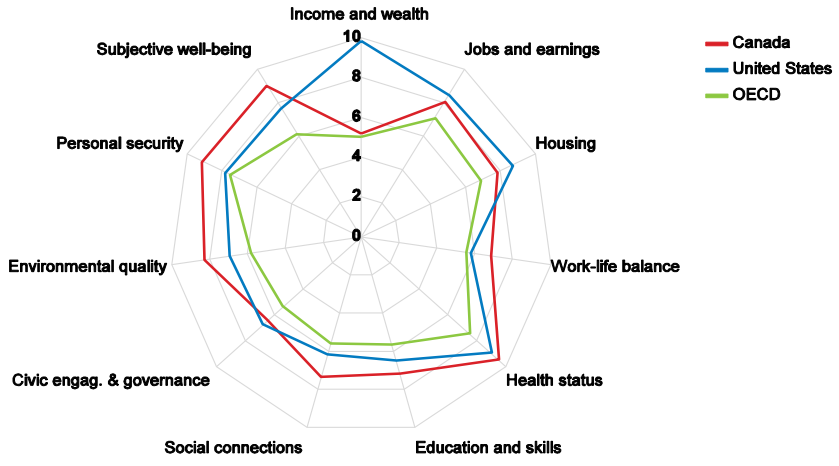
Canada scores highly in most dimensions of the OECD's Better Life Index (Figure 2). Outcomes for health status, education and skills, social connections, environmental quality, personal security and self-assessed measures of well-being are all much above average. However, this does not mean that all Canadians experience high well-being. Income inequality among the working-age population is around the OECD average and has changed little since 2000, with less-than-average redistribution (Figure 3, Panels A and B). The relative poverty rate (based on a poverty line of 50% of median household income) is well above the OECD average (Panel C). By contrast, the over-65 poverty rate is below the OECD average, pointing to the effectiveness of

Canada's retirement income system (Panel D). Wealth inequality has also changed little since 2000, with the top fifth holding around two thirds of net wealth.

Figure 2. Well-being in Canada is high

Better Life Index,[1] 2017 edition



1. Each index dimension is measured by one to four indicators from the OECD Better Life Index (BLI) set. Normalised indicators are averaged with equal weights. Indicators are normalised to range between 10 (best) and 0 according to the following formula: (indicator value - minimum value) / (maximum value - minimum value) x 10. The OECD aggregate is weighted by population. Please note that the OECD does not officially rank countries in terms of their BLI performance.

Source: OECD (2017), *OECD Better Life Index*, www.oecdbetterlifeindex.org.

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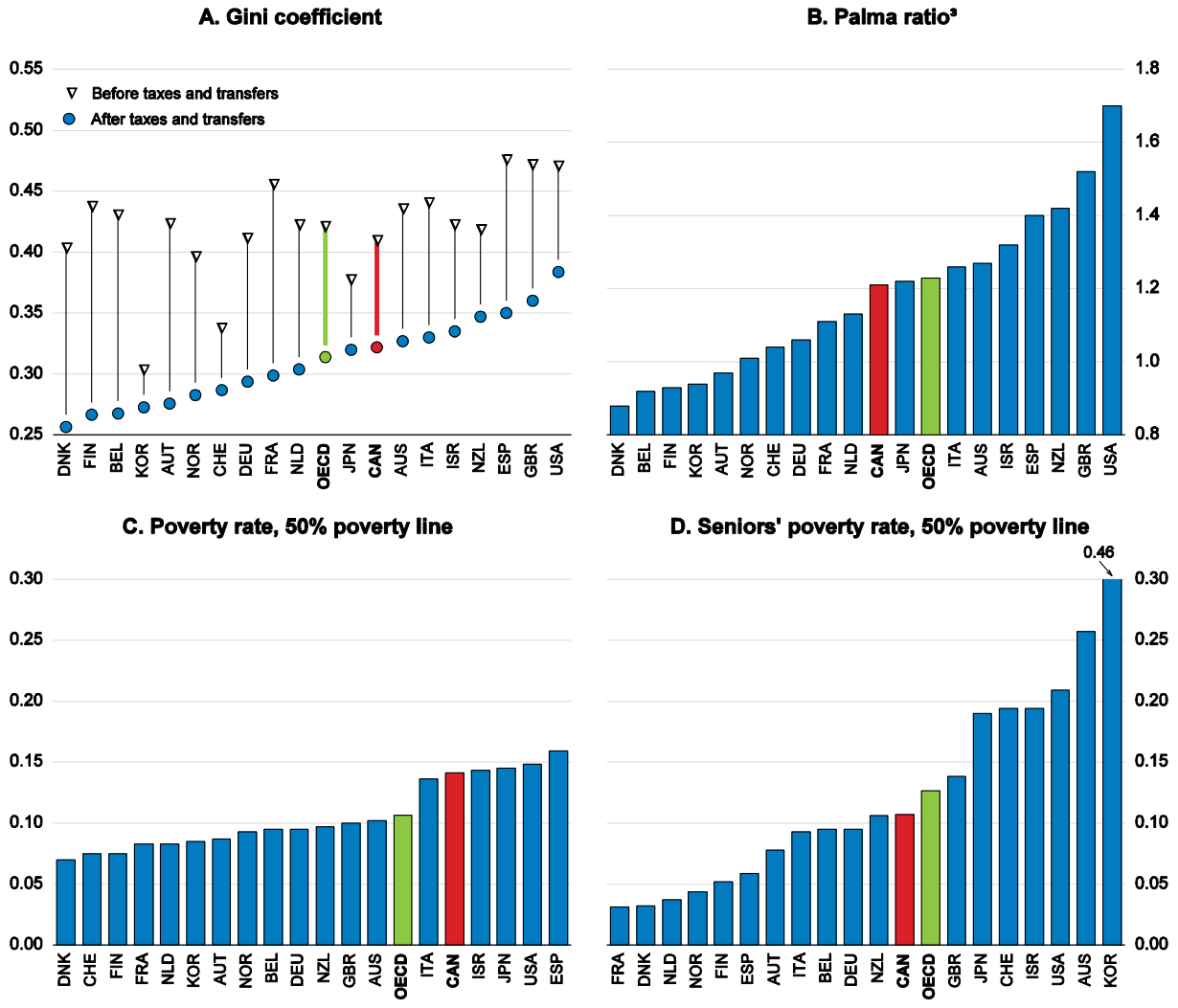
Canadian women do well on a number of measures including years of education and life satisfaction, but gender inequality in earnings is considerably larger than the OECD average, and the gender employment gap has not shrunk since 2009. The skills of young Canadians have deteriorated and young males at the bottom of the earnings distribution have experienced weak wage growth. While the relative poverty rate for seniors is low, it has increased steadily since the mid-1990s.

Canada's immigration policies are amongst the most successful in the world. It welcomes large numbers of immigrants from diverse backgrounds, who contribute to the economic dynamism and cultural diversity of the country, and maintains high levels of social cohesion. On most measures, immigrants are well integrated. However, labour-market integration challenges remain. Immigrants earn considerably less than the Canadian-born with similar education attainment, age and place of residence. Narrowing this gap by selecting immigrants with higher earnings prospects and improving integration measures would result in more immigrants fully realising their potential, boosting their well-being.

Figure 3. Income distribution and relative poverty rates[1]

2016 or latest available year[2]



1. Working-age population in Panels A, B and C. Population over 65 in Panel D.
2. 2014 data for the OECD aggregate.
3. Ratio of income of the top 10% to income of the bottom 40%.

Source: OECD, *Income Distribution database,* http://www.oecd.org/els/soc/income-distribution-database.htm.

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Against this background, the main messages of this *Economic Survey* are:

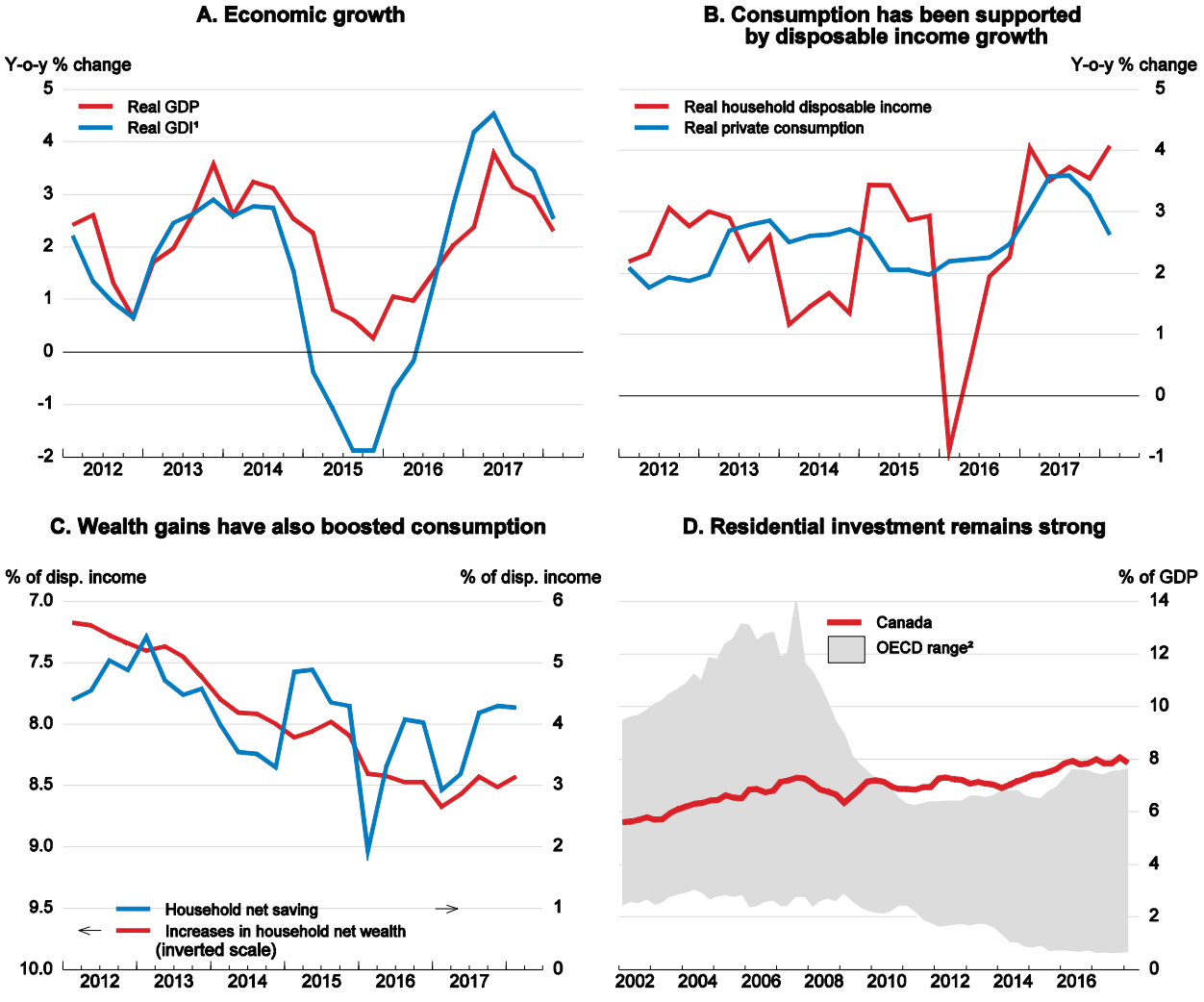
- House prices and household debt are high, notably in Toronto and Vancouver, undermining housing affordability and posing economic risks.
- Improving labour market outcomes for women, youth and seniors would help to counter the effects of population ageing and make growth more inclusive.
- Enhancing labour-market integration of immigrants would increase inclusiveness, as well as productivity and incomes.

Recent developments, macroeconomic policies and short-term prospects

Economic growth has recently eased towards more sustainable rates as capacity constraints tighten

Growth has returned to a more sustainable pace following strong increases until mid-2017 (Figure 4). Private consumption, which was the major driver in 2017, slowed late in the year with the removal of some monetary policy stimulus and smaller wealth gains from house price gains. The GDP share of residential investment is the OECD's largest but is far below the pre-crisis peaks in countries such as Ireland and Spain that experienced housing bubbles (Panel D). Canada's export mix means it is highly exposed to

Figure 4. Factors driving the economic expansion



1. Real Gross Domestic Income (GDI) equals real GDP adjusted for changes in the terms of trade.
2. Excluding Canada.
Source: Statistics Canada, Table 380-0065; OECD, *Economic Outlook database*.

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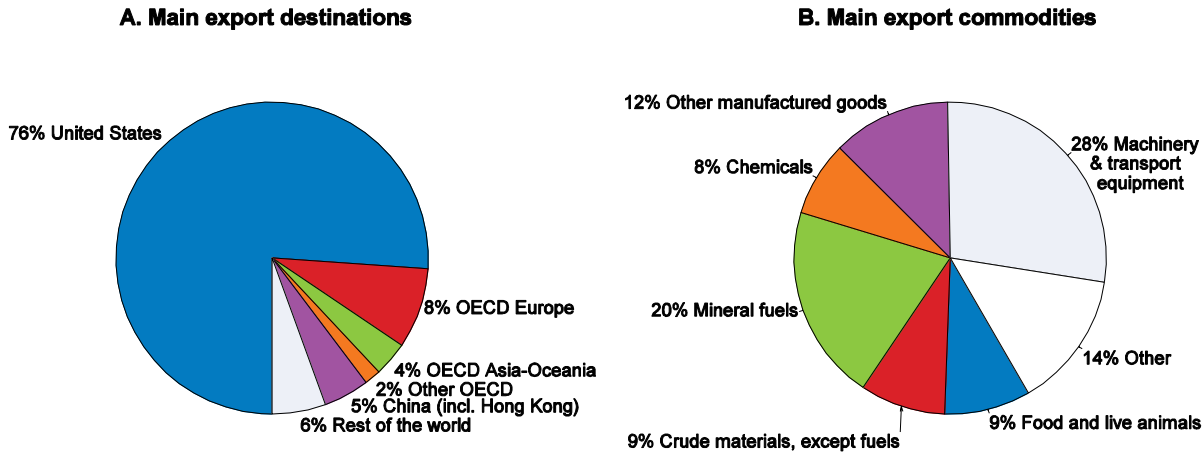
developments in the US economy and commodity markets (Figure 5). Adjustment to the fall in commodity prices that started in 2014 is now complete, with the mid-2016 rebound in commodity-producing industries boosting growth. Business investment has picked up but remains weaker than before the commodity price fall, in part because upstream oil and gas investment is being held up by pipeline capacity constraints and regulatory barriers to their expansion, which have curtailed exports as well.

Figure 5. Exports of goods by market and commodity

Share of total exports, 2017



Source: OECD, *International Trade Commodity Statistics database.*

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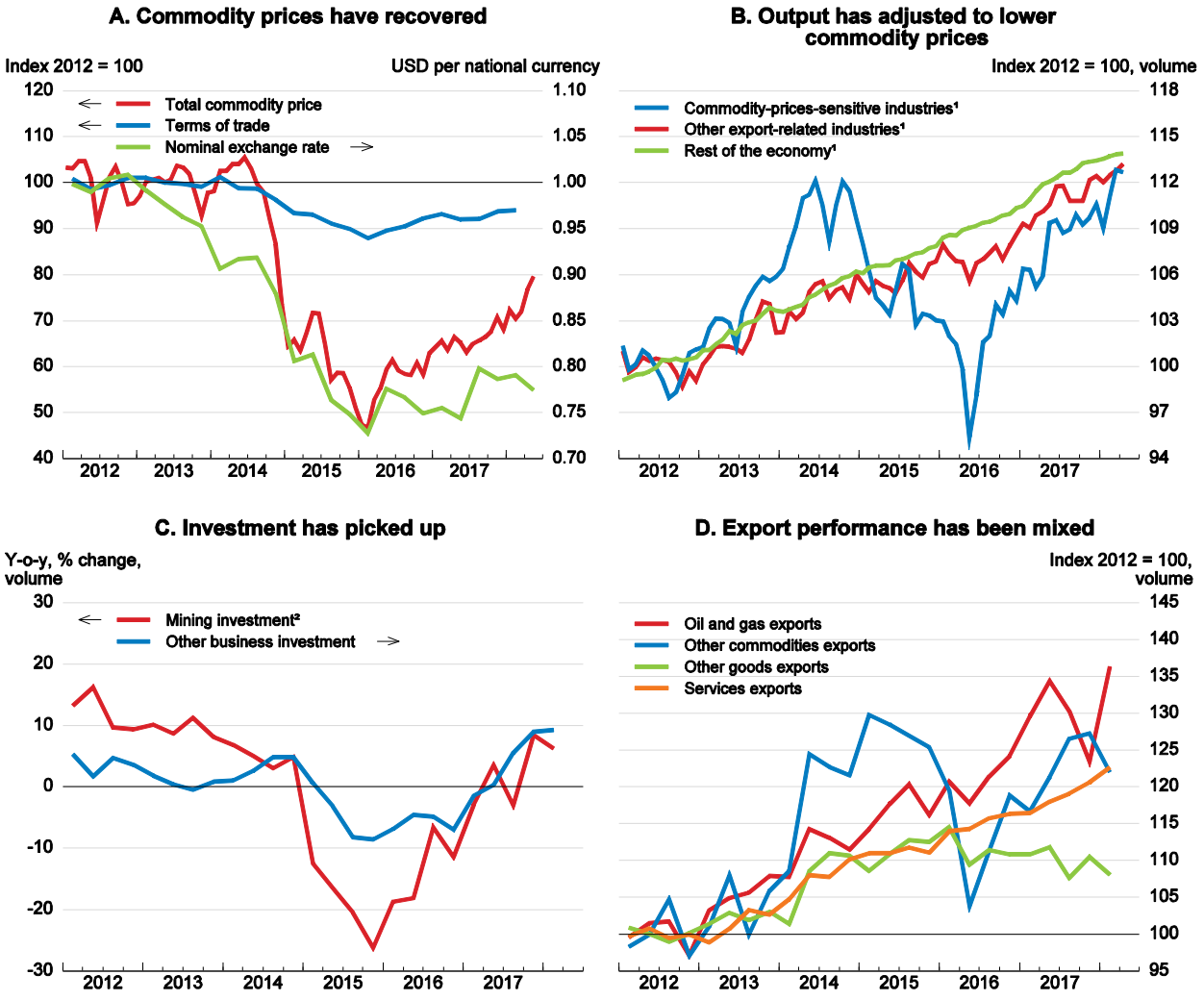
The real effective exchange rate has recovered along with commodity prices since the start of 2016, although it has fallen in recent months owing to US fiscal stimulus and the threat of tariffs on exports to the United States and remains well below 2010-13 levels. Non-commodity goods exports have seen little growth (Figure 6). The current account has been in deficit since the Global Financial Crisis, and in 2017 Canada recorded the third-largest deficit (as a share of GDP) among OECD countries. Even so, Canada's net international investment position turned positive in 2014 (Figure 7), driven by the effects of commodity price falls during 2014 and 2015: depreciation of the Canadian dollar increased the net position by 20 percentage points of GDP, while a sharp fall in the value of Canadian assets held by foreigners contributed a further 10 percentage points (LeBoeuf and Fan, 2017[1]).

Employment growth has been strong, and the unemployment rate has equalled the record low since comparable records began in 1976. The rate is now below the OECD's estimates of the structural rate, although such estimates are quite uncertain. The youth (15-24) unemployment rate has fallen to 11%, low historically and compared with the OECD average of 13%. At the same time, more people have entered the labour force (Figure 8, Panel A). The working age (15-64) employment rate has exceeded the previous cyclical peak from 2008, although the Bank's labour market indicator points to some remaining slack owing to a drop-off in working hours of full-time employees that has not yet been fully reversed despite increased employment being accompanied by an increase in average hours per worker in 2017.

Figure 6. Adjustment to the fall in commodity prices is complete

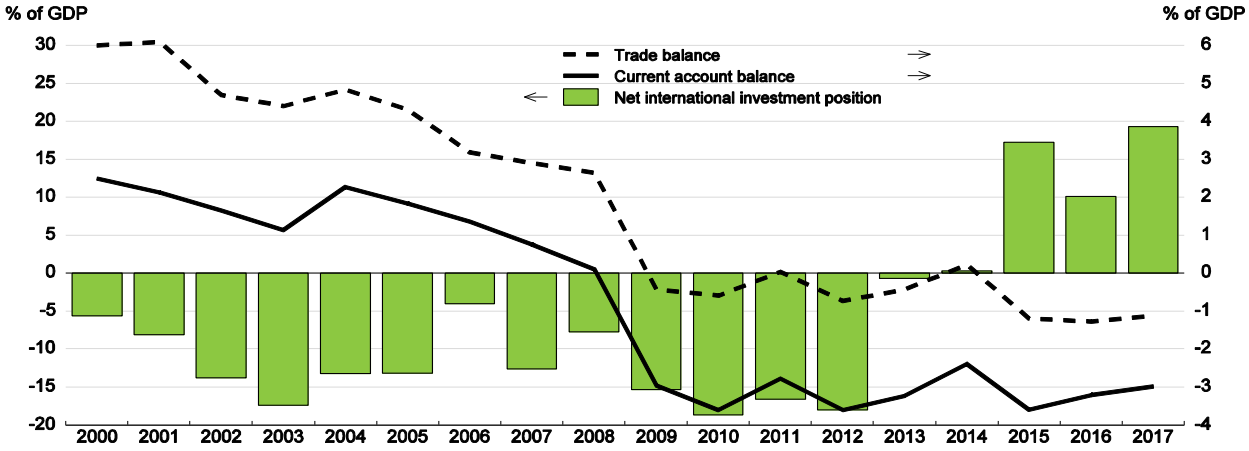


1. Three-month moving average of real output. For more detail on the sectoral definition, see notes in Bank of Canada (2016).
2. Includes oil and gas. Also includes some engineering structures investment that may relate to other sectors.
Source: OECD, *Economic Outlook database*; Bank of Canada (2016), *Monetary Policy Report*, April, Chart 9 updated; Statistics Canada, Tables 176-0075, 379-0031, 380-0068 and 380-0070.

StatLink http://dx.doi.org/10.1787/888933779580

As in many other countries, labour market strength was slow to translate into wage growth, but it has now picked up (Figure 8, Panel B). The latest Labour Force Survey data show hourly wage growth of close to 3% per year for full- and part-time employees alike (Statistics Canada, 2018[2]). Wage growth will be boosted over the next few years by increases in provincial minimum wage rates (Table 1). Bank of Canada researchers estimate that these increases will boost average hourly wage rates by 0.7% and inflation by around 0.1 percentage point in 2018, while reducing employment and GDP by 0.3% and 0.1%, respectively (Brouillette et al., 2017[3]).

Figure 7. External sector indicators



Source: OECD, *Economic Outlook database*.

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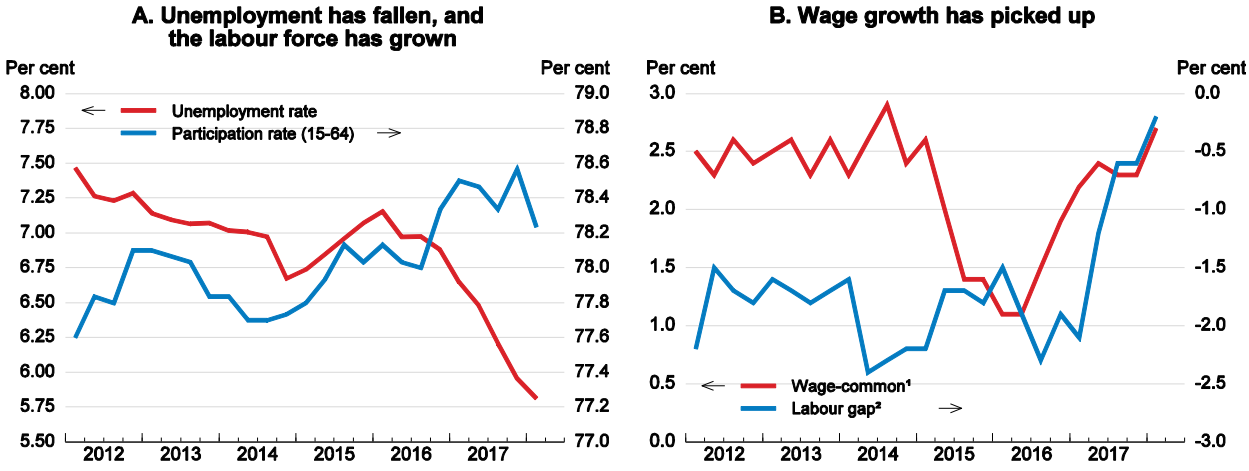
Figure 8. The labour market is tightening



1. Composite measure of wage pressures summarising data from the Labour Force Survey, National Accounts, Productivity Accounts, and Survey of Employment, Payrolls and Hours. For more detail, see Brouillette et al. (2018).
2. Deviation of aggregate hours worked from their estimated potential level.
Source: OECD, *Economic Outlook and Short-Term Labour Market Statistics databases*; D. Brouillette et al. (2018), "Wages: Measurement and Key Drivers", *Staff Analytical Note 2018-2*, Bank of Canada, charts 3 and B-3; Bank of Canada (2018), *Monetary Policy Report*, April.

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Consumer price inflation has increased to around the mid-point of the Bank of Canada's 1-3% annual medium-term target band, as have the Bank's preferred underlying inflation measures (Figure 9, Panel A). Inflation expectations are well-anchored, with almost all responses to the latest *Business Operations Survey* expecting inflation to fall within the target band.

Table 1. Scheduled minimum wage increases vary considerably across provinces

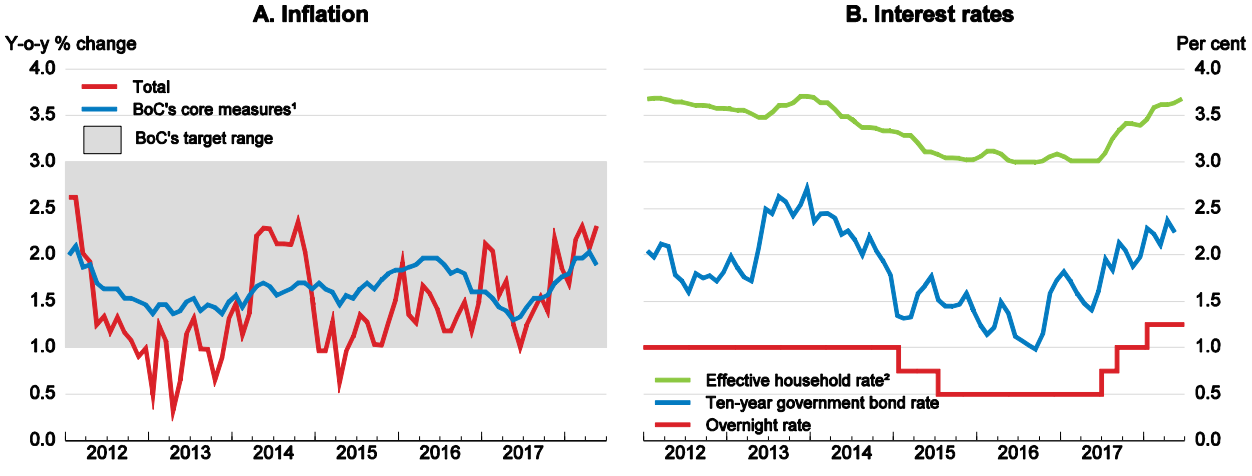
	Minimum wage as of:		Percentage increase
	1 January 2017	1 January 2019	
Newfoundland and Labrador	10.50	11.22	6.9
Prince Edward Island	11.00	11.55	5.0
New Brunswick	10.65	11.22	5.4
Nova Scotia	10.70	11.07	3.4
Québec	10.75	12.00	11.6
Ontario	11.40	15.00	31.6
Manitoba	11.00	11.35	3.2
Saskatchewan	10.72	11.18	4.3
Alberta	12.20	15.00	23.0
British Columbia	10.85	12.65	16.6

Note: In provinces where minimum wages as of 1 January 2019 are yet to be announced, these were calculated based on minimum wages as of 1 January 2018, incorporating 2% CPI growth where minimum wages are indexed to the CPI.
Source: (Brouillette et al., 2017[3]); (CNESST, 2018[4]); (Province of British Columbia, 2018[5]).

Macroeconomic policies are becoming less expansionary

Some monetary stimulus has been withdrawn through three official interest rate hikes since mid-2017 (Figure 9, Panel B). With the economy around potential, growth near the potential rate and core inflation at the mid-point of the target band, monetary stimulus would appear to be steadily less necessary. The OECD assumes that the policy rate will be progressively increased by 75 basis points to 2.0% by the end of 2019, which remains below the Bank of Canada's estimated range for the neutral rate (2.5-3.5%).

Figure 9. Inflation has returned to near the middle of the Bank of Canada's target range



1. Average of the Bank of Canada's 3 preferred core inflation measures (CPI-trim, median and common).
2. Weighted-average of various mortgage and consumer credit rates.
Source: Statistics Canada, Tables 326-0022, 326-0023, 176-0043 and 176-0048; Bank of Canada, https://credit.bankofcanada.ca/financialindicators.

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Rising global long-term interest rates will also tighten monetary conditions. Global term premia (i.e., the difference between long- and short-term rates) are likely to rise as the

Federal Reserve and European Central Bank unwind quantitative easing. The Bank of Canada estimates that 50-75% of changes in US term premia, which are also affected by ECB premia, flow into Canadian term premia. Canadian long-term rates are currently about 60 basis points below US rates, a historically wide margin, showing confidence in Canadian policy settings.

The overall stance of fiscal policy is estimated to have been stimulatory over the past two years, during which the underlying primary budget balance of general government declined by 1.8% of GDP, to be neutral in 2018 and slightly stimulatory in 2019 (Table 2). The 2016-2017 stimulus primarily reflects federal-level developments, while that in 2019 primarily reflects developments in Ontario. The 2016-17 stimulus supported the economy during the weak patch caused by the fall in oil prices, but, with adjustment now complete and the economy back around potential, such support is no longer warranted. While the federal debt-to-GDP ratio is likely to decline somewhat over the five-year budget planning horizon, the government has dropped its other objective of returning the budget to balance over that period Table 3).

Table 2. Fiscal projections

As a percentage of GDP

	2015	2016	2017	2018	2019
				Projections	
Revenues	39.8	39.6	39.3	39.0	39.0
Expenditures	39.9	40.7	40.3	40.0	39.9
Budget balance	-0.1	-1.1	-1.0	-1.0	-1.0
Primary balance	0.5	-0.4	-0.6	-0.4	-0.3
Underlying primary balance	1.7	0.9	-0.1	-0.2	-0.6
Change	0.6	-0.8	-1.0	-0.1	-0.3
Gross debt	97.5	97.8	93.8	93.6	93.5
Net debt	29.1	29.2	24.8	24.6	24.5
Budget balance by government level[1]					
Federal	0.3	-0.4	-0.4	-0.2	-0.2
Provincial, territorial, local, aboriginal	-1.0	-1.2	-1.0	-1.3	-1.3
Canada/Québec Pension Plans	0.6	0.6	0.5	0.6	0.5

1. Government Financial Statistics.
Source: Statistics Canada, Table 385-0032 and OECD (2018), *OECD Economic Outlook 103 database*.

Table 3. Federal government medium-term budget outlook[1]

As a percentage of GDP

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Budget revenues	14.4	14.5	14.5	14.5	14.5	14.6	14.5
Programme expenses	14.1	14.2	14.0	13.9	13.8	13.7	13.6
Public debt charges	1.2	1.1	1.2	1.2	1.3	1.3	1.3
Budget balance	-0.9	-0.9	-0.8	-0.8	-0.7	-0.6	-0.5
Federal debt	31.0	30.4	30.1	29.8	29.4	28.9	28.4

1. Fiscal years end 31 March.
Source: Finance Canada, *Budget 2018*.

Provincial governments should establish budget agencies to provide independent analyses, as recommended in the last *Survey* (Table 4). In addition, they should strengthen their fiscal rules to target their overall and not just their operational balances, to establish a clear link between deficit and debt targets (IMF, 2017[6]). Estimates of the fiscal impact of the recommendations in this *Survey* are given in Box 1.

Table 4. Past OECD recommendations on fiscal policy

Recommendations in past *Surveys*	Actions taken since the previous *Survey*
Strengthen the fiscal framework by adopting a medium-term debt-to-GDP target, taking into account the outlook for provincial/territorial debt, to ensure that general government finances are sustainable, as well as the associated multi-year budgeting and spending ceilings.	The federal government has committed to reducing the federal debt-to-GDP ratio over a five-year period but has not specified targets. It has also noted that it remains committed to eventually returning to balanced budgets without providing a timeframe.
Establish provincial budget agencies, as in Ontario, or, better still, an agency reporting to the Council of the Federation that provide(s) independent analysis of fiscal forecasts and cost estimates for policy proposals.	No action taken.

Box 1. Quantifying this *Survey's* fiscal recommendations

The estimates in Table 5 are based on data from publicly available sources. They quantify the approximate net general government budgetary impact of recommendations in this *Survey*. Some recommendations (such as reducing marginal effective tax rates for Guaranteed Income Supplement recipients) are not quantifiable without further specific design decisions, and others (such as consolidation of labour market information) are already funded or primarily involve simplification of existing arrangements.

Table 5. Potential annual long-term fiscal effect of OECD recommendations

	% of GDP	CAD billion per year
Increase funding for active labour market policies	-0.12	-2.7
Further increase childcare funding	Net long-term cost much smaller than the short-term outlay	
Increase the age of eligibility for public pensions	0.15	3.4

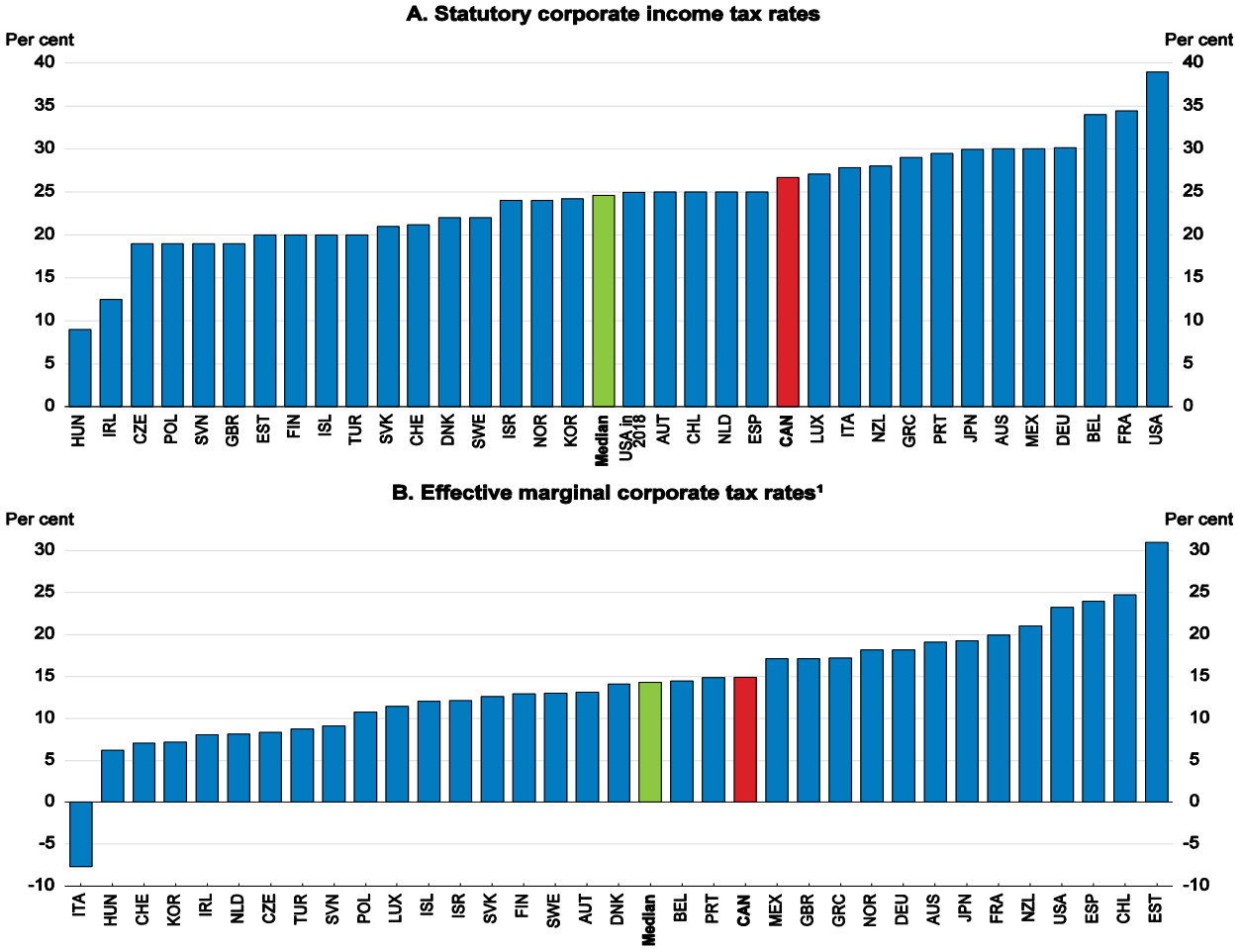
Note: Calculated based on fiscal year 2018-19 GDP projections. Elimination of the preferential tax rate for small companies is at both the federal and provincial levels of government, excluding any dynamic effects due to changes in behaviour or economic growth. The increase in funding for active labour market policies is based on increasing spending per unemployed worker as a share of GDP per capita from 5.9% to 8.9%, halving the 11.8% gap with the OECD median. The net fiscal impact of increased childcare funding is based on outcomes in Québec, as documented in Fortin, Godbout and St-Cerny (2013[7]). There are likely to be significant short-term fiscal costs associated with increased childcare funding, with an estimated CAD 7.5 billion annually required nationally to operate childcare programmes with similar coverage to Québec's (Fortin, 2018[8]). The fiscal impact of increasing the age of eligibility for public pensions is based on a one-year increase, using estimates from the Office of the Chief Actuary that exclude any dynamic effects on economic growth from people working longer (2016[9]).

NAFTA threats and US tax reform are weighing on the outlook

Uncertainty about the future of NAFTA and other aspects of US trade policy are weighing on the outlook and may be dampening the growth of business investment. The Bank of Canada (2018[10]) estimates that trade policy uncertainty could reduce the level of business investment and exports by 2.1% and 1.0%, respectively, by the end of 2020. The

US corporate tax reform has also decreased the relative attractiveness of investing in Canada, reinforcing the negative effects of NAFTA uncertainty. Canada's nominal and marginal effective corporate tax rates were substantially lower than those in the United States, but this advantage has now effectively disappeared (Figure 10); Finance Canada estimates that the post-reform US marginal effective tax rate (including sales taxes) is 19.2%, slightly above the Canadian rate of 17.6%. The Bank of Canada (2018[10]) estimates that the US tax cut will reduce business investment in Canada by 0.9% by the end of 2020. The government should review the tax system to ensure that it remains efficient -- raising sufficient revenues to fund public spending without imposing excessive costs on the economy -- equitable and supports the competitiveness of the Canadian economy.

Figure 10. Corporate income tax rates, 2017



1. The effective marginal corporate tax rate is the percentage increase in the cost of capital of a marginal investment - that is, an investment that pays just enough to make the investment worthwhile - as a result of the corporate income tax rate and tax base. This measure does not include sales taxes.
Source: OECD, *Tax database*; Oxford University Centre for Business Taxation, *CBT tax database*.

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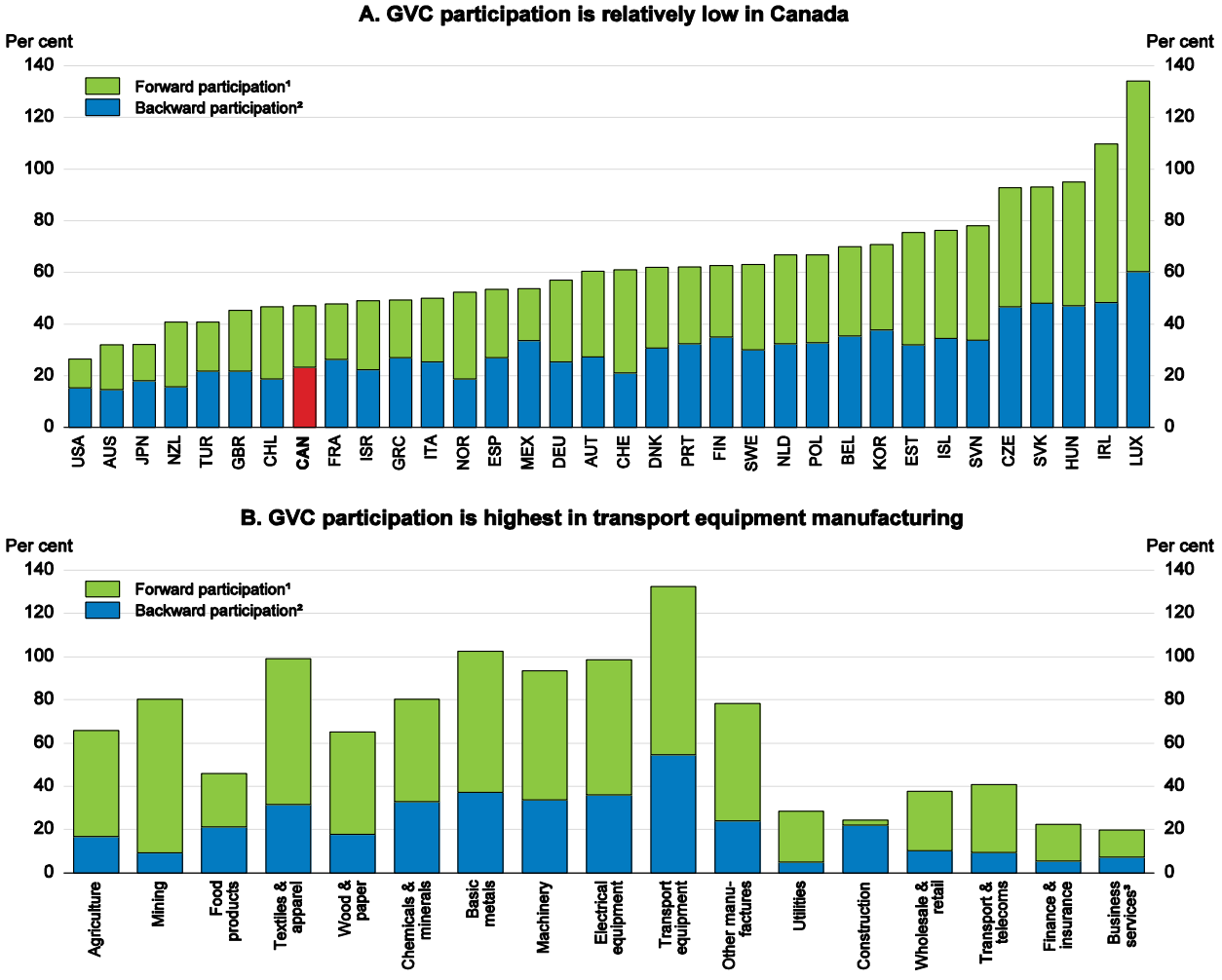
Canada has benefited greatly from openness to international trade, which increases incomes and well-being through the increased productivity that results from greater scale and production specialisation, and more diverse consumer choice. For example, NAFTA

has contributed to the development of cross-border supply chains, typified by those in the automotive manufacturing industry. Canada's participation in such regional or global value chains is more limited than in strongly interconnected European and Asian countries but has expanded recently and is notably higher in some sectors, such as transport equipment (Figure 11). Participation in such value chains extends and diversifies potential export markets, fosters investment, increases competitive pressures and entails technological, skill and managerial spillovers. To the extent that deeper integration in value chains spurs innovation, it is also likely to contribute to upward social mobility (Aghion et al., 2015[11]). If NAFTA were to be terminated, potential losses are

Figure 11. Global value chain (GVC) participation, 2014



1. Domestic value added embodied in foreign exports as a percentage of total gross exports.
2. Foreign value added embodied in exports as a percentage of total gross exports.
3. Real estate, renting and business activities.
Source: OECD-WTO, *Trade in Value Added database* (TiVA), http://oe.cd/tiva.

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estimated to amount to around 0.5% of GDP in the short term and 0.2% of GDP in the long term, when displaced labour and capital will have been reallocated (Box 2). There is

considerable uncertainty around these estimates, and effects could be larger if services trade is impeded. The spectre of permanently losing exemption from 25% US tariffs on imports of steel and 10% on aluminium would add to the costs if NAFTA

Box 2. Simulating the potential economic effects of NAFTA termination

Several institutions have modelled the economic impact of tariffs rising from those set under NAFTA (Table 6). There is considerable variation across different estimates, reflecting the use of different economic models and other analytical differences, with three key factors standing out:

- Impacts are more severe in the short and medium term, when labour and capital markets are still adjusting and employment is lower than otherwise.
- Studies that model increases in non-tariff barriers to trade, including barriers to trade in services, find substantially higher costs of termination.
- Impacts are smaller where Canada chooses not to raise import tariffs, or where the United States–Canada Free Trade Agreement remains in force.

Adding to uncertainty, these studies exclude the loss of dynamic productivity growth benefits arising from the NAFTA agreement, for example from expansion of value chains across North America and increases in foreign direct investment. Canada's participation in global value chains increased between 2011 and 2015 (Escobar, 2018 forthcoming[12]).

Table 6. Estimated impact of NAFTA termination on level of real GDP (%)

	Initial impact (2018-19)	Long-term impact
CD Howe	n/a	-0.6
IMF	-0.4	-0.1
Moody's Analytics	-0.7	-0.2
Oxford Economics	-0.5	-0.2
Rabobank	Medium-term impact (to 2025) of -2.0	
Scotiabank	-0.6	-0.3

Note: Researchers from the CD Howe Institute modelled a scenario where tariffs on trade between the United States, Canada and Mexico revert to WTO most-favoured-nation levels, as well as taking into account the impact of removing NAFTA provisions that ease services market access. The IMF modelled a scenario where the United States raises the average tariff on imports from Canada by 2.1 percentage points to the WTO most-favoured-nation level, with no retaliation from Canada. Moody's Analytics modelled a scenario where trade between the United States and Mexico reverts to most-favoured-nation tariffs while trade between the United States and Canada is based on United States–Canada Free Trade Agreement rules. Oxford Economics modelled a scenario where tariffs on US trade with Canada and Mexico would rise in line with most-favoured-nation rules (an average tariff on US imports of 3.5%), while trade between Canada and Mexico continues under NAFTA rules. Rabobank modelled the same tariff increases as Oxford Economics, in conjunction with an increase in non-tariff barriers that roughly doubled the impact on Canada. Scotiabank modelled reversion to a 3.5% most-favoured-nation tariff on US imports from Canada and Mexico, with Canada and Mexico reciprocating with identical tariffs on NAFTA trade.
Source: (Ciuriak et al., 2017[13]); (IMF, 2017[6]); (Zandi, Rogers and LaCerda, 2017[14]); (Klachkin and Daco, 2018[15]); (Erken et al., 2018[16]); (Perrault et al., 2017[17]).

renegotiation were to fail, as Canada is the biggest source country for US imports of both metals. Such trade was worth just over CAD 16 billion in 2017 (about 0.8% of GDP). On

the other hand, the Canada-European Union Comprehensive Economic and Trade Agreement and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership are positive developments that reflect the Canadian government's efforts to further promote trade and will deliver long-term benefits to Canadians.

Economic growth is projected to remain solid

Economic growth is projected to ease from 3% in 2017 to around 2% in 2018-19 as private consumption and government spending slow, the former as interest rates rise further, house price appreciation slows and job growth eases (Table 7). Business

Table 7. Macroeconomic indicators and projections

Annual percentage change, volume (2007 prices)

	2014 Current prices (CAD billion)	2015	2016	2017	2018	2019
Gross domestic product (GDP)	**1 990**	**1.0**	**1.4**	**3.0**	**2.1**	**2.2**
Private consumption	1 110	2.2	2.3	3.4	2.4	1.8
Government consumption	404	1.6	2.2	2.2	2.1	1.8
Gross fixed capital formation	487	-5.1	-3.0	2.8	4.2	3.2
Housing	141	3.5	3.3	2.9	1.8	1.1
Business	274	-11.0	-9.0	2.4	5.5	4.3
Government	71	0.4	5.2	3.9	5.3	3.9
Final domestic demand	2 001	0.3	1.1	3.0	2.8	2.1
Stockbuilding[1]	9	-0.2	-0.2	0.8	0.0	0.0
Total domestic demand	2 010	0.1	0.8	3.8	2.7	2.1
Exports of goods and services	628	3.5	1.0	1.0	1.7	4.4
Imports of goods and services	647	0.7	-1.0	3.6	3.7	3.9
Net exports[1]	- 20	0.9	0.7	-0.9	-0.7	0.1
Other indicators (growth rates, unless specified)						
Potential GDP	. .	2.0	1.7	1.6	1.5	1.5
Output gap[2]	. .	-1.9	-2.2	-0.8	-0.3	0.4
Employment	. .	0.9	0.7	1.9	1.2	0.8
Working-age population (15-74)		0.8	1.1	0.7	0.6	0.6
Unemployment rate[3]	. .	6.9	7.0	6.3	5.7	5.5
GDP deflator	. .	-0.8	0.6	2.3	2.7	2.3
Consumer price index	. .	1.1	1.4	1.6	2.3	2.2
Core consumer prices[4]	. .	1.9	1.9	1.6	1.9	2.2
Household saving ratio, net[5]	. .	4.6	3.4	3.4	3.2	3.4
Terms of trade		-6.9	-1.9	3.0	2.1	0.1
Trade balance[6,7]	. .	-2.5	-2.4	-2.3	-2.2	-2.1
Current account balance[6]	. .	-3.6	-3.2	-3.0	-2.7	-2.5
Three-month money market rate, average	. .	0.8	0.8	1.1	1.7	2.1
Ten-year government bond yield, average	. .	1.5	1.3	1.8	2.5	3.6

1. Contribution to changes in real GDP.
2. As a percentage of potential GDP.
3. As a percentage of the labour force.
4. Consumer price index excluding food and energy.
5. As a percentage of household disposable income.
6. As a percentage of GDP.
7. Goods and services.

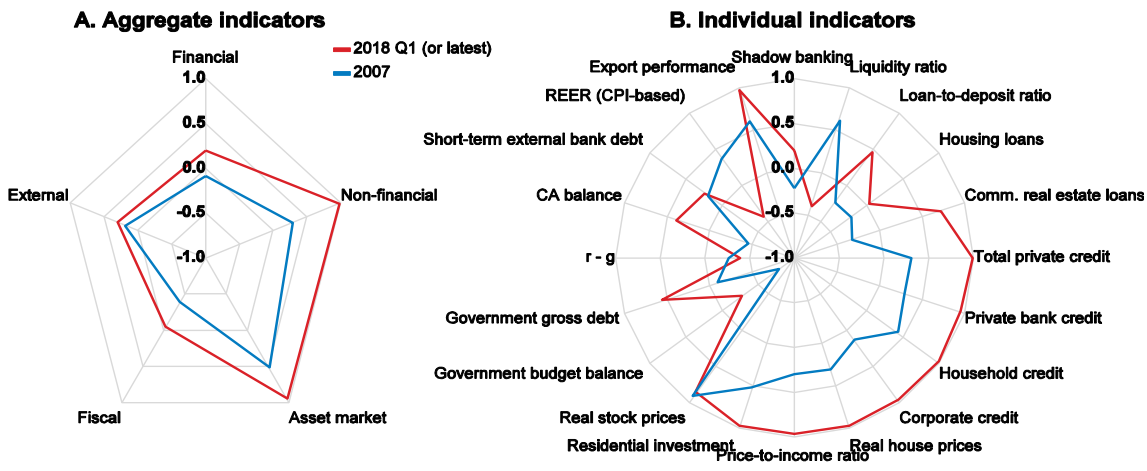
Source: OECD (2018), *OECD Economic Outlook 103 database.*

investment will be supported by capacity constraints, high profitability and still low financing costs, but oil and gas exports will continue to be held back by pipeline capacity constraints until mid-2018. Infrastructure investment is set to rise this year and to remain at an elevated level thereafter, partly to make up for earlier delays in implementing the government's 12-year CAD 187 billion programme. Export growth will be driven by strengthening global demand, notably from US fiscal stimulus and investment growth. Inflation may rise to slightly above the 2% target band mid-point and unemployment should fall somewhat.

Major risks to the projection concern increases in restrictions on global trade and a disorderly housing market correction (see below). Macro-financial vulnerabilities are substantially higher than at the end of the last expansion, as rapid appreciation in house prices and the associated expansion in household debt has created substantial financial, non-financial and asset-market risks (Figure 12). Fiscal vulnerabilities remain close to their long-term averages but have increased relative to 2007 due to an increase in government debt. The greatest uncertainty concerns trade restrictions, with Canada exposed to the fallout from increased tariffs on imports into the United States and retaliatory measures elsewhere. Investment intentions surveys indicate that this uncertainty is already constraining Canadian investment. There would be further negative implications for growth if NAFTA were terminated (Table 8) or alternatively a boost to investment if uncertainty were resolved under similar or increased market access. Faster

Figure 12. Evolution of macro-financial vulnerabilities

Index scale of -1 to 1 from lowest to greatest potential vulnerability, where 0 refers to long-term average, calculated for the period since 1970[1]



1. Each aggregate macro-financial vulnerability dimension is calculated by aggregating (simple average) normalised individual indicators from the OECD Resilience database. The financial dimension includes: shadow banking (% of GDP), the liquidity ratio, the loan-to-deposit ratio, housing loans and commercial real estate loans. The non-financial dimension includes: total private credit, private bank credit, household credit and corporate credit (all in % of GDP). The asset market dimension includes: real house prices, price-to-income ratio, residential investment (% of GDP) and real stock prices. The fiscal dimension includes: the government budget balance (% of GDP), government gross debt (% of GDP) and real bond yield minus potential growth rate (r-g). The external dimension includes: the current account balance (% of GDP), short-term external bank debt (% of GDP), the real effective exchange rate (REER) and export performance. Most financial data start in 2005.

Source: Calculations based on OECD (2018), *OECD Resilience database*, May.

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growth is also possible if private consumption or residential investment growth do not slow as much as anticipated or if a stronger synchronised global upturn pulls up investment and exports.

Table 8. Possible shocks affecting the Canadian economy

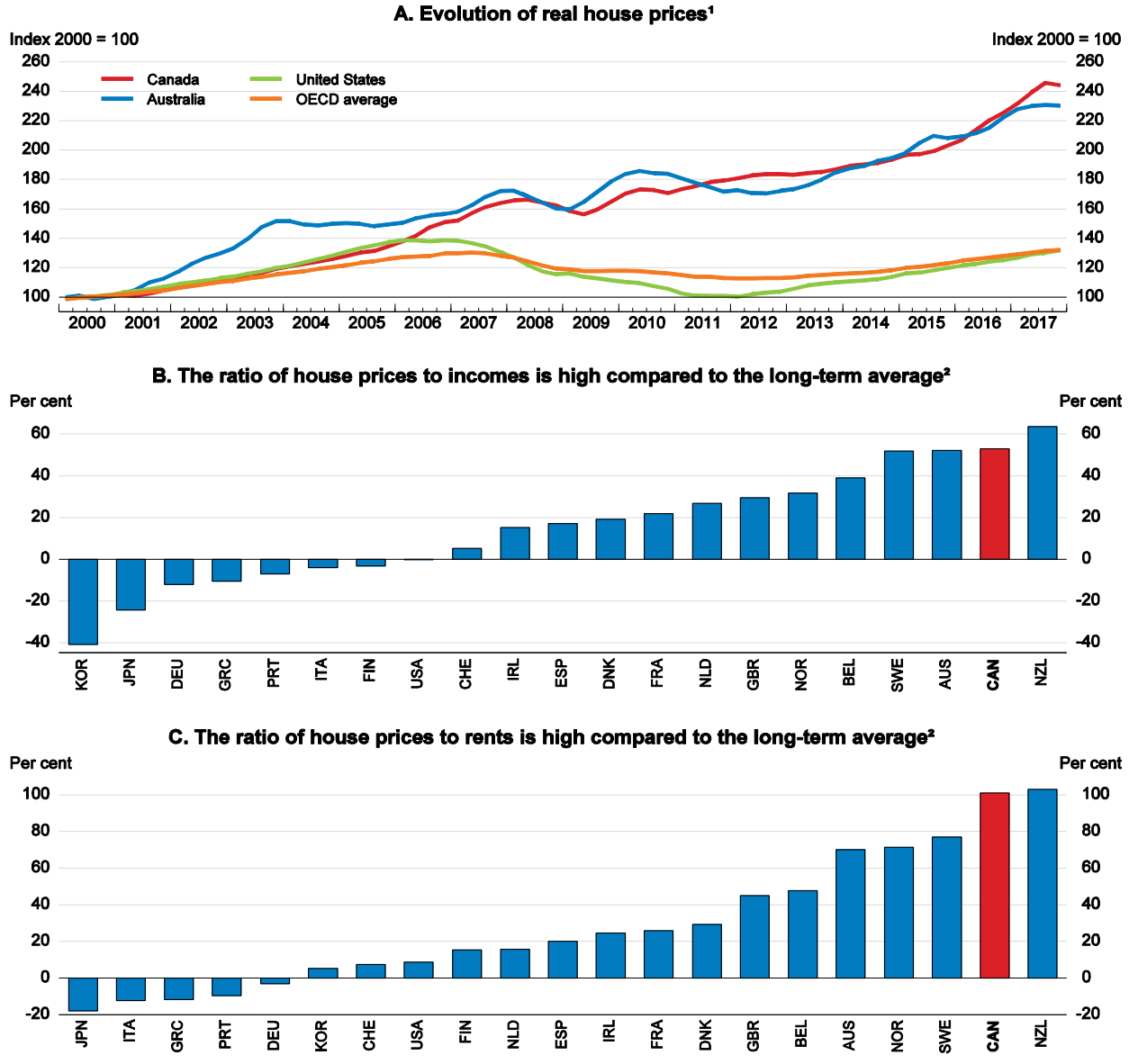
Shock	Possible impact
Housing market correction	A housing market correction would reduce residential investment, household wealth and consumption, with Canada's high level of residential investment amplifying the potential impact. A sufficiently large shock could even threaten financial stability. Fiscal costs from government-backed housing insurance would arise only under very large price falls with widespread defaults, as insurers hold substantial capital reserves. The IMF (2017[6]) has estimated that a 30% decline in house prices initiated by tighter global financial conditions would have a negative effect on GDP of around 3% in the short term, with consumption 3.5% lower due to wealth effects and investment 18% lower. Such a large decline would need to be triggered by developments external to the housing market, such as substantial increases in unemployment or interest rates.
Increased global trade restrictions	As a small, open economy, Canada is highly exposed to increases in trade restrictions, particularly barriers to trade with its major trading partner, the United States. An increase in trade restrictions would slow Canadian growth through dampening exports and investment, with larger effects if a global trade war reduced economic growth among key trading partners. A number of modelling exercises indicate that Canadian GDP could be around 0.5% lower if NAFTA were terminated, but with considerable uncertainty (Box 2 above). Negative effects would be concentrated in industries with supply chains that are integrated across North America, such as automotive manufacturing. Business services could also face substantial losses due to their importance as intermediate inputs, which would be exacerbated if NAFTA provisions easing services market access were removed (Ciuriak et al., 2017[13]).
Disorderly financial asset price deflation with normalisation of monetary policy	Excess liquidity has driven up global prices for financial assets, cutting yields to historically low levels. Monetary policy normalisation will see short-term interest rates and term premia rise; increasing US budget deficits are also likely to push up term premia If the scale of monetary tightening needed to contain inflation is greater than expected, there could be sharp falls in asset prices, which would depress economic growth through lower business investment and private consumption.

The housing boom

Canadian house prices have more than doubled in real terms since 2000, outpacing incomes and rents (Figure 13). Concerns around house price increases are concentrated on the Toronto and Vancouver markets (Figure 14). They are considered to be highly overvalued by the Canada Mortgage and Housing Corporation (CMHC), and price pressures have spilled over to the neighbouring markets of Victoria (British Columbia) and southern Ontario. Provincial governments have responded with policy measures to ease housing market pressures, notably the introduction of foreign buyers' transaction taxes for purchases in Vancouver (August 2016; rate raised and expanded geographically in February 2018) and Toronto (as part of the Ontario Fair Housing Plan, announced in April 2017). In each case these measures were followed by a period of weaker price appreciation. While this is a positive sign of market stabilisation, the resumption of price growth in Vancouver in 2017 raises the possibility that cooling in Toronto might also be temporary. National average house price growth was 4.5% in the year to May 2018, well down from the peak of over 14% in mid-2017 (Teranet and National Bank of Canada, 2018[18]).

Increasing demand has been a key driver of price growth, including speculative activity in the expectation of further gains. The CMHC estimates that demand-side factors such as low interest rates, higher incomes and population growth (primarily due to immigration) can explain 75% of Vancouver's price increases between 2010 and 2016, but only 40% of Toronto's. Foreign buying has also supported demand, notably in Vancouver, where in 2017 non-residents owned 4.8% of residential properties (3.4% in Toronto) (Gellatly and Morissette, 2017[19]).

Figure 13. House prices have grown rapidly relative to fundamental drivers



1. Nominal house prices deflated by the private consumption deflator.
2. Deviation of the latest observation Q4 2017 from the long-term average. The long-term average starts in Q1 1980 for most countries, with a few exceptions. The price-to-income ratio starts in Q1 1981 for Denmark, Q1 1986 for Korea and New Zealand, Q1 1987 for the United Kingdom, Q1 1995 for Portugal and Q1 1997 for Greece. The price-to-rent ratio begins in Q1 1986 for Korea, Q1 1988 for Portugal and Q1 1997 for Greece.
Source: OECD, *Economic Outlook database*.

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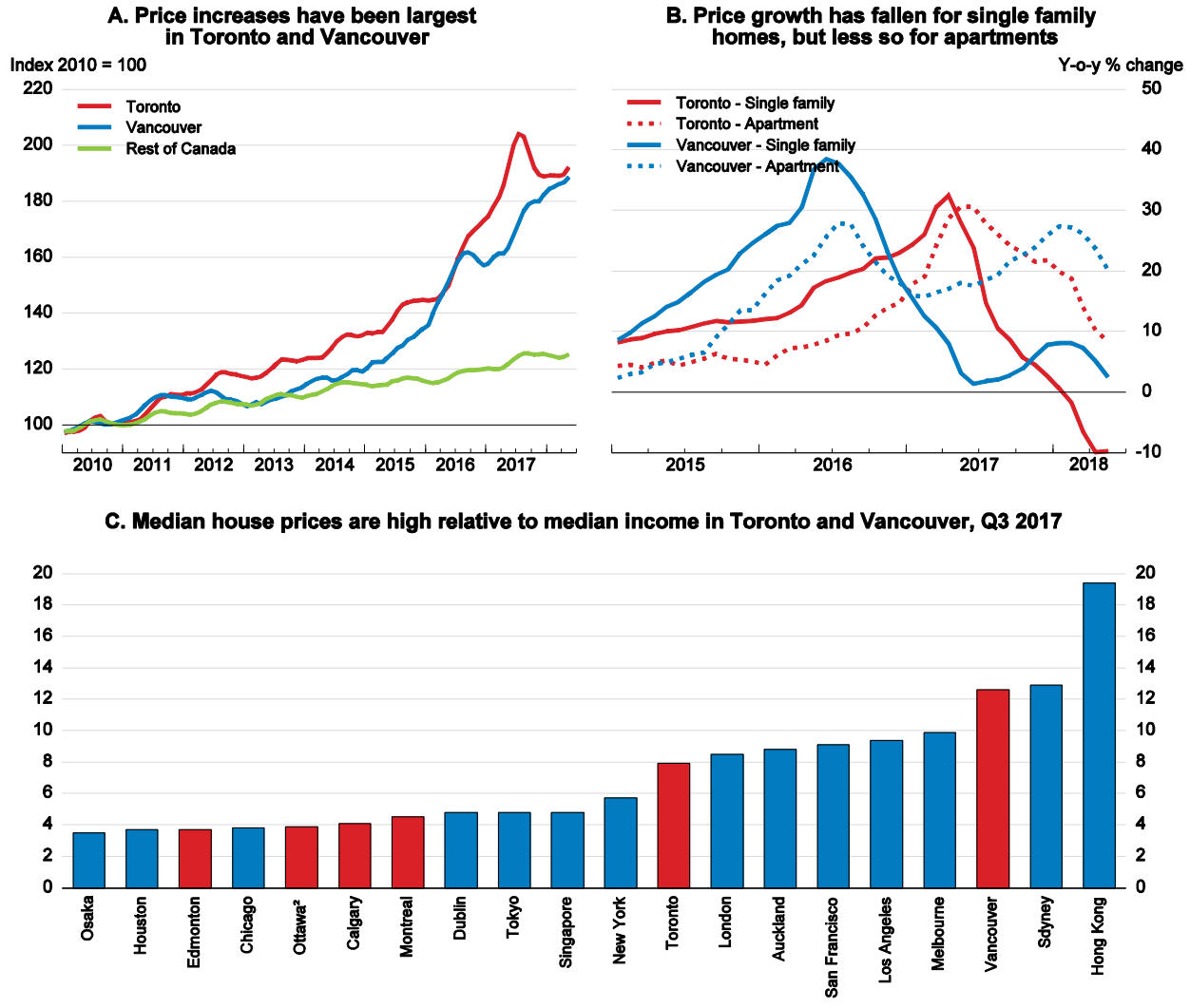
Housing supply responses have been weak in some large urban centres (Figure 15). In Toronto, housing completions have struggled to keep pace with household formation, the number of completed but unsold units has declined to one of the lowest levels ever recorded, and the condominium apartment vacancy rate is only 0.7% (CMHC, 2018[20]). Relatively weak supply responses to price increases in Toronto and Vancouver, due to

regulatory and physical constraints, meant that large price increases were needed to balance demand and supply, contributing to speculative activity by fuelling expectations of future price growth (CMHC, 2018[21]). Conversely, the stock of completed yet unsold units is at or above thresholds used to determine overbuilding in Calgary, Edmonton, Saskatoon and Regina (CMHC, 2018[20]).

Figure 14. House prices are particularly high in Toronto and Vancouver



1. Includes Gatineau.

Source: Teranet and National Bank of Canada, *House Price Index*; Canadian Real Estate Association, *MLS Home Price Index*; Demographia (2018), *14th Annual Demographia International Housing Affordability Survey: 2018*.

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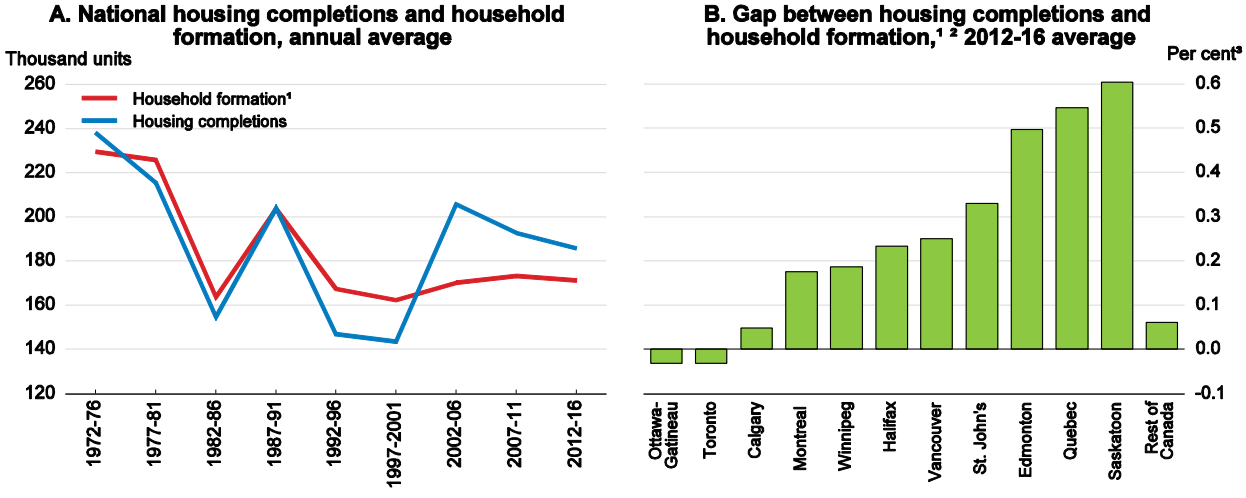
Related high household debt is an important economic vulnerability

Household debt has reached 170% of disposable income, high by international comparison (Figure 15, Panel A) and up from 100% two decades ago. High debt makes households more vulnerable to external shocks such as increases in interest rates or unemployment. The Bank of Canada has identified elevated household indebtedness as

the most important vulnerability for the Canadian financial system (Bank of Canada, 2017[22]). Debt-servicing costs have been held down by low interest rates but could reach levels not seen since at least 1990 with policy rate normalisation (Panel B). While most mortgages are issued on a recourse basis, vulnerability is heightened by mortgage rates that are rarely locked in for more than five years. Only 22% of loans with major banks will not face an interest rate reset for three years or more (Bank of Canada, 2017[22]). Banks are well-capitalised and protected by mostly public mortgage insurance, which covers more than half of outstanding mortgage debt, but this pushes substantial risk back onto the taxpayer: government-backed insurance coverage amounted to 36% of GDP in 2015 (Finance Canada, 2016[23]). The 2014 *Survey* first recommended reducing government exposure and moral hazard by tightening mortgage insurance to cover only part of lenders' losses (Table 9). The prevalence of mortgage insurance has declined recently, with over 80% of new mortgages in 2017 not requiring it, partly because more homes now exceed the CAD 1 million limit for government-backed insurance.

Figure 15. Housing construction has exceeded demand recently, but with considerable geographic variation



1. Household formation adjusted for 2016 Census undercount based on preliminary national undercount applied pro rata to estimates of undercount by Central Metropolitan Areas from the 2011 Census.
2. Household formation in Saskatoon, St John's, Québec City and Montreal adjusted for revised 2011 Census population estimates.
3. As a percentage of private dwellings in 2011.
Source: Office of the Parliamentary Budget Officer (2017), *Household Formation and the Housing Stock*, May 2017 Update, Figure 2.1; Statistics Canada, Table 027-0049 and 2011(/2016) Census; OECD calculations.

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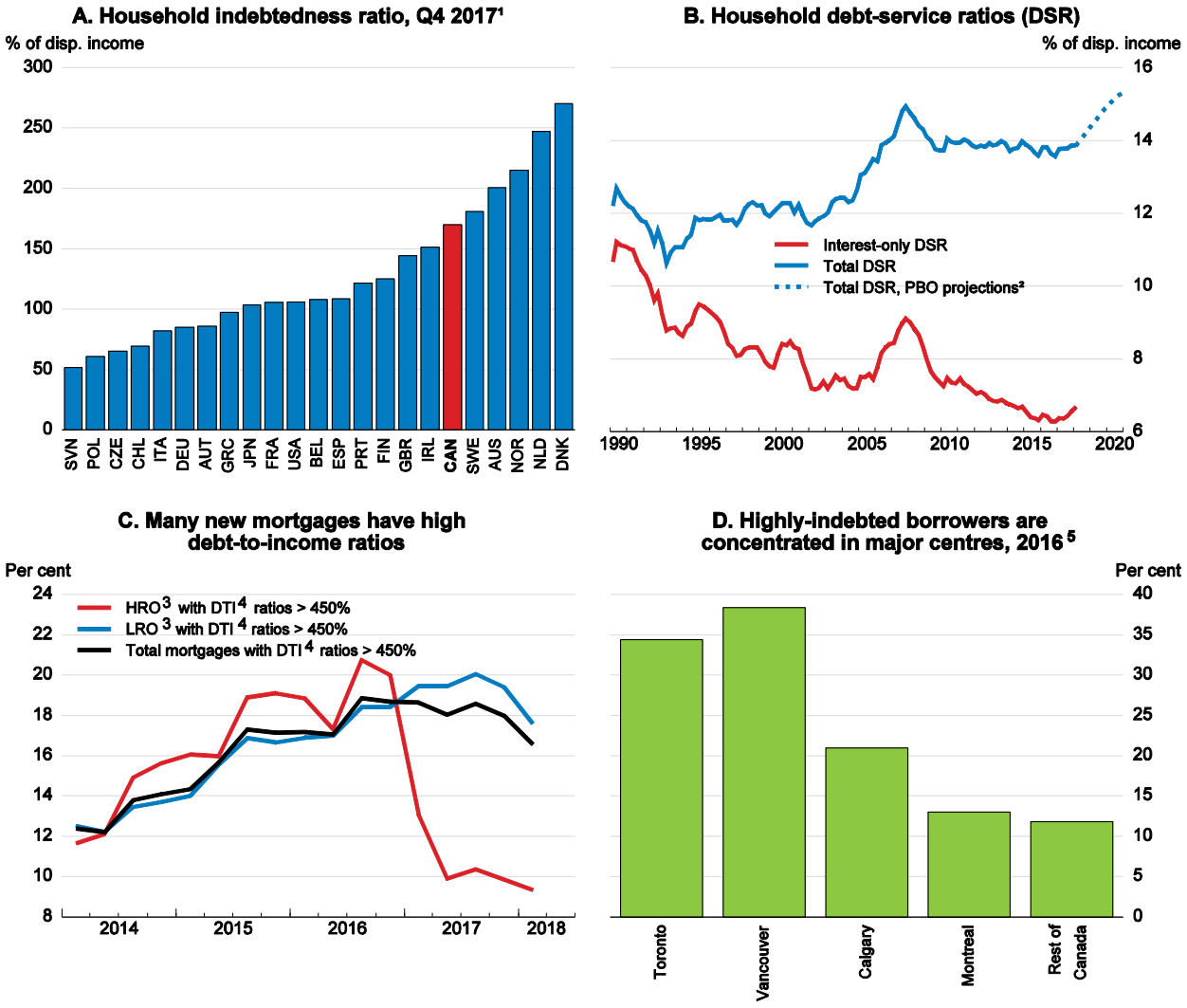
New mortgage holders in markets that have experienced strong price growth are particularly vulnerable. Many new mortgage holders -- especially in Toronto and Vancouver -- have loan-to-income ratios exceeding 350 or even 450% (Figure 16, Panels C and D), at which level the rate of arrears arising from a negative economic shock is more than ten times that for mortgagees with debt-to-income in the 100-250% range (Cateau, Roberts and Zhou, 2015[24]). Aggregate household debt is concentrated among middle-income groups. For recent mortgages with a loan-to-value ratio of no more than 80% the share with a high loan-to-income ratio is greatest among borrowers with lower incomes (Bank of Canada, 2017[22]).

Figure 16. Household debt levels are high, particularly so among some new borrowers



1. Total household outstanding debt as a percentage of household gross disposable income. Q1 2016 for Japan, Q1 2017 for Norway and the United Kingdom, Q3 2017 for Austria, Chile, Czech Republic and Poland.
2. PBO projections for the debt service ratio have been adjusted down by 0.86 percentage points to reflect a change in the starting point for projections following revisions to historical data and new data available up to the first quarter of 2018.
3. High-ratio originations (HROs) are new mortgages with a down payment of less than 20%, for which mortgage insurance is mandatory. Low-ratio originations (LROs) are new mortgages with a down payment of 20% or more.
4. Debt-to-income ratio.
5. Share of new low-ratio loans with debt-to-income ratio above 450%.
Source: OECD, *National Accounts - Household Dashboard database*; Statistics Canada, Table 380-0073; Office of the Parliamentary Budget Officer (2017), *Household Indebtedness and Financial Vulnerability*, Chart 1; Bank of Canada (2018), *Financial System Review*, June, Chart 4.

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Macro-prudential measures have mitigated risks

A series of macro-prudential measures adopted since 2008 have sought to lower housing-market risks. The most important of these for insured loans were tightening loan-to-value

caps (from 100 to 95% for the first CAD 500 000 and 90% for the next CAD 500 000 of new mortgages, and from 95 to 80% for refinancing), with a debt-servicing "stress test" against a standardised rate (Table 9). The household debt-to-income ratio could have been close to 200% as of late 2016 (rather than the actual 167%) without these measures (Krznar, Arvai and Ustyugova, 2017[25]). Since 1 January 2018, banks have also been required to stress test debt servicing for uninsured mortgages. It is too early to tell how much this change will lower the incidence of highly indebted uninsured borrowers, as has already occurred for new borrowers with a down payment of less than 20% who must purchase insurance.

Table 9. Past OECD recommendations on addressing housing-market challenges

Recommendations in past *Surveys*	Actions taken since the previous *Survey*
Continue to tighten macro-prudential measures, and target them regionally, including through increasing capital requirements in regions with high house price-to-income ratios.	From October 2016 the Minister of Finance required all insured borrowers to qualify under maximum debt-servicing standards based on a "stress test" against the higher of the contracted mortgage rate or benchmark five-year fixed mortgage rate published by the Bank of Canada. Previously this requirement had applied only to variable-rate mortgages and those with terms of less than five years. In January 2018 the Office of the Superintendent of Financial Institutions set a new minimum qualifying rate stress test for uninsured mortgages based on the greater of the five-year benchmark rate published by the Bank of Canada or the contracted mortgage rate plus 2%. Federally regulated financial institutions are also required to establish and adhere to lower loan-to-value ratio limits in markets where prices have escalated to high levels relative to fundamentals.
Tighten mortgage insurance to cover only part of lenders' losses in case of default. Keep increasing the private-sector share of the market by gradually reducing the cap on the CMHC's insured mortgages.	No action taken. CMHC's share of the mortgage insurance market has declined from about 65% in 2014 to less than half.
Expand affordable municipal rental housing supply and densification by adjusting zoning regulations to promote more multi-unit dwellings.	The 2018 Homes for British Columbia programme includes plans to work closely with municipal governments to eliminate barriers to affordable housing and develop new tools, such as rental zoning.
Monitor the unregulated mortgage-lending sector more closely to improve understanding of risk exposures. Increase cooperation and information sharing between federal and provincial financial regulators.	Canadian authorities are continuously monitoring shadow-banking entities, including through their participation in the Financial Stability Board's information-sharing exercises.
Continue efforts to legalise and encourage secondary suites and laneway housing in single-family residential zones. Remove property-tax-rate differentials that disadvantage multi-unit rental properties relative to owner-occupied housing.	The Ontario Planning Act requires municipalities to allow for secondary suites within single-detached, semi-detached and townhouse dwellings, and the Ontario Building Code was revised in 2017 to reduce the cost of construction of new two-unit homes. The City of Ottawa passed legislation to allow construction of secondary dwellings, and the City of Toronto held consultations on laneway housing proposals in late 2017.
In areas of rapid house price appreciation, increase incentives for private-sector development of rental housing in appropriate areas through tools such as development charge waivers, reduced parking requirements and expedited permit processing.	Some cities, including Edmonton and Ottawa, have reduced minimum parking requirements for urban development.

The government should monitor the effects of recent macro-prudential tightening, especially the prevalence of highly indebted, low-income borrowers, and stand ready to act if circumstances change. Should rapid house-price appreciation resume, further tightening may be needed. Moreover, the higher loan-to-value limit for the share of insured loans below CAD 500 000 is not directly related to the riskiness of the loan and should be brought into line with the limit for the portion above CAD 500 000 by adjusting one or both thresholds. As noted by the IMF (2017[6]), close coordination between federal and provincial authorities is also critical: provincially regulated financial institutions should be encouraged to adhere to federal mortgage underwriting standards, and monitoring of systemic risks in, and linkages with, securities markets and provincially regulated institutions is needed.

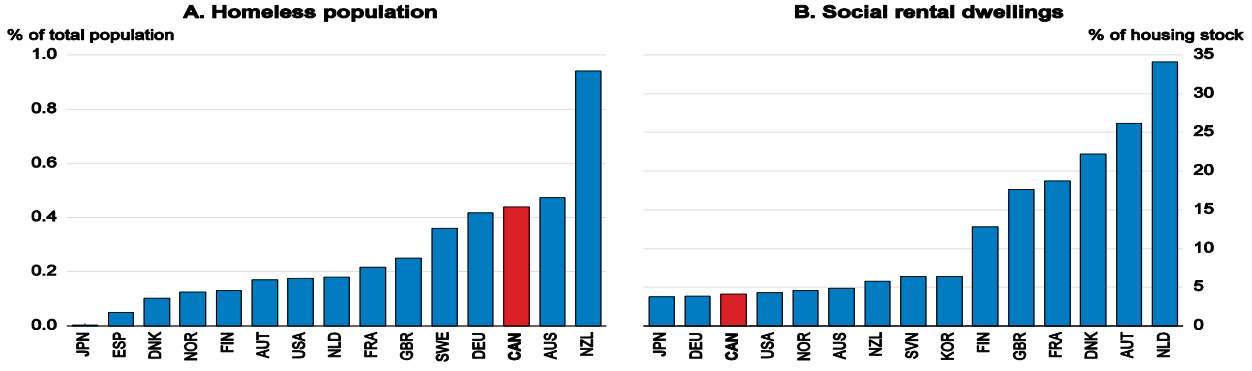
Shortages of affordable housing raise inclusiveness issues

Housing affordability has worsened steadily since 2009 (Bank of Canada, 2018[26]). Compared with homeowners, a greater share of renters spend 30% or more of their income on housing, and rents have increased by 8% in real terms over the past decade (CMHC, 2017[27]). Canadians spend more of their disposable income on housing than residents of most OECD countries (OECD, 2017[28]). As of 2016, 1.7 million or 12.7% of households were estimated to be in "core housing need" (Statistics Canada and CMHC, 2017[29]). As described in the 2014 *Survey*, the lack of affordable housing creates serious challenges for low-income households, particularly those living in the major cities that have seen the greatest increases in house prices and rents.

Government programmes to assist with housing needs form a complex and often confusing patchwork, with most falling under either social or affordable housing (Office of the Auditor General of Ontario, 2017[30]). Social housing has not expanded significantly since the early 1990s, and much of the stock is ageing and needs repair and maintenance (Figure 17). Rents are set at a fixed share (generally close to 30%) of income, which represents a generous subsidy for those in urban areas with high rents. These factors have led to severe shortages in major centres, with a predicted queue of up to 14 years for recent applicants in high-demand Ontario locations (ONPHA, 2016[31]). Joint federal-provincial affordable-housing programmes aim to support low-income households through measures including grants for the construction of affordable rental units and rent subsidies. Affordable housing has been the major focus of initiatives in recent years, for example in Ontario where there are a number of programmes aimed at improving housing availability and affordability. The National Housing Strategy, launched in November 2017, provides CAD 40 billion over 10 years to construct 100 000 new housing units, repair 300 000 existing units, enhance rental-construction financing and provide housing allowances to needy households.

Figure 17. Homelessness is high and social housing stocks are low

2015 or latest year available



Source: OECD, *OECD Affordable Housing database*, http://www.oecd.org/social/affordable-housing-database.htm.

StatLink http://dx.doi.org/10.1787/888933779789

This Strategy is projected to help up to 530 000 Canadians, but inequity between those with access to social housing and those without will continue. Construction of new units under the plan will be insufficient to eliminate waiting lists. Periodically reviewing tenure in social housing based on income would ensure that social housing goes to those who need it most, as would prioritising placement of applicants with the greatest needs in

Ontario (where, apart from victims of domestic abuse, social housing is provided on a first-come first-served basis). New rental allowances should be based on a norm and not actual rent (coupled with minimum housing standards) to avoid overspending and should take into account implications for labour-force participation.

Fiscal sustainability

Fiscal policies are sustainable overall, but not for all levels of government

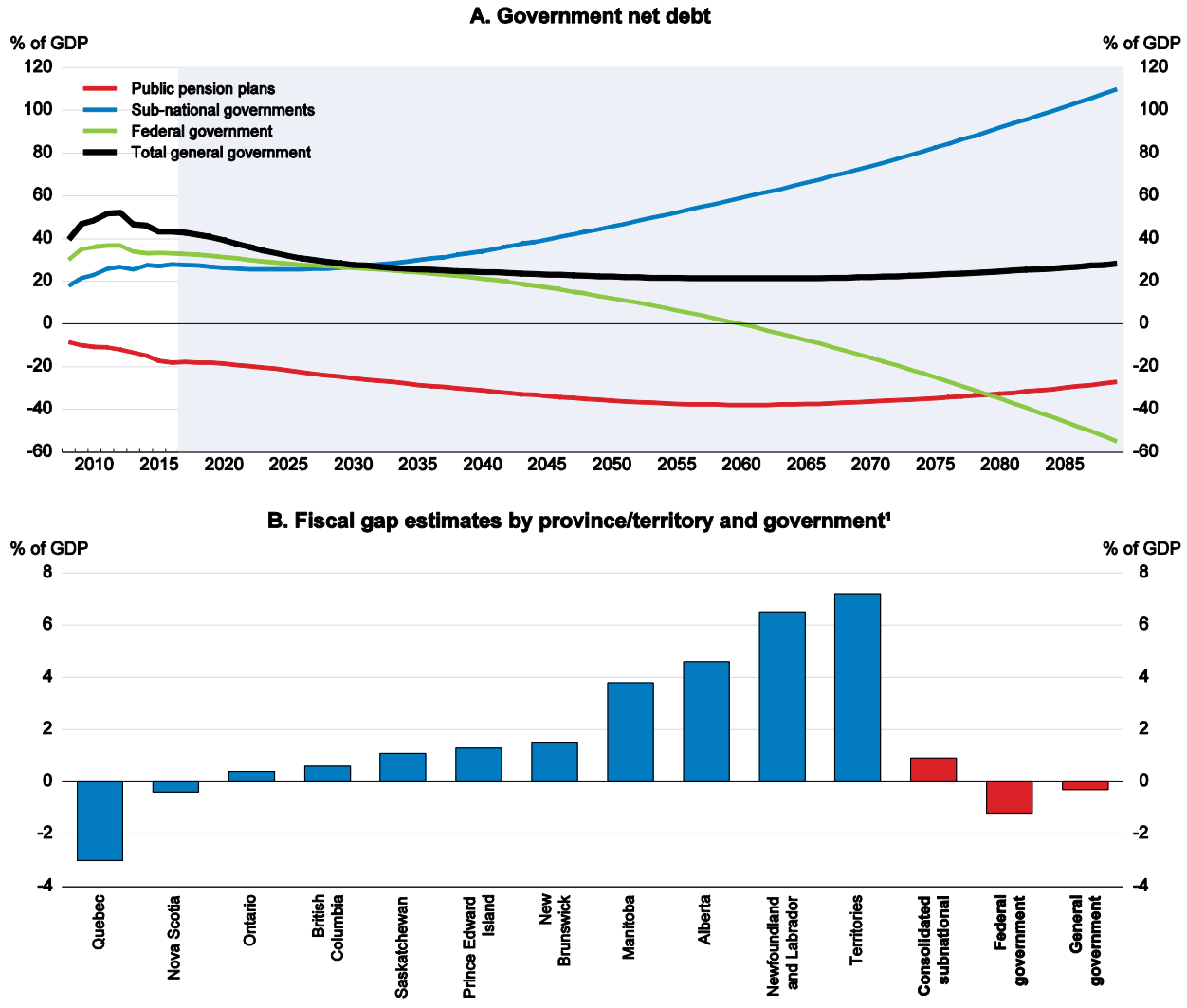
The Parliamentary Budget Officer (PBO) (2017[32]) estimates that, for all levels of government combined, Canada's fiscal policies are sustainable for at least several decades – on current policies, government net debt is projected to decline somewhat relative to GDP over the next four decades and then to rise slowly but remain below the current level (Figure 18, Panel A). This means that significant changes in tax or expenditure levels relative to GDP are not needed for long-term debt sustainability – tax levels are slightly higher than needed to finance expenditure and hold the debt-to-GDP ratio unchanged over the long run: the overall fiscal gap is minus 0.3% of GDP (Panel B). Having sustainable fiscal policies may increase economic efficiency by smoothing taxes and/or the marginal benefit cut-offs for government expenditure over time.

However, overall sustainability reflects continuously declining net debt as a share of GDP at the federal level and ever rising debt at the provincial/territorial level. The federal fiscal gap is -1.2% of GDP while the consolidated provincial/territorial gap is 0.9% of GDP; taking into account Ontario's expansionary FY 2018-19 budget, which was released after these projections, the sub-national government fiscal gap would now be around 0.3% of GDP higher. Fiscal gaps range from -3% of GDP in Québec, where the government is cutting its high net debt-to-GDP ratio (Table 10), to 6.5% of GDP in Newfoundland-Labrador, which, like Alberta, is having to adjust to the post-2014 decline in oil prices.

One cause of provinces' difficulties is rising health-care costs, even when, as in these projections, excess cost growth (i.e., growth exceeding the sum of nominal GDP growth and that due to population ageing) is assumed to be zero; it averaged 0.3 percentage point per year over 1982-2015. In this projection, health-care costs rise as a share of GDP because of population ageing. Provinces with the largest increase in the old-age dependency ratio will also experience the largest declines in the Canada Health Transfer (CHT) from the federal government as a share of health-care costs (Table 11). This is because the CHT, like other federal transfers, is not adjusted for provinces' age structures, contrary to recommendations in past *Surveys* (Table 12). However, age is only one factor, albeit an important one, that influences a province's need or ability to provide services. To help provincial and territorial governments support home care and mental health, the federal government confirmed an allocation of CAD 11 billion over 10 years to this end in the 2017 budget.

The PBO (2018[33]) estimates that if the CHT were to grow in line with projected health expenditure in each province and the territories (combined), the federal fiscal gap would deteriorate by 0.3 percentage point and the sub-national fiscal gap would improve by the same amount. Across provinces and territories the improvement would range from 0.1 percentage point in British Columbia to 0.7 percentage point in Newfoundland and Labrador and Prince Edward Island. In this scenario, the federal government would continue to have a substantial negative fiscal gap (taxes are higher than needed to finance expenditures and stabilise the debt-to-GDP ratio), while most sub-national governments would continue to have positive gaps, albeit smaller to varying degrees.

Figure 18. Government sector net debt and fiscal gap estimates over the long term



1. Fiscal gaps in 2016 for each province and the territories are expressed relative to their corresponding provincial/territorial GDP. The consolidated subnational fiscal gap is expressed relative to the national GDP.
Source: Office of the Parliamentary Budget Officer (2017), *Fiscal Sustainability Report 2017*, Summary Figures 1 & 2, http://www.pbo-dpb.gc.ca/web/default/files/files/files/FSR_2015_EN.pdf.

StatLink http://dx.doi.org/10.1787/888933779808

Table 10. Provincial government long-term baseline scenario

	Health expenditure			Primary balance			Net debt			Canada Health Transfer			Senior dependency ratio		
				% of GDP						% health expenditure			% population 65+/15-64		
	2016	2091	Change	2016	2091	Change	2016	2091	Change	2016	2091	Change	2016	2091	Change
NL	9.3	15.7	6.4	-4.5	-7.9	-3.4	36.6	1293.1	1256.5	18.6	9.3	-9.3	28.6	75.3	46.7
NS	10.0	15.4	5.4	4.0	-0.5	-4.4	28.4	-34.5	-62.9	23	16.7	-6.3	29.2	63.5	34.3
PE	10.3	15.3	5.1	1.3	-4.0	-5.3	33.3	169.5	136.2	22.4	14.3	-8.1	28.9	56.9	28.0
NB	9.3	14.1	4.8	-0.7	-1.0	-0.3	37.8	276.2	238.4	23.9	18.2	-5.7	29.7	63.9	34.2
QC	8.2	11.1	2.8	3.8	4.9	1.1	47.1	-368.0	-415.1	25.6	23.0	-2.6	27.2	48.3	21.1
ON	6.9	9.4	2.5	0.7	-0.9	-1.6	36.4	83.5	47.1	25.2	17.6	-7.6	24.2	48.1	23.9
MB	9.3	11.7	2.3	-0.7	-5.8	-5.2	35.4	385.2	349.8	20.7	14.4	-6.3	22.7	40.6	17.9
SK	7.2	8.3	1.0	-2.7	-1.5	1.3	11.1	119.1	108.0	20.7	15.0	-5.7	22.5	44.8	22.3
AB	6.9	8.8	1.9	-5.6	-5.1	0.5	1.1	323.3	322.2	20.1	15.4	-4.7	17.1	36.4	19.3
BC	7.4	9.1	1.7	0.7	0.2	-0.5	7.4	73.3	65.9	24.2	24.3	0.1	26.5	47.8	21.3

Source: Office of the Parliamentary Budgetary Officer (2017), *Fiscal Sustainability Report 2017*, Ottawa; OECD calculations.

Table 11. Factors related to differences in long-term spending pressures across provinces

Correlation coefficients

	Health expenditure % of GDP	Senior dependency ratio	CHT share of health expenditure	Primary balance % of GDP	Fiscal gap % of 2016 GDP	Net debt % of GDP
Health expenditure,% of GDP	1.0					
Senior dependency ratio	0.9	1.0				
CHT share of health expenditure	-0.6	-0.6	1.0			
Primary balance, % of GDP	-0.6	-0.3	0.6	1.0		
Fiscal gap, % of 2016 GDP	0.2	0.3	-0.5	-0.3	1.0	
Net debt, % of GDP	0.4	0.6	-0.6	-0.3	0.9	1.0

Source: Office of the Parliamentary Budgetary Officer (2017), *Fiscal Sustainability Report 2017*, Ottawa; OECD calculations.

There also remains considerable scope to implement past *Survey* recommendations to reduce costs by boosting the health system's efficiency (Table 12). Recent analysis of one of these recommendations – revising the core public health insurance scheme to include essential pharmaceuticals – suggests that there are substantial savings and equity gains to be made, albeit mainly to the benefit of households rather than governments (Box 3). The federal government recently announced the creation of an Advisory Council on the Implementation of National Pharmacare and the Ontario government announced that its youth pharmacare plan would be extended to seniors from August 2019. The federal government is also working with provincial governments through the Pan-Canadian Pharmaceutical Association to negotiate lower prices on prescription drugs.

Concerning the remaining part of general government - the funded second-pillar public pension schemes (Canada Pension Plan (CPP) and Québec Pension Plan (QPP)) - PBO (2017[32]) provides a number of sensitivity analyses that support the qualitative conclusion that they are sustainable (Figure 18, Panel A). One risk not analysed in PBO (2017[32]) is that returns on equities, which account for 85% of the benchmark risk-parity portfolio, may be lower than assumed, given current high valuations. If equity returns were to be 0.75 percentage point lower, there would be a deficit of 0.1% of GDP (equivalent to 4.3% of annual contributions). That said, the Chief Actuary has done extensive sensitivity analysis of the rate of return used to assess the sustainability of the CPP over the next 75 years.

Table 12. Past OECD recommendations on federal transfers to provinces and health care

Recommendations in past *Surveys*	Actions taken since the previous *Survey*
Factor in interprovincial differences in age structure when calculating federal transfers to provinces.	No action taken.
Eliminate zero patient cost sharing for core services by imposing co-payments and deductibles.	No action taken.
Clarify the Canada Health Act to facilitate private entry in hospital services and mixed public/private physician contracts.	No action taken.
Replace historical-based cost budgeting of Regional Health Authorities (RHAs) with a formula-based approach.	No action taken.
Devolve integrated budgets for hospital, physician and pharmaceutical services to RHAs.	No action taken.
Increase the use of capitation or salary for physician compensation, and have RHAs regulate fees.	No action taken.
Move to activity-based budgets for hospital funding, contracting with private and public hospitals on an equal footing. Adjust overall budget caps up to reward efficiency.	The three largest provinces (i.e. Ontario, Québec and British Columbia), representing over two-thirds of the population, have either implemented or announced future implementation of some activity-based hospital funding.
Revise the public core package to include essential pharmaceuticals and eventually home care, selected therapy and nursing services.	Since 1 January 2018, children and youth up to 24 years old in Ontario have free prescription drug coverage, regardless of family income. As part of federal budget 2018, the government announced the creation of an Advisory Council on the Implementation of National Pharmacare. The Ontario government announced in its 2018 budget that its pharmacare plan, which currently benefits people aged 24 and under, will be extended to people aged 65 and over from August 2019.
Regulate private health insurance (PHI) to prevent adverse selection, and remove tax exemptions for employer-provided private health-insurance benefits.	No action taken.

Box 3. Moving to a national pharmacare programme

Health-care costs could be reduced by extending access to publicly subsidised pharmaceuticals. Outside of Québec, public pharmacare programmes are limited to seniors and those on low incomes and, since January 2018 in Ontario, to children and youth. The Office of the Parliamentary Budget Officer (2017[34]) estimates that, had a universal national pharmacare programme been in place in FY 2015-16, the covered pharmaceutical expenses would have been CAD 4.2 billion (17%) lower (Table 13). Savings would have come predominantly from having a single purchaser and universal application of generic drug substitution; potential savings from moving from multiple administrators of drug benefit claims to a single administrator were not taken into account. Taking into account net co-payments and existing federal drug spending for certain populations and assuming that the Canada Health Transfer is reduced by provincial-territorial government savings, social security contributions would need to rise by CAD 8.0 billion to cover this federal expenditure. In this scenario all of the national savings would be allocated to households in the long run. Such a reform would also substantially reduce the proportion of Canadians (12%) unable to obtain necessary drugs because of their cost. The private-public pharmacare system in place in Québec also increased drug access but did not reduce taxpayer-financed drug expenditures and substantially increased expenditure by employers and households (Morgan et al., 2017[35]).

Table 13. Provincial government long-term baseline scenario

	CAD billion, FY 2015-16
Eligible pharmaceutical expenditure	24.6
of which	
Governments	11.9
Private insurance plans	9.0
Patients	3.6
Same package, national pharma-plan	20.4
National savings	4.2
Federal cost of national pharma-plan	
Gross cost	20.4
Existing programmes for selected groups	0.6
Net co-payments	0.4
Net cost	19.3
less	
Provincial/Territorial savings	11.3
Required increase in social security contributions	8.0
Private-sector savings	
Private insurance plans	9.0
Patients	3.6
Net co-payments for the national programme	-0.4
Increase in social security contributions	-8.0
Total private-sector savings	4.2

Source: Parliamentary Budgetary Officer (2017), *Federal Cost of a National Pharmacare Program*, Ottawa; OECD calculations.

Inclusiveness for women, youth and seniors

There is considerable scope to increase inclusiveness for women, youth and seniors through policy measures to improve their labour market outcomes (Chapter 1). Improving labour market inclusion of Indigenous Peoples in Canada is another way to boost labour force participation and well-being (Box 4).

Further steps are needed to narrow the gender wage gap

The total annual gender earnings gap among women who work full time, at 18% in 2016, is considerably larger than the OECD average, reflecting a large gender gap in hours worked, which in turn is partly attributable to Canadian women's higher labour force participation rate than the OECD average (see Chapter 1). On an hourly basis, full-time working women earned 12% less than men. Around a third of the gap is estimated to reflect differences in observable characteristics such as education, occupation and industry of work (Schirle, 2015[36]). An important factor contributing to the wage gap is women's under-representation in top-earning management and leadership positions, in part due to challenges faced by mothers in reconciling work and childcare responsibilities in jobs at the top of the earnings distribution (Fortin, Bell and Böhm, 2017[37]).

Providing better access to high-quality, affordable early childhood education and care (ECEC) is the best way to address the large gender wage gap and boost female labour participation. Just over half of the earnings penalty experienced by Canadian mothers can

Box 4. Achieving labour force potential and improving the well-being of Indigenous Peoples

Socio-economic outcomes for Indigenous populations are worse on average than for other Canadians on a number of measures (Table 14). The extent of disadvantage varies across Indigenous groups: the gap with non-indigenous life expectancy ranges from around five years (First Nations and Métis) to more than 10 years (Inuit) (Chief Public Health Officer, 2016[38]), while the deficit in median after-tax incomes is 32% for the First Nations population, 24% for Inuit and 7% for Métis (Statistics Canada, 2017[39]). The relative youth and untapped labour-force potential of Indigenous peoples in Canada offers an opportunity, with a fifth of labour-force growth in the next 20 years estimated to come from Indigenous populations if the labour-force participation gap with other Canadians were to close (Drummond et al., 2017[40]).

As highlighted in the 2016 *Survey*, the federal government has appropriately made improving outcomes for Indigenous peoples a priority. Additional funding of almost CAD 5 billion over five years was allocated to improve the quality of life of Indigenous Peoples in the 2018 budget, with a focus on skills development, health, housing and child and family services. Building in programme-evaluation mechanisms at the outset is important to ensure that real progress is made, particularly if interventions are designed to make subsequent assessment as simple as possible through identification of control groups. A concurrent review of Indigenous employment and skills strategies recommends continuing work on better aligning federal and provincial Indigenous labour market programmes, seeking opportunities to enhance Indigenous skills training through targeted work experience programmes, as well as exploring how to expand access to higher education to support Indigenous students and increase employment in knowledge-intensive sectors (OECD, 2018 forthcoming[41]).

Table 14. Selected socio-economic outcomes for Canadian Indigenous Peoples, 2016

	Indigenous Peoples	Others
Number in millions (% share)	1.67 (4.3%)	
Per memorandum Indigenous in Australia	0.65 (2.8%)	
Per memorandum Maori in New Zealand	0.72 (15.4%)	
Demographics		
Average age (years)	32.1	40.9
% aged 0-24	43.7	29.2
Housing conditions		
% in crowded dwellings	18.3	8.5
% in dwellings in need of major repair	19.4	6.0
Education		
% without a high school diploma	25.6	10.8
Employment outcomes		
% employed, 25-54 (2017)	70.3	82.7
Income		
Median after-tax income (CAD)	24 277	31 144
Health outcomes (2011-14 average)		
% self-rated very good or excellent, 25-44	51.5	67.0
% daily smokers	36.1	16.7
% heavy drinkers	31.1	24.0

Source: Statistics Canada, *2016 Census*; Statistics Canada, *Labour Force Survey*; Statistics Canada, 'Health Indicator Profile, by Aboriginal Identity, Age Group and Sex', Table 105-0512.

be explained by fewer years of work experience and more hours devoted to unpaid work (Vincent, 2013[42]). Québec's experience with low-fee childcare is consistent with international evidence that affordable ECEC supports female participation, with one study finding this was sufficient to more than offset the upfront fiscal cost (Fortin, Godbout and St-Cerny, 2013[7]). ECEC is also important for child development: international studies, programme evaluations and quality measurements have repeatedly shown that access to ECEC programmes has positive effects on children's well-being, learning and development (OECD, 2017[43]). The quality of care is critical, however, as low-quality ECEC can have detrimental effects on development and learning. Outcomes in Québec illustrate the importance of quality childcare, as high-quality public *garderies* improved cognitive and behavioural development even while behavioural development was dragged down by lower-quality care among some providers. Recent federal and provincial ECEC-boosting initiatives are promising, but even more needs to be done, with cross-country estimates indicating scope for a large lift to female employment from increasing ECEC spending to match that in leading OECD countries. Illustrative estimates of the long-term effects of this and other structural reforms discussed in this Survey on GDP per capita are shown in Box 5.

As Canada's ECEC expands, quality should be prioritised to realise child development benefits. Regulatory oversight capacity needs to expand alongside service provision, in particular for family (as opposed to centre-based) daycare. Data and monitoring can be a powerful lever to encourage ECEC quality, with implementation of quality monitoring and rating improvement systems internationally associated with better staff-child interaction (OECD, 2018[44]). Development of a professional workforce is also critical. Linking teacher evaluation to training decisions, as in Korea, is a valuable way to encourage professional development, as in-service training stands out as a key driver of better child development and learning outcomes.

Encouraging fathers to increase their take-up of parental leave would also help to reduce the gender wage gap. The federal government announced an additional five weeks (or eight weeks at a lower payment rate) of non-transferable parental benefits for second parents in its 2018 budget, which over time should reduce the big gender difference in time spent on childcare activities (Figure 19). Fathers who take leave are more likely to take an active role in childcare both early on and after they return to work, and gender differences in time spent on paid work are smaller in countries where such differences in unpaid work are smaller. Take-up should be supported through information provision, leading by example in the public service and, if necessary, increasing payment rates for parental benefits. A 2017 change to parental leave that allows a longer leave period of 18 months, paid at a lower replacement rate of 33%, is less positive, as only the well-off are likely to be able to afford such a big income loss and it carries the risk of weakening some women's labour force attachment.

The federal government also intends to introduce pay-equity legislation for its civil servants, workers in federally regulated sectors and any contractors bidding for public procurement jobs over CAD 1 million. While this is a worthwhile aim, in practice it is difficult to objectively evaluate the value of different types of work, and similar provincial schemes have had mixed success. The federal government is also subjecting all policy changes to a new "gender results framework" and will by law require gender-based analysis of future budgets. It is thus asking Statistics Canada to generate the relevant data.

Box 5. Simulation of the potential impact of structural reforms

The potential impact of some of the structural reforms proposed in this and the 2016 *Survey* can be gauged using simulations based on historical relationships between reforms and growth outcomes across OECD countries. Given that the simulations abstract from detail in the policy recommendations and do not reflect Canada's particular institutional settings, the estimates should be seen as purely illustrative. The policy changes that are assumed (Table 15) are based on comparing Canada's current policy settings with those of leading OECD countries.

Table 15. Potential impact of structural reforms on GDP per capita after 10 years

	Change in GDP per capita	Impact on supply-side components		
		Multifactor productivity	Capital–Labour ratio	Employment rate
Product market regulation	Per cent	Per cent	Per cent	Percentage points
(1) Liberalise power generation and distribution	0.5	0.4	0.1	0.1
Labour market policies				
(2) Increase spending on effective active labour market measures	0.5	0.2		0.2
(3) Increase government support for childcare	1.0			0.7
(4) Increase the retirement age	0.2			0.2
Total	**2.3**			

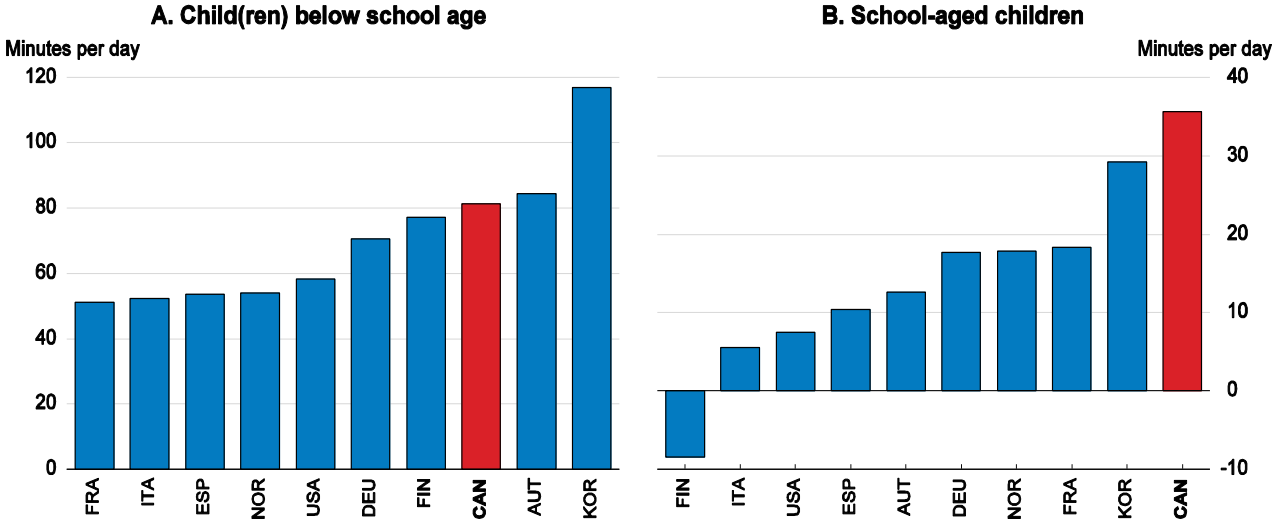
Note: Illustrative policy changes assumed for each measure are as follows: (1) The OECD measure of regulation in energy, transport and communications is lowered from 1.72 to 1.56 by reducing vertical integration and increasing competition; (2) spending on active labour market policies per unemployed worker as a share of GDP per capita is increased from 5.9% to 8.9%, halving the gap with the OECD median of 11.8%; (3) government support for childcare is increased from approximately 0.6% of GDP to 1.1% of GDP, matching spending in the province of Québec and at the 80th percentile of 20 OECD countries included in the analysis in Figure 1.8 in Chapter 1; and (4) the statutory retirement age is increased by 1 year.
Source: OECD calculations based on B. Egert and P. Gal (2017), "The Quantification of Structural Reforms in OECD Countries: A New Framework", *OECD Economics Department Working Papers,* No. 1354.

Improving labour-market information and skills development would support inclusiveness among young Canadians

Fragmented labour-market information has contributed to a high rate of qualifications mismatch (Figure 20, a situation that is liable to worsen with rapid changes in future workforce needs. The objectives of a number of new federal and provincial initiatives to improve labour-market information should be clearly defined to avoid duplication and overlap. The cross-jurisdictional Labour Market Information Council, created in April 2017, should, with full support from the provinces and territories, build on the national Job Bank website to develop detailed, nationally consistent information on numbers of students, feedback on course quality and detailed labour-market outcomes by specific course of study and institution.

Figure 19. Canadian men spend less time on childcare activities than their female spouses[1]

Difference in time spent on childcare activities, by youngest child's age, in minutes per day



1. Data for partnered men and women (those who live in the same household as a spouse or cohabitating partner, married or not) in couples with a female partner aged 25-45, only. Pensioners and students excluded. Data restricted to "carers", i.e., mothers and fathers who are engaged in at least one childcare activity during a time-use diary day.

Source: OECD (2017), *The Pursuit of Gender Equality: An Uphill Battle*, Figure 15.2.

StatLink http://dx.doi.org/10.1787/888933779827

Skills development should be prioritised to promote adaptability to changes in future labour market needs and arrest declining skills among youth and weak wage growth among young males with low educational attainment. Canadian young people's science, literacy and numeracy skills are generally strong, but skill levels have declined recently among those aged 16 to 24 (Mahboubi, 2017[45]). Skills development should continue to occur through school-based education and adult-learning programmes, with a particular focus on students from disadvantaged backgrounds.

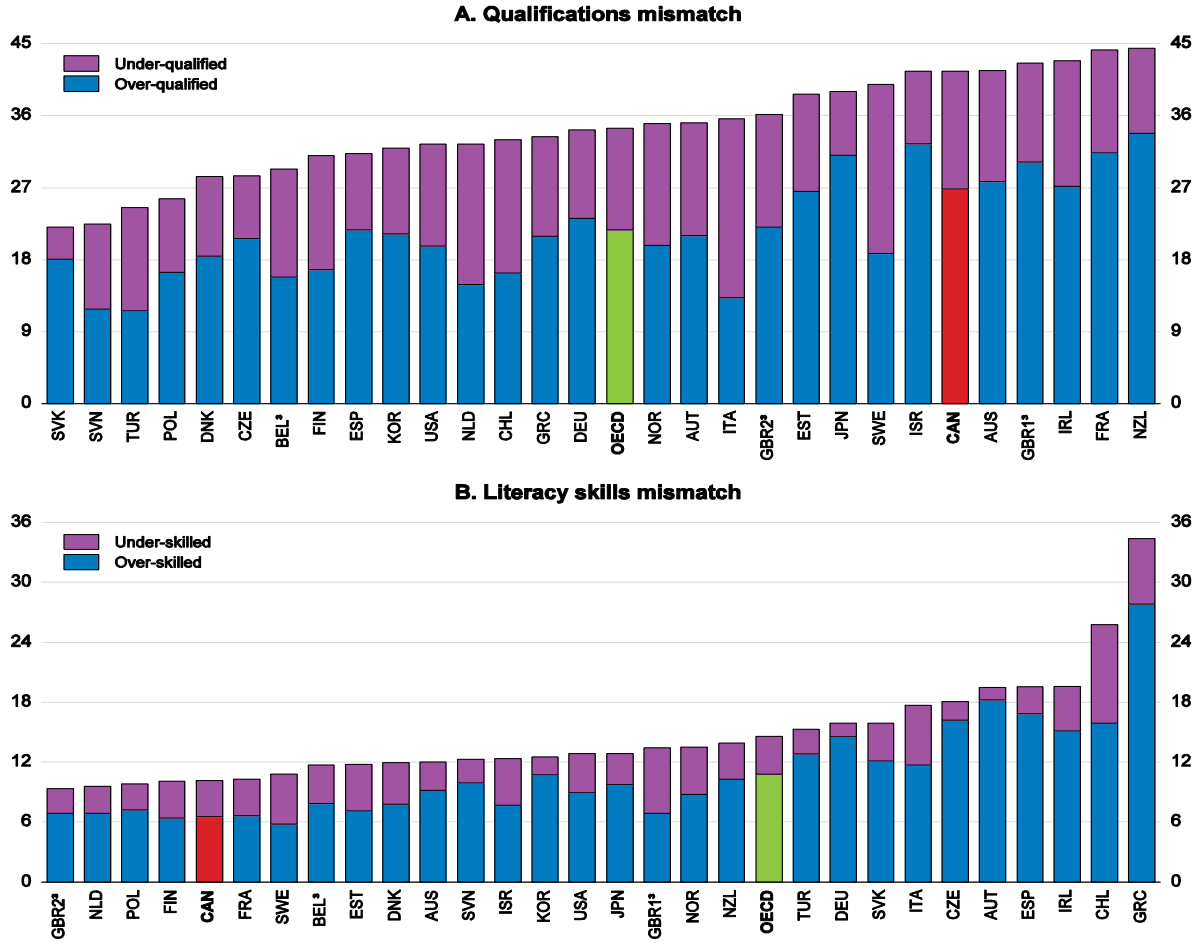
Later retirement should be supported by measures to promote skills and retention of older workers

Employment rates for Canadians aged 55 and over are slightly above the OECD average, with substantial room to improve in comparison with leading OECD countries such as Iceland, New Zealand and Sweden. Increasing the normal retirement age would increase employment of older Canadians who choose to work longer, boosting growth and their incomes while also delivering budgetary savings. Life expectancy at 65 has increased by over 3½ years over the past 30 years and is projected to increase by another 2½ years by 2050 (Office of the Chief Actuary, 2017[46]). As life expectancy lengthens, increases in the effective retirement age are being restrained by the clustering of retirements around 60 and 65, the respective eligibility ages for the Canada and Québec Pension Plans and basic public pensions (Figure 21). Indexing the age of eligibility to life expectancy, as some other OECD countries have done, is a way to gradually change social norms around retirement timing while depoliticising future pension-eligibility decisions. Indexing may be incomplete, for example by fixing the share of an average lifetime spent in retirement.

Other retirement-age-related rules (for example, in the tax system) would also need to be adjusted for later pension eligibility.

Figure 20. Qualifications mismatch[1] is large

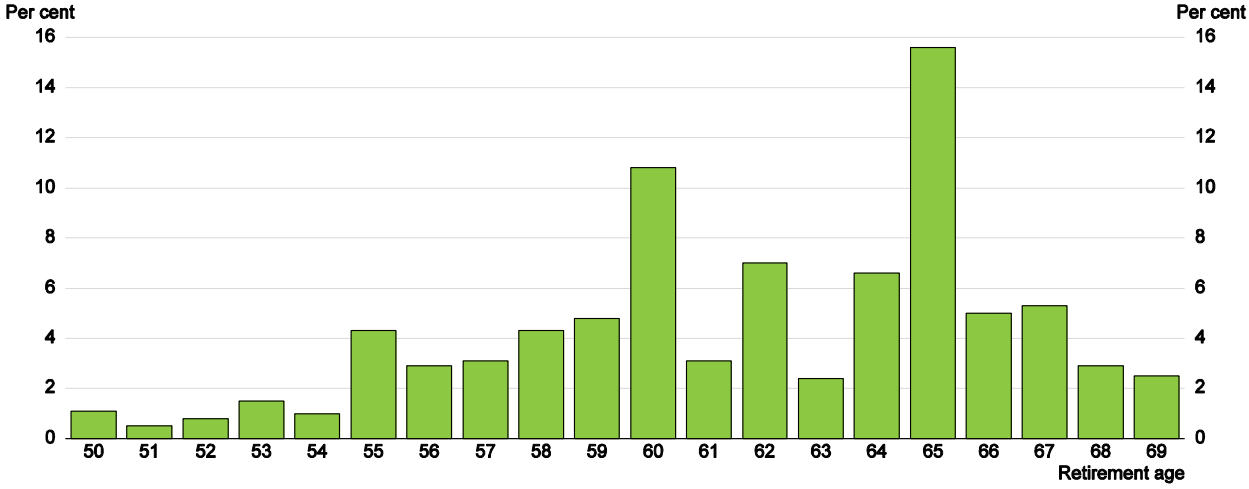
Percentage of mismatched workers, by type of mismatch, 2012 and 2015[2]



1. Qualifications mismatch occurs when a worker has a higher or lower level of qualification than is required for his/her job. Skills mismatch occurs when a worker's skills are higher than the 90th percentile or lower than the 10th percentile of workers with self-reported well-matched skills.
2. Data correspond to 2012 for countries participating in the first round of the Survey of Adult Skills: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway, Poland, Slovak Republic, Spain, Sweden, United States and United Kingdom. Data correspond to 2015 for countries participating in the second round of the Survey of Adult Skills: Chile, Greece, Israel, New Zealand, Slovenia and Turkey.
3. Data indicated as Belgium correspond to Flanders; GBR1 = England and GBR2 = Northern Ireland.
Source: OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, Annex A, Tables Chapter 5 – Table A5.7; *OECD Survey of Adult Skills (PIAAC) database* (2012 and 2015).

StatLink http://dx.doi.org/10.1787/888933779846

Figure 21. The age distribution of retirement was concentrated around 60 and 65 in 2014



Source: Finance Canada.

StatLink http://dx.doi.org/10.1787/888933779865

The effect of increasing retirement ages on lower socioeconomic groups needs to be monitored, as these people may face challenges with working longer and often have lower life expectancy. In particular, manual workers may be physically unable to work longer. While further increases in automation and mechanisation are set to make this less common, it is important to ensure that disadvantaged older workers have access to retraining and job opportunities, with adequate safety net provisions such as disability benefits as a fall-back. In terms of income distribution, although increasing the retirement age tends to widen inequality in total pensions between low and high earners (due to differences in life expectancy), this effect is small when accompanied by increases in life expectancy (OECD, 2017[47]). Fortunately in Canada, unlike in the United States, recent increases in life expectancy at age 65 have been larger for those with low incomes.

Governments can assist those choosing to work longer through supporting life-long learning and flexible work arrangements for seniors. Literacy, numeracy and digital skills are high among Canadians aged 55 to 64 and decline less across age groups than in most OECD countries, but digital skills are still far better among younger generations (OECD, 2016[48]). Canadians' participation in adult education and training is also above average overall but decreases with age and is much lower for those with low literacy skills (OECD, 2017[49]). Measures to increase lifelong learning, such as the recently announced Skills Boost initiative, should therefore focus on ensuring that those with lower skills have access to sufficient training opportunities, particularly as digital skills become more important. Anti-discrimination legislation and information campaigns regarding the potential employer benefits from experienced employees are also useful to support demand for older workers. Effective tax rates close to or above 100% on employment income for low-income seniors should be eliminated by reforming phase-out provisions in provincial income-supplement schemes, though the labour-market benefits will be limited, given the small number of people affected and their weak attachment to the workforce.

Further increases in basic pensions would curb old age poverty

Relative poverty rates among Canadians over 65 are low by international comparison but have nearly tripled since the mid-1990s. A key factor has been the failure of minimum public pension payments (indexed to the CPI) to keep up with median wage growth (Shillington, 2016[50]). Further falls in the replacement rates from public pension payments will be felt most acutely by low-income earners. The federal government needs to ensure that the fruits of economic growth are shared with low-income seniors through real increases in pension payments, either through further *ad hoc* increases or more generous indexing.

Initiatives to protect pensions during insolvency should avoid creating barriers to capital reallocation

Some seniors have suffered hardship because deficits in defined-benefit plans, unlike outstanding pension contributions, are not afforded super-priority over creditors during insolvency. This problem could be mitigated through strict funding rules for pension-plan liabilities (as in the Netherlands) and/or government-funded pension-guarantee schemes (as in Ontario and several OECD countries including the United States, the United Kingdom, Germany and Australia). Another alternative is to give greater priority to pension deficits during insolvency (as proposed in two private members' bills before the Canadian Parliament), but this needs to be balanced with risks of making defined-benefit plans too expensive to run through restricting credit supply. In any case, barriers to restructuring or firm exit should be avoided, as they would impede efficient capital reallocation and thus longer-term productivity growth (Adalet McGowan, Andrews and Millot, 2017[51]).

Better management of long-term care is needed to shrink waiting lists

In a recent survey of Canadians who needed help with their regular daily activities, 19% of them did not receive the assistance they needed because of costs, compared with 2–10% of respondents in most countries outside North America (Osborn et al., 2017[52]). Among acute-care hospital beds 15% are occupied by people who would be better off or would prefer to be at home or in community-based settings. A shortage of formal care puts heavy strain on carers, the majority of whom are women. There is scope to make greater use of user charging to fund an expansion in long-term care provision, as only two provinces currently take assets into account in assessing ability to pay.

Immigration policy

Immigration policy has economic, social and humanitarian goals

The main objectives of Canada's immigration policy are to promote economic development by selecting immigrants with high levels of human capital, to reunite families and to respond to foreign crises and offer protection to endangered people (IRCC, 2017[53]). The federal government sets annual admissions targets for permanent resident visas to achieve a pace and mix of immigration that is judged best to contribute to meeting these objectives. Economic-class principal applicants, who are selected for their skills, and their spouses and dependent children comprise the largest immigrant category (57%, of which two thirds are spouses and dependent children), followed by the family (28%) and refugee and humanitarian categories (15%) (Table 16). The share of economic-class immigration in the total has increased markedly since the early 1990s to

one of the highest levels among OECD countries (Figure 22 and Figure 23). In addition to the economic and social benefits of furthering the above objectives, immigration policy also enhances well-being by increasing cultural diversity and the variety of goods and services available and by strengthening understanding of diverse cultures, potentially improving international relations.

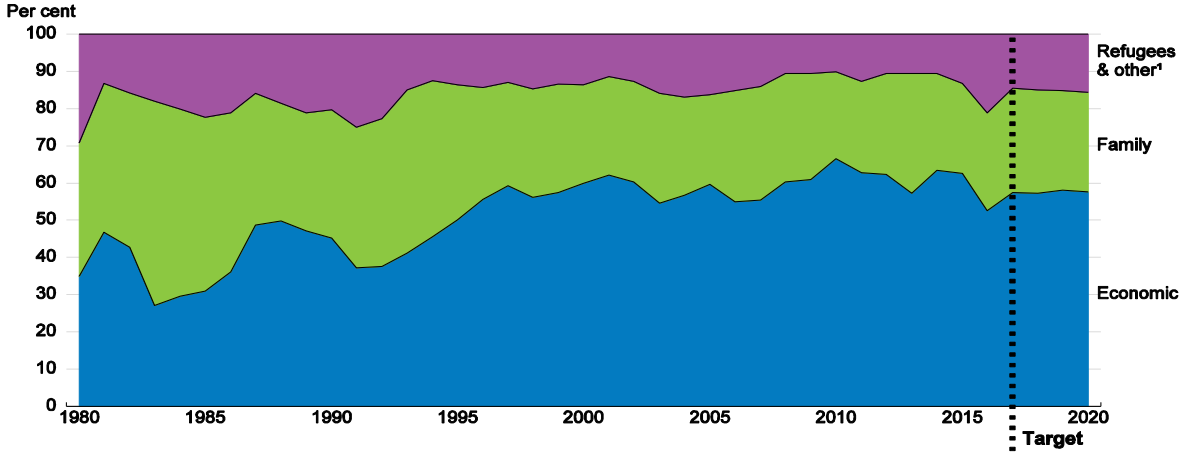
Table 16. Immigration levels

	2015	2016	2017	2018	2019	2020
	Admissions				Targets	
Economic						
Federal High Skilled[1]	68 795	59 999	73 700	74 900	81 400	88 000
Caregivers[2]	27 214	18 481	18 000	17 000	14 000	5 000
Provincial Nominee Program	44 535	46 169	51 000	55 000	61 000	67 800
Québec Skilled Workers and Business[3]	28 787	30 492	29 300	28 900	32 500	32 500
Other economic[4]	1 036	867	500	1 700	2 700	2 500
Total Economic	**170 367**	**156 008**	**172 500**	**177 500**	**191 600**	**195 800**
% total	62.7	52.6	57.5	57.3	58.1	57.6
Family						
Spouses partners children	49 996	60 944	64 000	66 000	68 000	70 000
Parents, grandparents	15 489	17 039	20 000	20 000	20 500	21 000
Total Family	**65 485**	**77 983**	**84 000**	**86 000**	**88 500**	**91 000**
% total	24.1	26.3	28.0	27.7	26.8	26.8
Refugees and Protected Persons, Humanitarian and Other	**35 969**	**62 361**	**43 500**	**46 500**	**49 900**	**53 200**
% total	13.2	21.0	14.5	15.0	15.1	15.6
Total	**271 821**	**296 352**	**300 000**	**310 000**	**330 000**	**340 000**

1. Includes Federal Skilled Worker Program, Federal Skilled Trades Program and Canadian Experience Class.
2. Includes admissions in the Caring for Children Class and the Caring for People with High Medical Needs Class, pilot programmes that replaced the Live-in Caregiver Program in late 2014.
3. Under the 1991 Canada-Québec Accord, Québec has full responsibility for the selection of immigrants destined for Québec except for Family Class and in-Canada refugee claimants.
4. Includes the Atlantic Immigration Pilot Program and Federal Business programmes.
Source: Immigration, Refugees and Citizenship Canada (2017), "Notice – Supplementary Information 2018-2020 Immigration Levels Plan" and "Canada's Immigration System and the Points-based Approach for Human Capital".

Canada's immigration system is well run. Outcomes are constantly monitored and policies adjusted accordingly to ensure that the system's objectives are met. Immigration has become the main source of population growth, increasing the immigrant share of the population to one of the OECD's highest (Figure 24, Panels A and B). It has contributed to an increase in educational attainment of the working-age population (Panel C), made the country more culturally diverse (Panel D) and helped to grow the main cities (Panel E), thereby achieving agglomeration economies. Immigrants and their children are better integrated in Canada based on a variety of indicators than in most other countries (OECD; European Union, 2015[54]). Immigrants' children perform well in education - their PISA results are on a par with those of non-immigrant children (Figure 25), and their educational attainment is higher (Picot and Sweetman, 2012[55]).

Figure 22. Permanent resident admissions and planned levels by main class



1. Refugees and protected persons, humanitarian and other.
Source: Immigration, Refugees and Citizenship Canada, *IRCC Facts and Figures*, various years; IRCC (2017), "Notice - Supplementary Information 2018-2020 Immigration Levels Plan".

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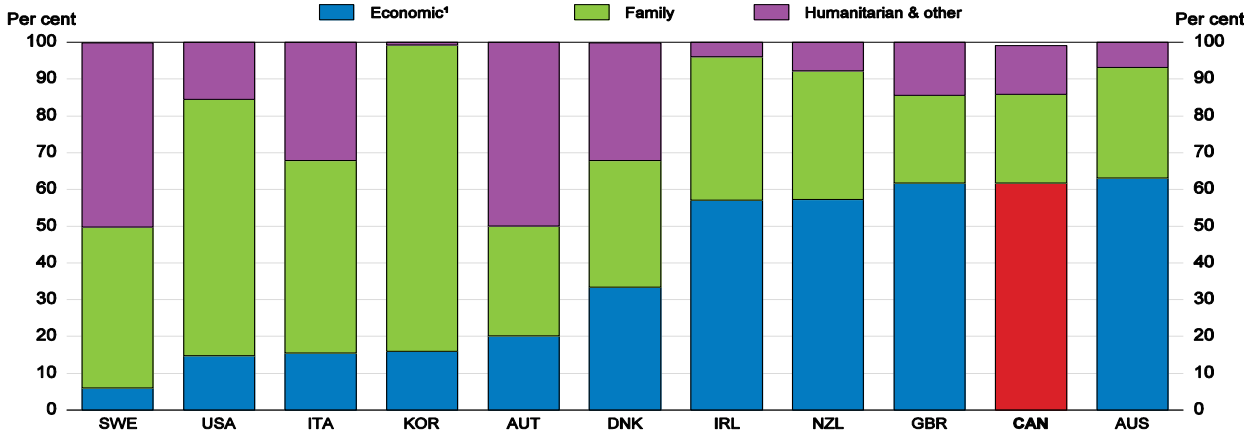
Figure 23. Permanent migration flows by category

Percent of total migration flows excluding free movements and other, 2015



1. Work immigrants and accompanying family of workers.
Source: OECD (2017), *International Migration Outlook 2017*, Table 1.A.2.

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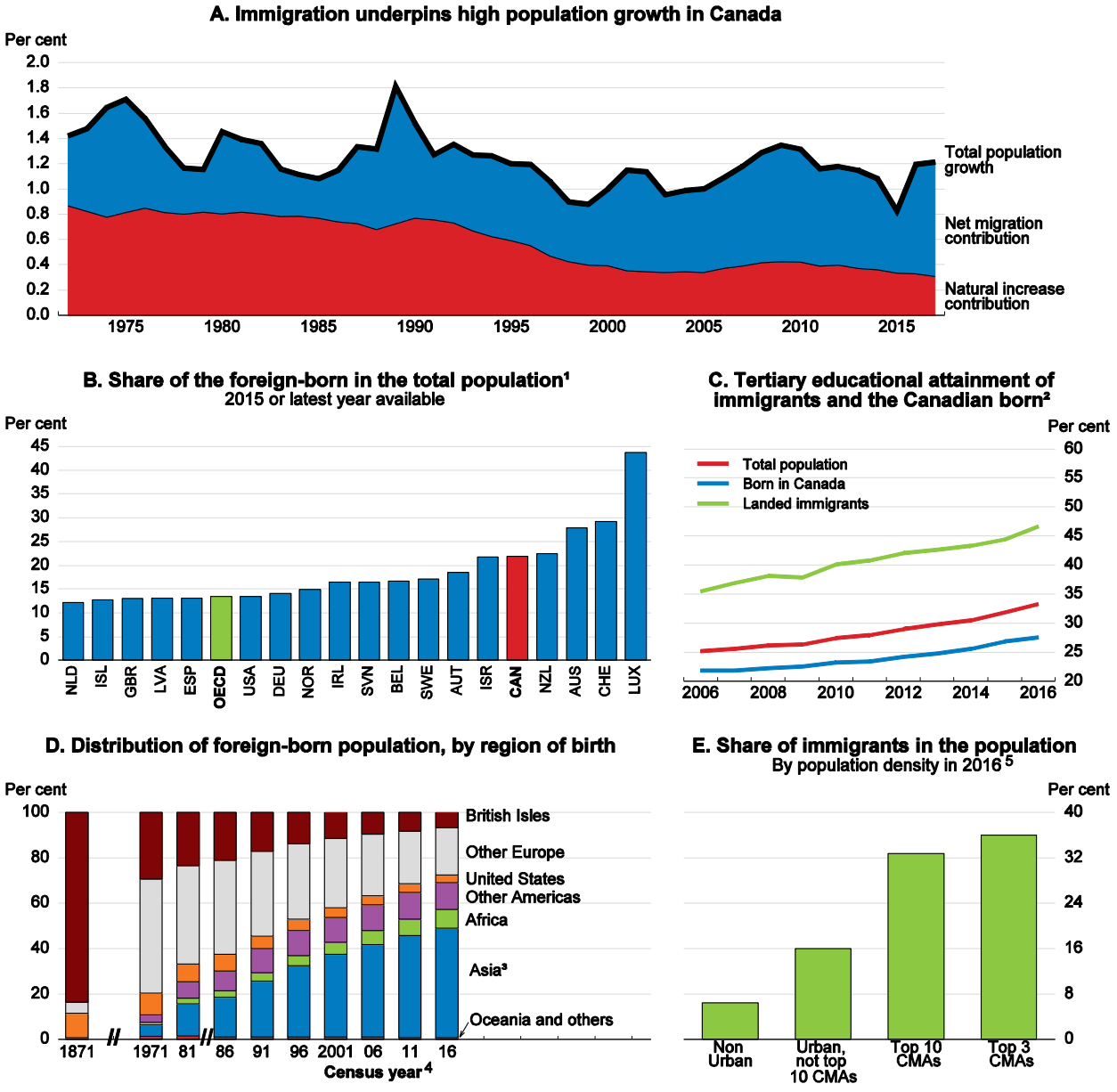
Among adults, immigrants landed in Canada at less than 10 years of age or Canadian-born with at least one foreign-born parent earn more on average than their counterparts with Canadian-born parents, with this difference more than entirely explained by their higher educational attainment and greater tendency to live in large urban areas with high wage premia (ibid). Immigrants selected for their skills earn substantially more than other immigrants, indicating that selection is succeeding in identifying immigrants with the greatest potential for labour market integration (Figure 26). Immigration does not appear to have weakened social cohesion in Canada, in contrast to the situation in many other countries (Picot, 2013[56]).

Figure 24. Selected demographic effects of immigration



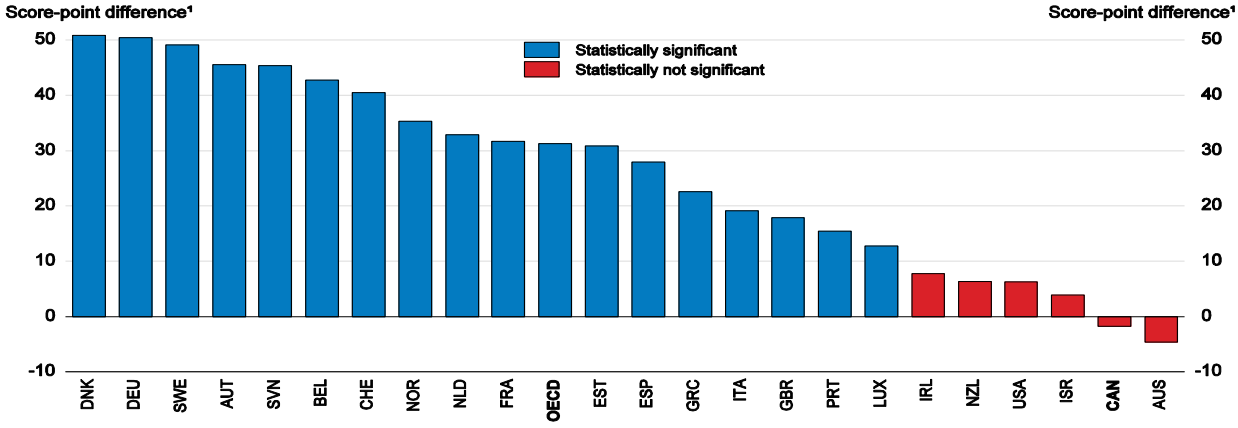
1. Highest ranking countries. 2016 for Canada according to the Canadian 2016 Census Program. The OECD is the average of all OECD countries except Japan and Korea for which data are not available.
2. Population aged 25-54 with university level relative to the group's total population.
3. Including the Middle East.
4. // denotes a break in the time series.
5. Census Metropolitan Areas (CMAs) are grouped by population density. The top 3 CMAs by density are Toronto, Montréal and Vancouver. The top 10 CMAs also include Kitchener-Cambridge-Waterloo, Hamilton, Victoria, Oshawa, Windsor, Ottawa-Gatineau and Abbotsford-Mission.

Source: Statistics Canada, Tables 051-0001, 051-0004, 282-0106, 051-0056 and 2016 Census Program, https://www.statcan.gc.ca/eng/dai/btd/othervisuals/other00; OECD, *International Migration* and *Economic Outlook databases.*

StatLink http://dx.doi.org/10.1787/888933779922

Figure 25. Differences in PISA science scores between non-immigrant and immigrants

Score-point difference in science between non-immigrant and immigrant students, after accounting for socio-economic status



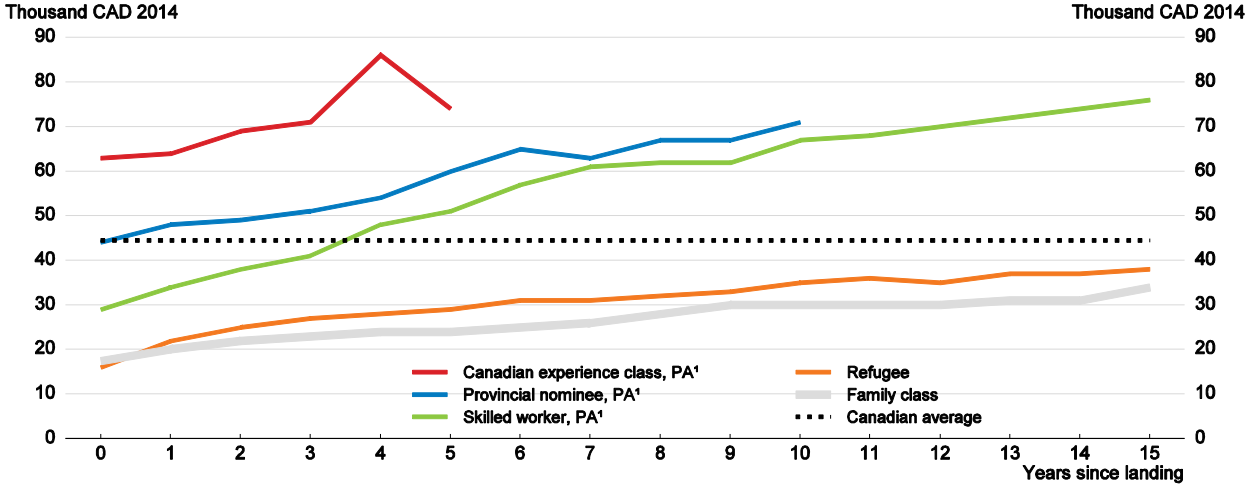
1. A positive score indicates better performance for non-immigrants than (first- and second-generation) immigrants.

Source: OECD (2016), *PISA 2015 Results (Vol I): Excellence and Equity in Education*, Table I.7.4a.

StatLink http://dx.doi.org/10.1787/888933779941

Figure 26. Average employment earnings by years since landing

Thousand CAD 2014, 2014 tax year



1. Principal applicants (economic class).

Source: H. Zhang (2017), "2014 Longitudinal Immigration Database (IMDB): Current Measures of Immigrant Economic Outcomes and Strategic Enhancement"', IRCC, Research and Evaluation Branch, April, calculations based on data from *Longitudinal Immigration database 2014* and *Canadian Income Survey 2014*.

StatLink http://dx.doi.org/10.1787/888933779960

Immigration has modest effects on Canada's economy

The effects of immigration on the receiving country generate much interest in Canada, as in other countries, and indeed are the primary focus of the "Objectives and Application" section of the Canadian Immigration and Refugee Protection Act (Sweetman, 2014[57]). While most studies of the effect on real GDP per capita in Canada conclude that immigration has a small negative effect owing to immigrants having lower earnings on

average than the native-born (El-Assal and Fields, 2017[58]) (Green and Green, 1999[59]) (Fougère, Harvey and Rainville, 2011[60]), these studies do not take into account the effects of second-generation Canadians, who, as noted above, have higher levels of education attainment and earnings than other Canadians. Taking these effects into account, the overall impact of immigration on GDP per capita is likely to be positive. It would be even greater, and immigrants' incomes and well-being higher, if immigrants' labour market integration were enhanced.

Another issue is the effect of immigration on the wages of Canadian workers. Canadian studies find that there are no or small negative effects but a relatively larger negative effect on wages of earlier immigrants (Table 17). As Canadian immigrants typically downgrade upon arrival to occupations filled by less educated native-born workers, as in other countries, competitive wage pressures are likely to be greater at the lower end of the wage distribution than at the upper end (Dustmann, Frattini and Preston, 2013[61]).

Table 17. Studies of the impact of immigration on the wages of Canadian workers

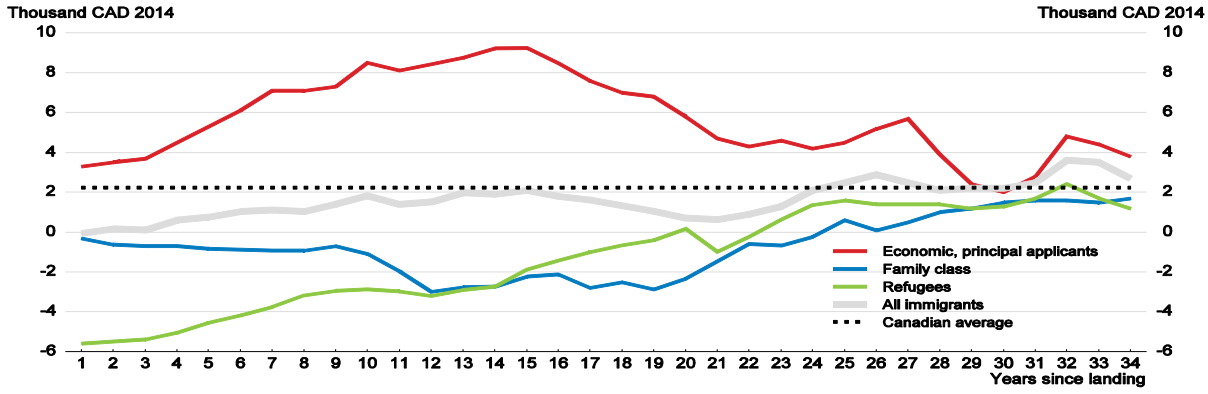
Canadian studies	Findings
Aydemir and Borjas (2007[62])	A 1% labour supply increase due to immigration is associated with a 0.3%-0.4% decrease in wages. Immigration narrows wage inequality because immigrants in Canada tend to be disproportionately highly skilled.
Tu (2010[63])	At the national level the substantial immigrant inflows after the policy change in the late-1980s did not adversely affect native-born wage growth rates in the following decade.
Fougère, Harvey and Rainville (2011[60])	Wage rates for all workers could decrease by 0.1% in 2026 and 0.2% in 2034 if there is an increase of immigrants from 0.75% to 1% of the population because of an extra inflow of highly skilled immigrants.
Hou and Picot (2014[64])	A 10% increase in immigration is associated with an average 0.8% decline in entry earnings among immigrant men and 0.3% among immigrant women.

Source: H. Zhang (2017), "Economic and Fiscal Impacts of Immigration: the Canadian Evidence", IRCC, Research and Evaluation Branch, October.

Most studies suggest that immigration's overall net fiscal impact is small in Canada, as in most other countries, taking into account taxes net of transfers, the costs of health care, education and some other government expenditures [(OECD, 2013[65]); (Picot, 2013[56]); (Kerr and Kerr, 2011[66])]. OECD (2013[65]) estimates a small overall negative effect (-0.06% of GDP) in Canada. Immigrants make average net direct fiscal contributions that converge towards the Canadian average as more time is spent in Canada, although the downward convergence for high-skilled immigrants in recent years is exaggerated by the IT-sector collapse in the early 2000s, where many of them worked (Figure 27).

Figure 27. Average income tax paid in 2014 net of transfers received by years since landing

Thousand CAD 2014, 2014 tax year



Source: H. Zhang (2017), "Economic and Fiscal Impacts of Immigration: the Canadian Evidence", IRCC, Research and Evaluation Branch, October, calculations based on data from *Longitudinal Immigration database 2014*, and Statistics Canada's T1 Family File (2014).

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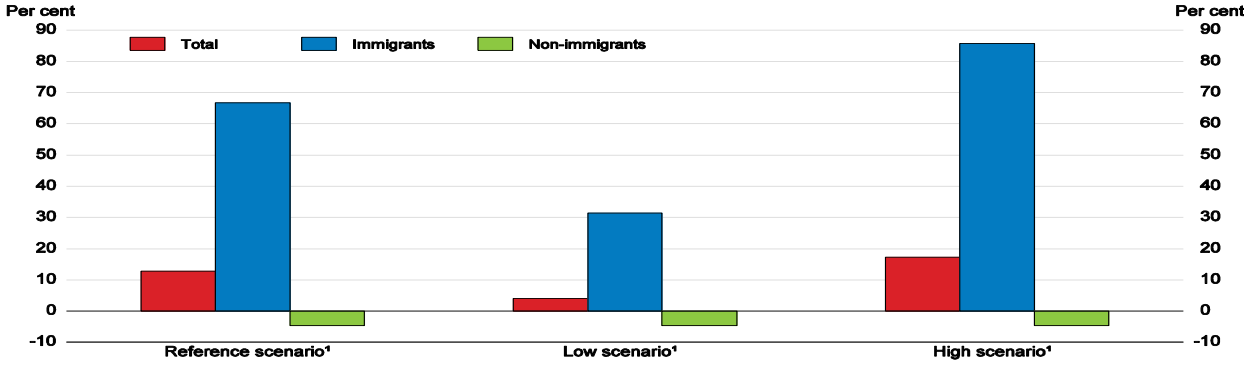
Immigration will be vital for sustaining positive growth in the working-age population in the coming decades in the face of population ageing (Figure 28); the old-age dependency ratio is projected to rise in Statistics Canada's reference scenario from 0.26 in 2011 to 0.48 in 2036 (Morency, Malenfant and MacIsaac, 2017[67]). While immigration helps to mitigate the increase in the old-age dependency ratio, its long-run effects are modest because immigrants age too. Even a doubling of the immigration rate from the low- to the high-immigration scenario would have little effect on the working-age and elderly-population shares, and hence on the old-age dependency ratio over the next two decades (0.54 and 0.47, respectively, in the low- and high scenarios) (Figure 29), and an even smaller effect in the long run, when the increase has impacted all age groups.

Figure 28. Immigration will be essential to working-age population growth

Population growth for those of working-age (25-64) from 2011 to 2036



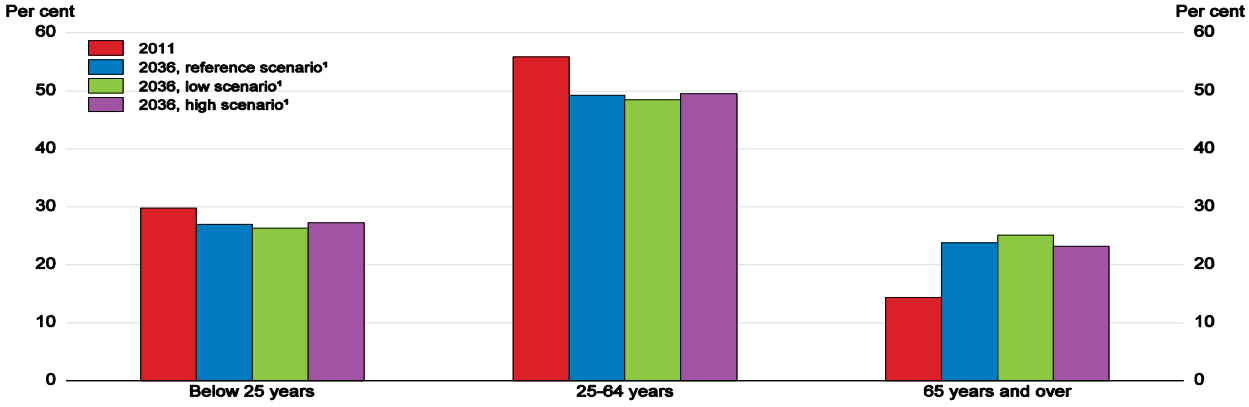
1. The reference scenario assumes an annual immigration rate of 0.83% (8.3 immigrants per 1000 population); the low scenario corresponds to an immigration rate of 0.5% and the high scenario to 1%.

Source: J.-D. Morency, E. Caron Malenfant and S. MacIsaac (2017), "Immigration and Diversity: Population Projections for Canada and its Regions, 2011 to 2036", App. 1 & 4, Statistics Canada, Cat. No. 91-551-X.

StatLink http://dx.doi.org/10.1787/888933779998

Figure 29. Immigration has modest effects on the population age structure in the long run

Age distribution of total population in Canada



1. The reference scenario assumes an annual immigration rate of 0.83% (8.3 immigrants per 1 000 population) between 2011 and 2036; the low scenario corresponds to an immigration rate of 0.5% and the high scenario to 1%.

Source: J.-D. Morency, E. Caron Malenfant and S. MacIsaac (2017), "Immigration and Diversity: Population Projections for Canada and its Regions, 2011 to 2036", Appendix 1 and Appendix 4, Statistics Canada, Cat. No. 91-551-X.

StatLink http://dx.doi.org/10.1787/888933780017

Enhancing labour-market integration and well-being of immigrants

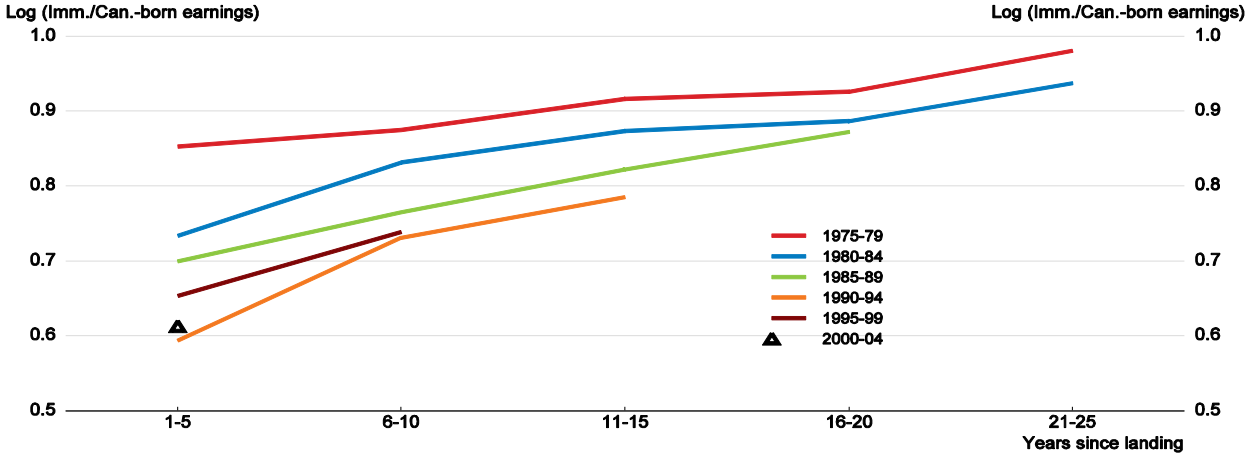
Immigrants' average earnings during their first five years in Canada relative to those of the native-born have fallen sharply in recent decades (Figure 30). Controlling for education, age and place of residence, male entry earnings fell from 85% of those of the Canadian-born in the late 1970s to around 60% in the early 2000s; similar trends are observed for female immigrants (Picot and Sweetman, 2012[55]). Whereas adjusted immigrant earnings approached those of the native-born with similar characteristics after 20 years for the cohort landing (*i.e.*, being granted permanent residence) in Canada in the late 1970s, the starting point for cohorts since the early 1990s has been so low that their earnings are unlikely to ever catch up to those of the native born with similar characteristics. The deterioration in labour-market outcomes for immigrants has resulted in a growing share of them falling into relative poverty at a time when the opposite was happening for the Canadian-born (ibid). For university-educated new immigrants, the fall in earnings relative to their native-born counterparts over 1980-2005 was much greater in Canada than in the United States (Bonikowska, Hou and Picot, 2011). Whereas the university-education wage premium for new immigrants was similar in both countries in 1980, it was considerably higher in the United States by 2000.

A major factor explaining the fall in initial earnings for immigrants during the 1970s and 1980s is a deterioration in English- or French language skills, which appears to have a direct effect on labour-market outcomes as well as influencing returns to formal education (Hou and Picot, 2016[68]); (Picot and Sweetman, 2012[55]). Immigrants with strong official language skills get higher returns on their education credentials than those with weak skills, who get no return at all (Bonikowska, Green and Riddell, 2008[69]; Warman, Sweetman and Goldmann, 2015[70]; Ferrer, Green and Riddell, 2006[71]). Returns are particularly high for immigrants with higher educational attainment (Goldmann, Sweetman and Warman, 2011[72]). When English or French literacy skills are accounted for, there is no statistical difference between returns to education for

immigrants and the Canadian-born (Ferrer, Green and Riddell, 2006[71]). Another factor is the evolution in the economic returns to pre-immigration labour market experience, which had fallen to close to zero by the time of the 1990-94 cohort (Aydemir and Skuterud, 2005[73]).

Figure 30. Predicted male immigrant earnings[1] relative to those of comparable native-born

Full-time, full-year male workers,[2] by years since landing, 1975-2004



1. Predicted values based on a model.
2. Aged 16 to 64.
Source: G. Picot and A. Sweetman (2012), "Making It in Canada - Immigration Outcomes and Policies", *IRPP Study*, No. 29, April, Figure B1.

StatLink http://dx.doi.org/10.1787/888933780036

Narrowing the earnings gap between the native-born and immigrants has been a major focus of policy since the 1990s. An early response was to increase the share of immigrants subject to selection: the share of economic-class immigrants rose from 40% in 1993 to around 60% in the late 2000s. Selection policies have been revised to give much greater weight to competence in one of Canada's official languages and to age, which is inversely related to potential foreign experience. And the selection system was overhauled with the introduction in 2015 of the Express Entry system, modelled on similar arrangements in Australia and New Zealand.

Express Entry should deliver applicants with greater potential for strong labour market integration, as only those candidates with the highest point scores are invited to apply for permanent residence, whereas previously all applications were processed on a first-in, first-out basis. In addition, employers have a greater role in selecting applicants in that extra points are awarded for a relevant job offer, which in many cases will be made for current employees on a temporary work visa.

While prior Canadian skilled work experience has been given greater weight in selection in light of evidence that immigrants with it earn much more than those without it (Sweetman and Warman, 2014[74]), the share of such economic immigrants has traditionally been modest (Hou and Bonikowska, 2016[75]). To increase the share of economic immigrants with such experience, points awarded for it should be increased. Moreover, points awarded for a skilled-job offer should be subject also to having skilled Canadian work experience, which is not currently the case, as a job offer without it does not make much difference to entry earnings. Similarly, points awarded for Canadian post-secondary education should be conditioned on having skilled Canadian work experience

because without it such education does not offer a clear earnings advantage (*ibid*). To boost innovation greater weight should be placed on a relevant job offer for applicants with a PhD in a science, technology, engineering or mathematics (STEM) field, as such immigrants contribute disproportionately to innovation when working in a STEM job (Blit, Skuterud and Zhang, 2018[76]). Subject to establishing norms for provinces' foreign qualifications recognition, another change to selection policies that should be made is to take into account the gap between applicants' foreign credentials and what is required for local registration, as already occurs in certain regulated trades through credentials assessment, as immigrants whose pre-immigration occupation is regulated in Canada receive a substantial earnings benefit if they get a job in their pre-immigration occupation (Warman, Sweetman and Goldmann, 2015[70]; OECD, 2016[77]).

Expansion of bridge programmes would help more immigrants to work in their fields of expertise, enhancing their earnings and well-being. These programmes, which combine advanced language training specific to an immigrant's field and courses needed to bring their credentials up to Canadian standards in regulated occupations, have been highly successful in facilitating post-secondary credentials recognition.

Mentoring programmes are a promising way of helping immigrants overcome their under-representation in high-quality jobs controlling for age and education attainment (Skuterland and Su, 2012[78]). Such programmes, which help currently employed skilled immigrant workers meet people in their profession, potentially integrating them in job-search networks, provide profession-specific language skills as well as literacy and soft skills (including teamwork and oral communication) specific to Canadian workplaces, plus information on workplace culture and employer expectations. Some reflection is needed on how the main constraint to expanding these programmes - finding people who can take the time to mentor – can be attenuated.

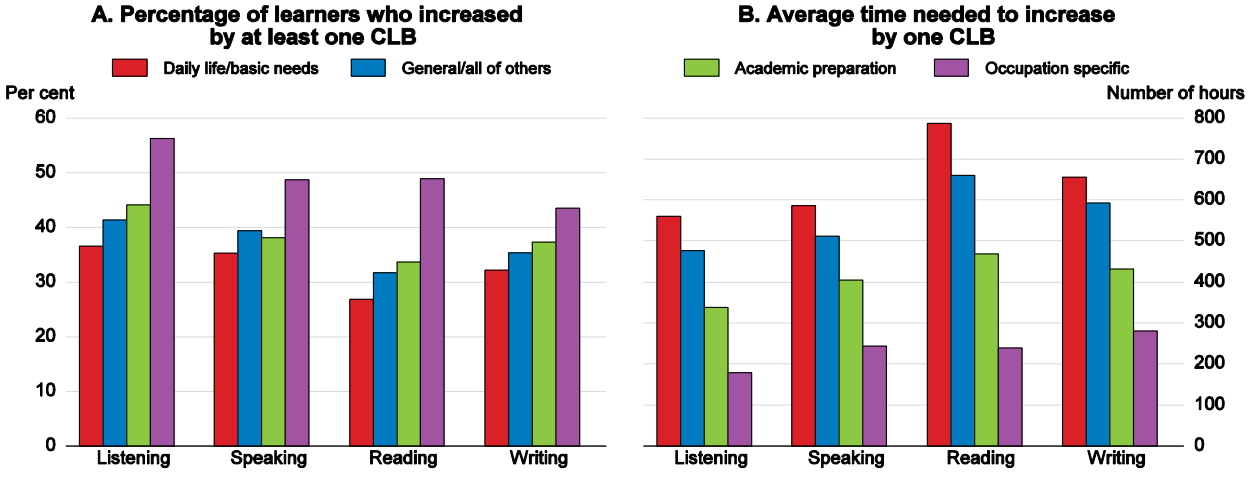
The Targeted Employment Strategy for Newcomers announced in the 2017 budget is aimed at facilitating foreign-credentials recognition and helping immigrants to gain Canadian work experience in their profession. The Strategy includes: improved pre-arrival supports to begin recognition; a loan programme to assist with costs; and targeted employment-assistance measures to test innovative approaches to help newcomers acquire Canadian professional experience. Several pilots are underway to gather evidence on the most effective and efficient means to work with employers to support immigrants in obtaining their first Canadian work experience commensurate with their professional training and background.

Enhancing the impact of government-sponsored settlement programmes could also improve immigrant labour-market (and more general) integration, especially for those facing the greatest barriers to integration. Refugees, especially government-assisted refugees (referred to Canada for resettlement by the United Nations Refugee Agency or another referral organisation, with resettlement supported by the government) are more likely to use these services than other immigrants. The federal government is the largest provider of settlement-programme funding (CAD 945 million in FY2015-16). These programmes provide services to eligible persons both before and after arrival in Canada. While more than 35% of immigrants who landed in the past three years have used at least one IRCC-funded settlement service within a year of landing, it is not clear whether utilisation patterns reflect differences in needs, availability or other barriers to take-up. One issue that IRCC is working on is locating settlement services nearer to where immigrants live. Familial and financial constraints, which may oblige immigrants to take on "survival jobs", also may be contributing to low use of language training and

employment-related services relative to orientation and needs assessments, which can be completed more quickly. IRCC should assess the extent to which current utilisation patterns reflect needs and, insofar as they do not, redirect resources.

The largest funding source for language training is the federal government's Language Instruction for Newcomers to Canada (LINC) programme. There are large differences in the number of training hours needed for clients to improve their official language skills by a given amount. By type of language training, the most cost-effective programmes are occupation-specific and academic preparation, while the least effective are for daily life/basic needs (Figure 31). While selection clearly influences these results, IRCC should nevertheless consider increasing resources for the more efficient courses to reduce waiting times. Expanding access to occupation-specific classes, which are often held in the evening, may be particularly beneficial for refugees, who cannot afford to delay working for years while they learn English for daily needs. Consideration should also be given to how the less efficient courses can be restructured to improve outcomes, for example by making them more relevant to clients' needs. Similarly, it takes significantly longer for some language clients, notably parent and grandparent immigrants, to improve their official language levels (Figure 32). The classroom context may not be the most suitable for teaching older persons. Where other cheaper services are available to fulfil some clients' objectives, such as community connection services to parent and grandparent immigrants instead of expensive language training, consideration should be given to expanding these services and redirecting the resources saved to other clients. More generally, language training needs to be more client specific, including the way it is delivered (e.g., classroom, evening classes, by Internet), and more coordinated across all levels of government.

Figure 31. Cost-effectiveness of language training by type[1]



1. Calculation based on IRCC's administrative data language service users who landed between January 1, 2014 and March 31, 2016 and data as of April 2016. The calculation excludes language service clients who do not have any Canadian Language Benchmark (CLB) recorded in the four language components.
Source: H. Zhang, J. Zhong and R. Lee (2017), "Research Insights in Settlement Services: Uptake, Mobility of Clients and Service Outcomes", IRCC, Research and Evaluation Branch, October.

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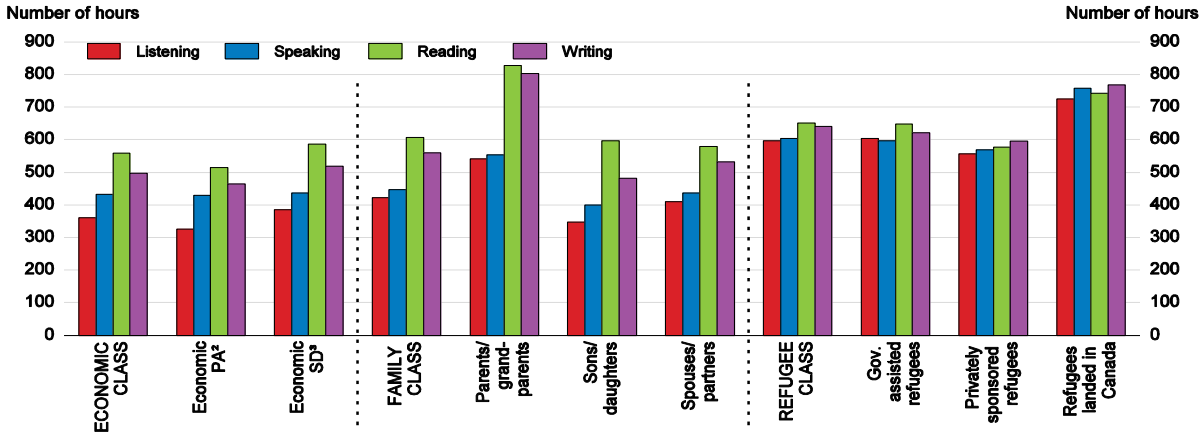
Figure 32. Average time needed to improve one Canadian Language Benchmark[1]



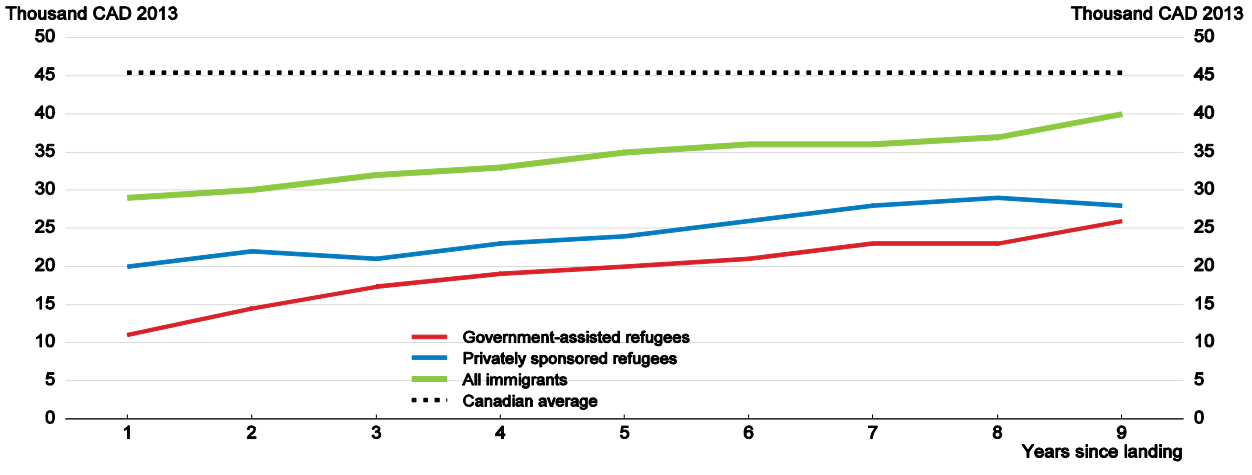
1. Calculation based on IRCC's administrative data language service users who landed between January 1, 2014 and March 31, 2016 and data as of April 2016.
2. Principal applicants.
3. Spouses/Domestic common law partners.
Source: IRH. Zhang, J. Zhong and R. Lee (2017), "Research Insights in Settlement Services: Uptake, Mobility of Clients and Service Outcomes", IRCC, Research and Evaluation Branch, October.

StatLink http://dx.doi.org/10.1787/888933780074

It may be possible to enhance earnings and well-being for government-assisted refugees by privately managing them. Government-assisted refugees have lower earnings than privately sponsored refugees and other refugee categories, all of whom have lower earnings than other immigrants and Canadians on average (Figure 33). It is not clear whether these contrasting results for refugees reflect selection or treatment effects, although the better outcomes for privately sponsored refugees in 13 countries found by Hou and Picot (2018) after controlling for relevant characteristics suggests that treatment effects may dominate. A blended model with government selection and private management is being trialled to see if it yields better results. If so, it should be expanded.

Figure 33. Average employment earnings for refugees and immigrants by years since landing

Thousand CAD 2013, 2013 tax year



Source: IRCC (2017), "Government-Assisted Refugees - Findings from the Longitudinal Immigration Database (IMDB)", *IMDB 2013 Research Series*.

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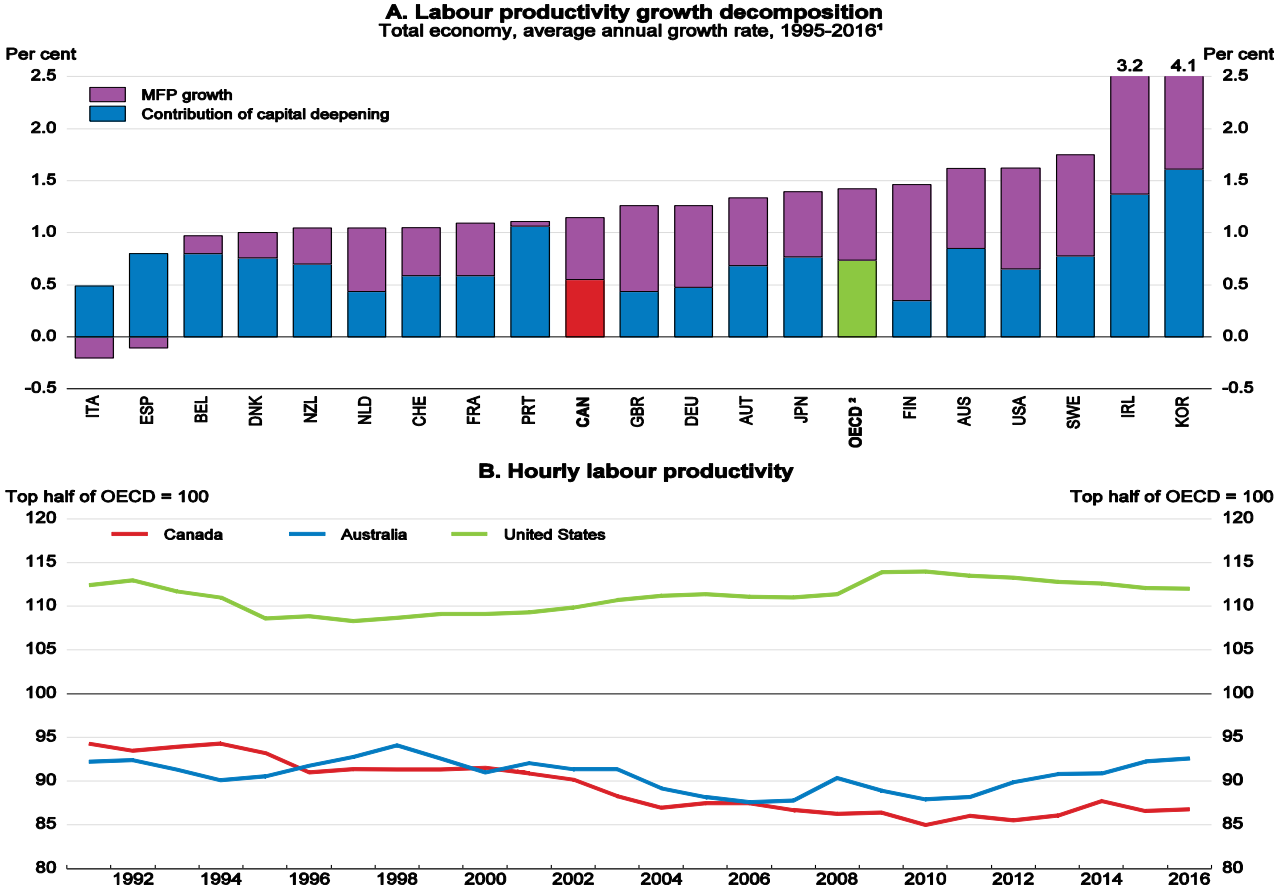
Discrimination may also be a cause of lower earnings for immigrants. Even after controlling for all non-ethnic factors that explain earnings, immigrants, especially the university educated, earn less than the native-born (Bonikowska, Green and Riddell, 2008[69]). Oreopoulos and Dechief (2012[79]) find evidence of discrimination against non-Caucasian job-seekers in Canada. While potential victims can seek justice under anti-discrimination laws, the Migration Integration Policy Index points to room for improvement in mechanisms to enforce the law. A measure along the lines of Australia's 2013 Multicultural Access and Equity Policy, which requires all government departments to deliver equitable access to services regardless of clients' cultural or linguistic background, could also enhance outcomes.

Reforms to increase productivity

Canada's labour productivity remains well below that in the top half of the OECD and has grown more slowly than in most OECD countries over the past two decades (Figure 34). Disappointing productivity performance reflects both small increases in

Figure 34. Labour productivity



1. 1996-2016 for Austria; 1995-2014 for Ireland; 1995-2015 for Japan, New Zealand, Portugal, Spain and Sweden.
2. Average of the 20 countries for which data are available.
Source: OECD (2018), *Productivity database*; OECD (2018), *Economic Policy Reforms: Going for Growth*.

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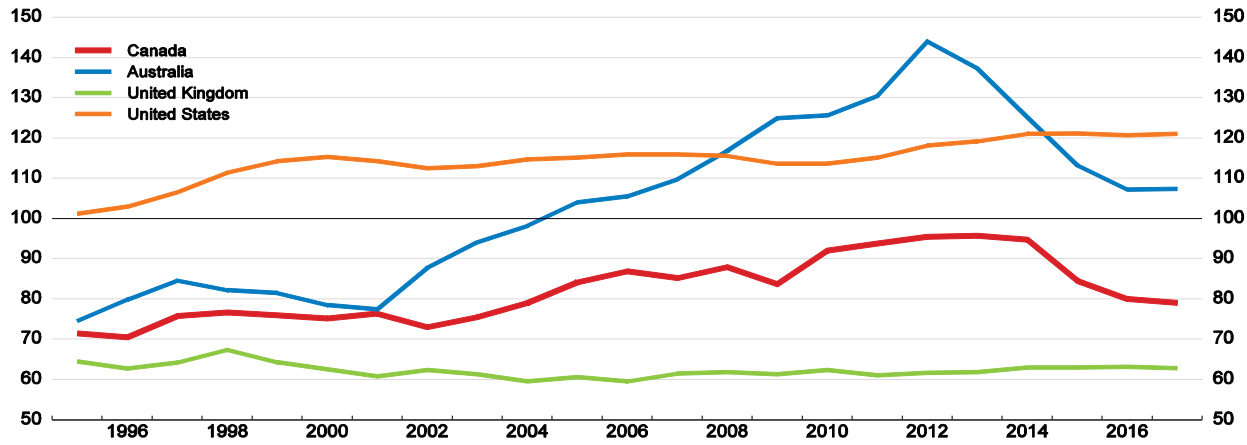
capital intensity, resulting from rapid growth in the labour force relative to the capital stock – non-residential investment per person in the labour force has been 20% below the OECD average (Figure 35) – and low multifactor productivity growth. As noted above, openness to trade has supported Canadian productivity, so there are threats to future productivity growth if trade barriers increase, for example due to termination of NAFTA.

Figure 35. Gross fixed non-residential capital formation

Per person in the labour force, OECD = 100[1]



1. Data for gross non-residential capital formation are in current prices and were converted into a common currency using 2010 purchasing power parity exchange rates. The labour force includes only people aged 15-64. Data for the OECD exclude Chile, the Czech Republic, Estonia, Greece, Hungary, Iceland, Israel, Latvia, Luxembourg, Mexico, Norway, Poland, the Slovak Republic, Slovenia and Turkey.
Source: OECD, *Economic Outlook and Labour Force Statistics databases.*

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Recommendations from past Surveys

Reducing product market competition barriers is vital for raising productivity, as recommended in past *Surveys* (Table 18). The Canadian Free Trade Agreement (CFTA) entered into force on 1 July 2017, replacing the Agreement on Internal Trade and reducing barriers to inter-provincial trade and establishing a federal-provincial-territorial Regulatory Reconciliation and Cooperation Table to oversee the regulatory conciliation process and promote regulatory cooperation across Canada. The CFTA should be taken further by prohibiting agricultural supply management regimes, reconciling remaining regulatory differences (possibly via mutual recognition) and expediting dispute resolution and raising penalties for non-compliance.

Focussing measures to support innovation on correcting market failures, as recommended in past *Surveys*, would also boost productivity. A positive step in this regard is the CAD 400 million funding over three years for the Venture Capital Catalyst Initiative, which will increase late-stage financing available to Canadian entrepreneurs. Around CAD 650 million per year in additional funding for research and development in the 2018 federal budget is focussed on fundamental research, where market failures are most pervasive. The federal government has also allocated CAD 950 million to accelerate innovation through five regional "superclusters", which has the potential to boost economic growth through one-off funding that complements existing local strengths. A

greater focus on removing barriers to innovation, for example communicated through clear selection criteria, would increase the likelihood that cluster development policy would be effective. The substantially enhanced research and development (R&D) tax credit for small companies and heavy reliance on indirect R&D subsidies should be evaluated to determine whether they are efficient and adjusted accordingly.

Table 18. Selected past key recommendations on increasing productivity

Recommendations in past Surveys	Actions taken since the previous Survey
A. Competition in network sectors and the internal market	
Reduce foreign ownership restrictions in air transportation on a reciprocal basis and in telecoms and broadcasting, where cultural objectives could be achieved by other means.	No action taken.
Develop more east-west electricity interconnections through provincial cooperation when there is an economic case to do so. Liberalise the generation and distribution segments to encourage wholesale and retail competition in jurisdictions that have not done so yet.	No action taken.
Broaden the Agreement on Internal Trade's (AIT's) sectoral coverage as much as possible. Seek to reconcile remaining regulatory differences (possibly via mutual recognition). Establish a pan-Canadian regulatory cooperation council. Raise monetary penalties for non-compliance, and expedite dispute resolution, which remains protracted.	The AIT was replaced by the Canadian Free Trade Agreement in 2017, which automatically covers sectors unless exceptions are identified. Energy is covered for government procurement. Agriculture is not covered. A Regulatory Reconciliation and Cooperation Table was created, and maximum monetary penalties for non-compliance were increased.
B. Innovation	
Improve targeting of public support for business R&D by shifting funding at the margin away from scientific research and experimental development (SR&ED) tax subsidies by lowering the small firm rate toward the large firm rate. Use the savings to reinstate capital costs in the eligible base and to scale up direct grants.	Budget 2017 announced that the SR&ED program would be reviewed to ensure its continued effectiveness and efficiency. All direct (non-tax) federal innovation programmes for business were reviewed in 2017 with changes including consolidation of programmes announced in Budget 2018. The Strategic Innovation Fund established in 2017 allocates repayable and non-repayable contributions to firms of all sizes across industrial and technology sectors.
Phase out remaining federal tax credits for provincial Labour-Sponsored Venture Capital Corporations (LSVCCs), as previously planned, and explore whether to make greater use of funds that operate like private, independent, limited-partnership venture capital funds, as was the case with the Venture Capital Action Plan.	No action taken since federal tax credits for provincial LSVCCs were restored in the 2016 budget.
C. Taxation	
Review small business taxation (e.g. in the context of the recently announced federal tax expenditure review) to identify clear market failures and the policy instruments best suited to addressing them.	Following completion of the tax expenditure review, the government announced measures in October 2017 – restrictions on income sprinkling and the allowable amount of passive investment income - to reduce misuse of the small business tax regime by high-income households. At the same time the government also announced that it would lower the small business corporate tax rate from 10.5% to 9% (compared with the standard federal corporate rate of 15%) by 2019.
Reduce personal income tax expenditures not warranted on economic or equity grounds, notably the non-taxation of benefits from private health plans and of capital gains on principal residences and qualified small business shares (in this case up to an indexed lifetime limit, which is currently CAD 848 252). The planned federal review of tax expenditures should assess them from both a tax efficiency and equity vantage point.	An internal tax expenditure review was completed in 2017. It resulted in measures to enhance the fairness, efficiency and effectiveness of the tax system being announced in Budget 2017, including the elimination of 12 tax expenditures and modifications to six others.

Rebalancing taxation away from taxes with high efficiency costs, such as corporate and personal income taxes, towards those with low efficiency costs, such as GST (VAT) and environmental taxes, and reducing unwarranted tax expenditures would improve resource allocation and, hence, productivity. In this regard, it is unfortunate that the federal government chose to reduce further the preferential income tax rate for small companies as it is unlikely to address efficiently clear market failures confronting small businesses. As discussed in the last *Survey*, these market failures are most likely to occur in capital markets for young, innovative firms.

Good project selection will be critical to harness the productivity benefits from infrastructure investment

Infrastructure investment is a key part of the federal government's growth strategy and will boost productivity if implemented effectively. The government plans to spend CAD 187 billion on infrastructure over 12 years, prioritising public transit (30% of new funding), green (28%) and social (27%) infrastructure, transportation that supports trade (13%), and rural and northern communities (3%). The government has established the Canada Infrastructure Bank, an independent federal government-owned entity that subnational governments can use to help finance revenue-generating projects that are in the public interest. The Bank will be responsible for investing at least CAD 35 billion over 11 years through public-private partnerships. This should leverage a much larger amount of investment. A one dollar increase in the infrastructure stock could raise GDP by just under 50 cents over the medium term through increasing productivity, crowding in private investment and positive spillover effects across provinces (Ishi, Mariscal and Gentry, 2017[80]). Investment in core economic infrastructure such as roads, railways, airports and utilities has historically delivered the largest productivity payoffs (Bom and Ligthart, 2014[81]).

As highlighted in the 2016 *Survey,* finding infrastructure investments with high returns is more difficult in Canada because infrastructure quality and quantity are already perceived to be high. However, a review of the ten largest public infrastructure projects in Canada in 2017 found that only one had a publicly released cost-benefit analysis that was sufficiently rigorous (Robins, 2017[82]). While the selection process for projects undertaken by the Canada Infrastructure Bank has not yet been defined, the availability of pre-committed funding can create pressure for spending that does not necessarily yield the highest net benefits. Thus, projects' social rates of return should continue to be evaluated through existing infrastructure planning processes, including those applied by provinces and municipalities, with rigorous cost-benefit analysis released publicly and, for large projects, second opinions. On a more positive note, leveraging private capital through the Canada Infrastructure Bank will offer benefits through access to private technology and innovation, enhanced private-sector incentives for project delivery, and increased efficiency through user charging.

Environmental sustainability

Canada's largest environmental challenge is reducing its emissions of greenhouse gases (GHGs), which are among the highest in the OECD in per capita terms. Canada is also the OECD's fourth largest emitter in absolute terms (Figure 36, Panel A). Its emissions have fallen since 2013 but are up nearly 20% since 1990 (mainly owing to oil and gas production, and transportation), in contrast to a decline in most other OECD countries.

To help Canada meet its COP21 target of cutting emissions to 30% below 2005 levels by 2030, federal, provincial and territorial governments, in consultation with Indigenous peoples, launched the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) in 2016. It outlines a country-wide approach to pricing carbon emissions to ensure that they are subject to a minimum price across the country, which is to rise from CAD 10 per tonne of CO_2 equivalent in 2018 to CAD 50 by 2022, or subject to cap-and-trade systems with adequate emissions-reduction targets and declining caps over time. The PCF also announced specific measures to reduce emissions and build resilience to adapt to a changing climate, including: accelerating the phase-out of traditional coal-fired electricity; reducing methane emissions from the oil and gas sector by 40-45% by 2025;

support for communities to adapt to climate change; and funding to foster clean technology solutions. With the exception of Saskatchewan, all federal, provincial and territorial jurisdictions have signed up. In provinces and territories that do not meet the minimum carbon price, the federal government will impose a federal back-stop carbon-pricing system consisting of a charge on fossil fuels and, for large emitters, an output-based pricing system (cap and trade with free allocation of permits up to the industry standard) and return the direct revenues to the provincial/territorial jurisdiction of origin. Opposition parties in Ontario and Alberta propose to terminate their provinces' carbon-pricing schemes and oppose application of the federal back-stop system, creating a serious political problem for the PCF should they gain power.

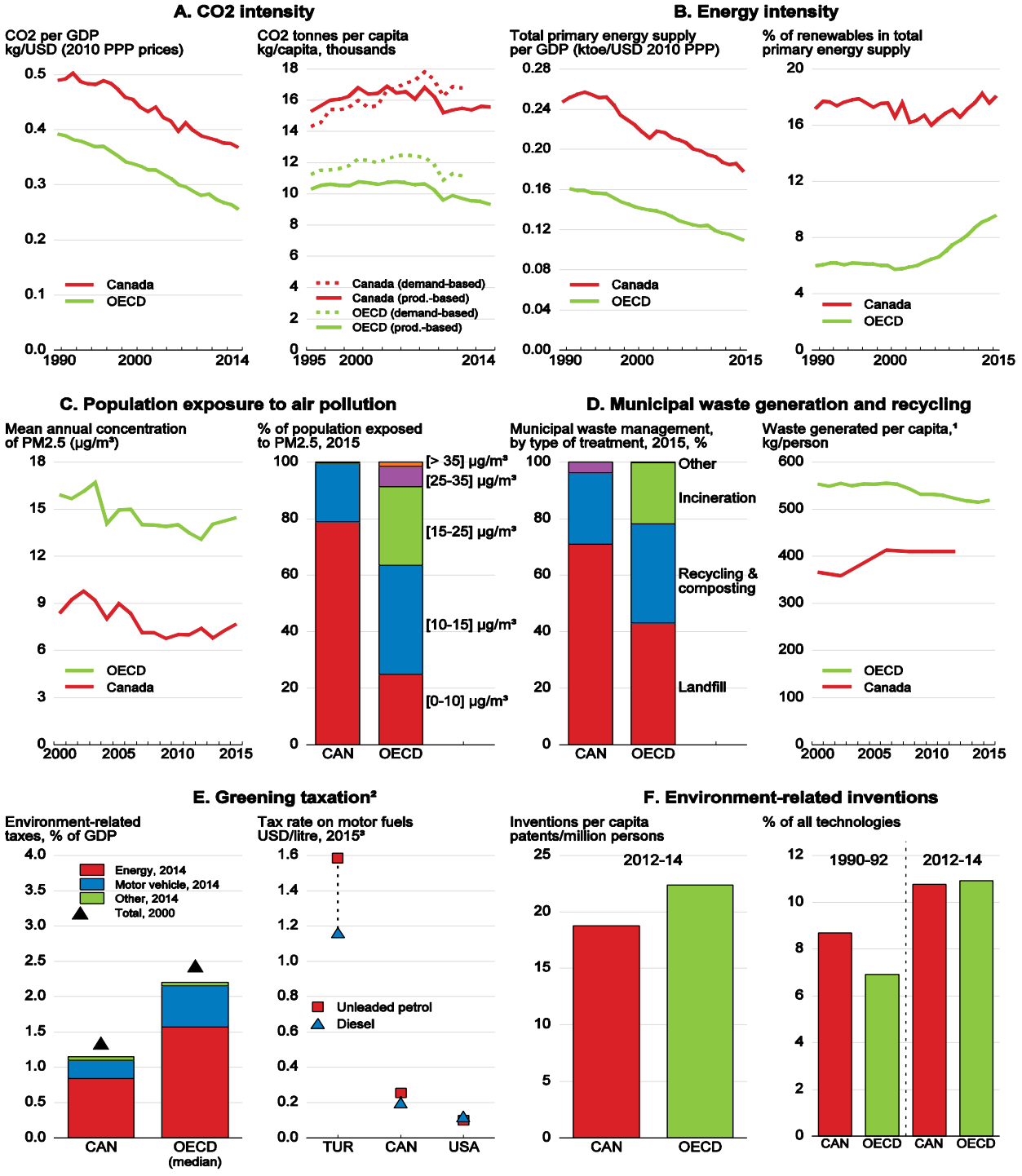
The federal government projects that emissions in 2030 will be 583 megatonnes (MT) of CO_2, 13% greater than Canada's COP21 commitment (Government of Canada, 2017[83]). However, these projections do not account for expected reductions from public transit, clean technology and innovation investments, and stored carbon, or for new policies that may be implemented by governments between now and 2030. Canadian governments have committed through the PCF to report on progress annually and take stock of results in order to increase ambition over time. Even if the COP21 target were to be met, Canada would still have high emissions intensity relative to most other countries that meet their Paris targets, suggesting that it will need to do much more to make its own abatement an effective contribution to limiting global warming.

Now that the two largest provinces have included transport fuels in their cap-and-trade system, bringing them into line with Alberta and British Columbia and more generally with the federal carbon-pricing benchmark, setting a tight cap on emissions could, as prices rise, eventually make many other overlapping and potentially expensive policies redundant, such as targeting transport emissions using incentives for zero-emission cars, fuel standards and vehicle economy standards. To contain the risk that a tight cap results in a politically unacceptable carbon price, a limit on the price of allowances could be set. Where carbon taxation is being used, the price should be adjusted to ensure that projected outcomes remain on track.

Good spatial planning policies, which ensure that urban planning avoids generating excessive needs for mobility, remain important for achieving abatement objectives (OECD/IEA/NEA/ITF, 2015[84]; OECD, 2017[85]). As "good practice" is not always well defined in spatial planning, experimentation – with proper evaluation – should be encouraged.

Canada's energy extraction industry emits almost 200 million tonnes annually, nearly 30% of total emissions. Under Alberta's Climate Leadership Plan, the province has committed to limit oil-sands emissions to 100 million tonnes through a form of carbon pricing (since 2007, facilities that emit 100 000 tonnes or more of GHGs per year are subject to a carbon price on emissions beyond a free allocation determined by benchmarks; since January 2018 these benchmarks are set by high-performing industry peers or competitors that produce the same or similar products). At 70 million tonnes per year, such emissions are currently well below this limit.

Figure 36. Environmental indicators



1. Canadian data refer to waste from households (as proxy for municipal waste).
2. Includes taxes at both central and lower levels of government.
3. 2014 for the United States.

Source: OECD (2018), *OECD Environment Statistics database* (Green Growth Indicators: Exposure to Air Pollution, Patents: Technology Development, Municipal Waste); OECD *National Accounts database*; IEA (2018), *IEA World Energy Statistics and Balances database*; *IEA Energy Prices and Taxes database*.

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Alberta's oil-sands industry also generates liquid waste that is stored in tailings ponds. The Government of Alberta released a new Fluid Tailings Management directive in 2016, an outcomes- and risk-based approach that holds operators accountable for managing their fluid tailings. The Alberta regime also requires reclamation by companies, at the end of a project's life, to return the land to how it looked before development took place and requires financial security for these purposes. However, some groups express concerns that companies are not fully complying with the directives (McNeill and Lothian, 2017[86]; Natural Resources Defense Council and Environmental Defense Council, 2017[87]).

Revenues from environmental taxes (at all levels of government) are considerably lower than in most other countries, largely because of low energy taxation (Figure 35, Panel E). While the average tax rate on motor fuel is higher than in the United States, it is much lower than in Europe. Diesel is taxed at a lower rate than gasoline, even though its environmental externalities are higher. Application of congestion and road pricing remains limited and should be expanded to reduce negative effects from vehicle use, including associated environmental pollution. Expanding landfill charges would encourage waste prevention and recycling, as a large share of Canadian waste goes into landfill (Panel D).

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Annex. Progress in structural reform

This Annex reviews actions taken on recommendations from previous Economic Surveys that are not covered in tables within the main body of the Assessment and Recommendations. Recommendations that are new to this Survey are listed at the end of the Executive Summary and the relevant chapter.

Recommendations in previous *Surveys*	Actions taken since May 2016 and current assessment
A. Product market competition	
Grant the Competition Bureau the power to require provision of relevant information in the context of conducting market studies and advocacy activities. Require federal government agencies to "comply or explain" in response to the Bureau's recommendations	No action taken.
To level the playing field between cable and satellite companies and new media, consider subsidising Canadian content through general taxation.	No action taken.
Consider deeper integration within North America to establish a common aviation market.	No action taken.
Assess the impact of the current ownership structure of large Canadian airports on efficiency and cost competitiveness. Consider selling the largest airports to one or more private companies or set of investors. Alternatively, convert existing airport authorities into one or more for-profit corporations and sell the airport land. At a minimum, tie airport rents to profits or land values rather than revenues by moving towards a for-profit structure for airport authorities.	The federal government is reviewing its policies concerning airports and their governance, in line with its Budget 2016 commitment to look for ways to increase the affordability and sustainability of infrastructure in Canada where that would be in the public interest. No decisions have been taken.
Investigate the extent to which the current slot allocation system at constrained airports is reducing competition and system wide-efficiency. Consider implementing a more competitive process for slot allocation, such as establishing a secondary market, or broadening congestion-based pricing.	No action taken.
Eliminate revenue caps on western grain shipments by rail.	The federal government decided to maintain the caps.
Determine whether the expanded inter-switching zone for Prairie provinces' commodity shipments has led to net benefits for the economy; otherwise allow the provisions to lapse in August 2016.	The provisions were extended indefinitely.
B. Financial–sector policies	
Extend participation in Cooperative Capital Markets Regulatory System to provinces and territories not already participating.	The governments of British Columbia, New Brunswick, Ontario, Prince Edward Island, Saskatchewan, the Yukon and Canada participate. They continue to invite all other provinces and territories to participate.
Move towards a national corporate registration system.	No action taken.
C. Taxation	
Eliminate GST zero rating for basic groceries.	No action taken.
At the provincial level, increase taxes from non-renewable resource development, and raise the share of revenues saved.	No action taken.
Make more use of property taxes and user fees by municipalities, while easing the property tax burden on firms. As their tax base becomes more sustainable, reduce local authorities' reliance on provincial transfers by granting them more revenue-raising powers.	No action taken.
D. Social and labour market policies	
Adopt employer- or employee-targeted measures that improve the insurance and incentive basis of the Employment-Insurance (EI) programme, thereby cutting repeat use, and enhance opportunities for seasonal workers to retrain.	No action taken to improve the insurance and incentive basis of the EI programme. Additional investments through Labour Market Development Agreements with key provinces were announced in Budget 2018 to help seasonal workers to retrain.
E. Tertiary education and skills shortages	
Increase differentiation between institutions that engage in research and those that focus primarily on teaching, as has occurred in Ontario.	No action taken.
Promote a more flexible delivery model of higher education to encourage skills upgrading by strengthening credit transfer arrangements between tertiary education institutions and provinces.	No action taken.
In provinces with constrained public finances, evaluate whether tuition policies undermine institutional quality and competitiveness.	No action taken.

Recommendations in previous *Surveys*	Actions taken since May 2016 and current assessment
Replace the lifetime capital gains tax exemption by a more targeted measure of benefit to high-potential young firms.	No action taken.
Review Business Development Bank of Canada (BDC) programmes to ensure that they are focused on efficiently addressing clear capital-market failures. Encourage the BDC venture capital arm to shift from direct seed capital investments to passive side-car investments with angel investors.	The BDC has a legislative mandate to offer services that are complementary to those offered by private financial institutions. Through its annual corporate reporting process, the BDC has provided the government updates on how it is meeting its complementarity mandate, including changes to its venture capital strategy and lending to women entrepreneurs. The BDC will undergo a more in-depth legislative review in 2020 that assesses its effectiveness in the current economic and financial climate.
Subject the Industrial Research Assistance Program (IRAP) and other R&D support programmes to rigorous cost-benefit evaluations.	As an outcome of the 2017 horizontal review of federal business innovation programmes, the Government of Canada will be collecting better data to be able to evaluate interventions in a robust manner, with new funding for this purpose provided in Budget 2018 to Statistics Canada and the Treasury Board Secretariat.
Encourage tertiary education institutions to include training in entrepreneurship and business skills in their science-based programmes.	Collaborative networks/partnerships are being established between employers and post-secondary education institutions through the Student Work Placements programme to promote entrepreneurial skills and experiences for STEM students. Budget 2017 provided CAD 221 million over five years, starting in 2017–18, to provide work experience in businesses to Canadian post-secondary students, generally at the graduate-level. Funding is delivered by Mitacs, a not-for-profit organisation that builds partnerships between industry and educational institutions and has the goal of providing 10,000 work-integrated learning placements for Canadian post-secondary students and graduates each year—up from the 2017 level of 3,750 placements.
Scale up business development support for growth-oriented female ventures.	BDC has committed to investing CAD 200 million in women-led technology firms over 2018-19 to 2022-23.
F. Energy and environmental policies	
Act on Canadian governments' Vancouver declaration to ensure that an adequate price is placed on carbon emissions across the country to allow Canada to meet its international commitments.	The federal, provincial and territorial governments adopted the Pan-Canadian Framework on Clean Growth and Climate Change (PCF) in December 2016. A core component is ensuring that GHG emissions are subject to a minimum price across the country. The price is to rise from CAD 10 per tonne of CO_2 equivalent in 2018 to CAD 50 by 2022. All provinces and territories except Saskatchewan have signed on to the PCF. The federal government will introduce an explicit carbon-pricing system, which will apply in jurisdictions that do not have carbon pricing in place by end-2018.
Make greater use of road-use charging and parking fees to encourage commuters to switch to public transit.	No action taken.
Regularly review water pricing and rights to ensure efficient use. Check that Alberta's water allocation and licence transfer processes reach conservation objectives.	No action taken.
Review the efficiency of promoting corn and cellulosic ethanol and other biofuels. Rather than imposing regulatory mandates, offer increased research subsidies or prizes for technological breakthroughs if a carbon tax or permit trading is infeasible in agriculture.	No action taken.
Review the oil-sands tenure process regularly, and remove the exploration/production requirement to make it consistent with Alberta's sustainability objectives.	No action taken.
Provide clear guidelines for resource companies on how to engage with affected Aboriginal groups so that projects bring long-term benefits to these communities.	The federal government recently tabled legislation in Parliament outlining a new impact assessment regime that proposes better rules for major project reviews to protect Canada's environment and grow the economy. These rules include: early, inclusive and meaningful public engagement; nation-to-nation, Inuit-Crown, and government-to-government partnerships with Indigenous peoples; timely decisions based on the best available science and Indigenous traditional knowledge; and sustainability for present and future generations.
G. Agricultural policies	
Phase out the supply management regimes by the progressive introduction of market forces, in particular, for milk and eggs.	The Senate tasked Ernst and Young to report on the effects of supply management. This report has not been published.

Chapter 1. Increasing inclusiveness for women, youth and seniors

Women, youth and seniors face barriers to economic inclusion in Canada, with considerable scope to improve their labour market outcomes. There has been no progress in shrinking the gender employment gap since 2009, and women, particularly mothers, continue to earn significantly less than men, in part due to a large gap in unpaid childcare responsibilities. Outside the province of Québec, low (but increasing) rates of government support for childcare should be expanded considerably, as should fathers' low take-up of parental leave. Skills development should be prioritised to arrest declining skills among youth and weak wage growth among young males with low educational attainment. Fragmented labour market information needs to be consolidated to address wage penalties associated with the widespread prevalence of qualifications mismatch. Growth in old-age poverty should be tackled through further increases in basic pension payments over time. Linking changes in the age of eligibility for public pensions to life expectancy would boost growth by increasing employment of older Canadians still willing and able to work. For all three groups, well-targeted expansions of in-work tax benefits and active labour market spending have the potential to increase employment.

Inclusive growth is economic growth that creates opportunities for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society. Inequality of opportunity undermines growth prospects in the long term and the ability of countries to meet the expectations of their residents, with the potential to derail support for policies that offer the potential for faster economic growth. Inclusive growth is particularly important in high-income countries today, as income inequality has reached levels unprecedented in the post-war period. In several policy areas there are opportunities for "win-win policies" that deliver improved inclusiveness as well as productivity growth (OECD, 2016[1]).

Canada's income inequality is close to the OECD average, and its intergenerational income mobility is high. However, some groups within Canada do not fare so well and the relative poverty rate is above the OECD average. This chapter focuses on opportunities to improve outcomes for three groups that face barriers to social and economic inclusion: women, youth and Canadians aged 55 and above ("seniors"). Socio-economic outcomes for Indigenous populations are also worse on average than for other Canadians on a number of measures, and some immigrants never overcome their disadvantages relative to the Canadian-born population (see Chapter 2).

How inclusive is growth in Canada?

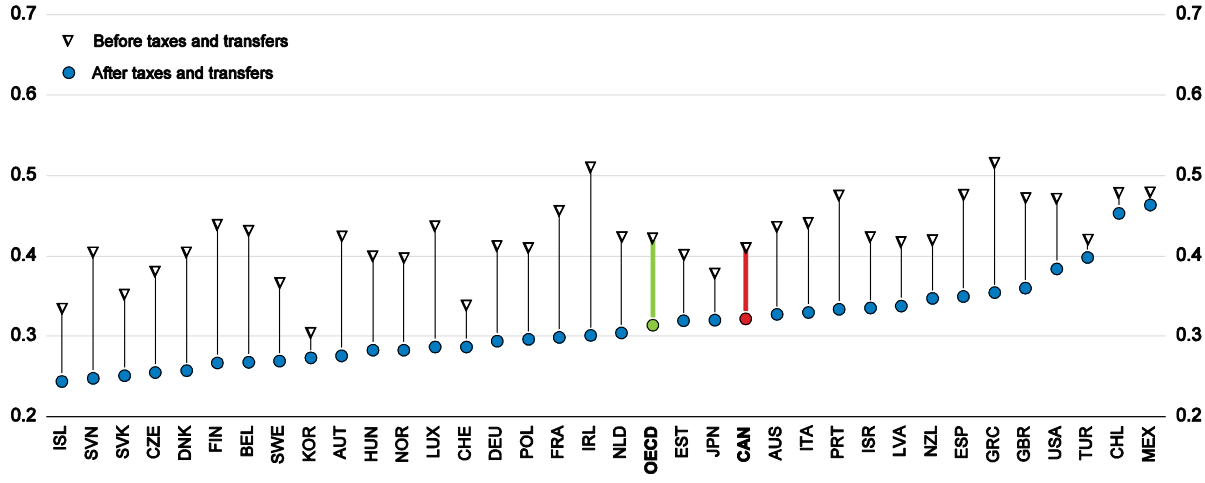
Canada scores highly in all dimensions of the OECD's Better Life Index (OECD, 2017[2]), but this does not mean that all Canadians experience high well-being. A more granular assessment shows that there is considerable scope to improve employment outcomes and incomes for women, youth and older Canadians, which motivates the focus on labour market inclusiveness in the chapter. The comparisons in this section are based on a multi-dimensional assessment of inclusiveness that encompasses incomes, jobs and health, following the OECD framework for inclusive growth (OECD, 2014[3]).

Income inequality

Income inequality in Canada has changed little during the 2000s and is close to the OECD average, reflecting relatively low inequality in gross incomes (Figure 1.1). Relative poverty rates also fall in the middle of the range for OECD countries and have edged up slightly since the mid-1990s (Figure 1.2). The reduction in income inequality through taxes (broadly defined) and transfers is less than the OECD average, primarily due to the small size of cash transfers (Causa and Hermansen, 2017[4]). Personal income taxes achieve a similar degree of redistribution to the OECD average, while social security contributions are regressive (abstracting from their key role in financing redistributive transfers), because the low cap means these take a larger share of income for low-income earners. Canadian cash transfers are more targeted to low-income households than the OECD average, but less so than in several countries with similar political systems, notably New Zealand, Australia and the United Kingdom (Causa and Hermansen, 2017[4]). Overall, modest redistribution through taxes and transfers heightens the importance of better targeting of inclusiveness policies for women, youth and seniors, which the recommendations in this chapter seek to achieve.

Figure 1.1. Canada's income distribution is near average, but redistribution is modest

Gini coefficients for the working-age population, scale from 0 (perfect equality) to 1 (perfect inequality), 2016 or latest available year[1]



1. 2014 data for the OECD aggregate.
Source: OECD, *Income Distribution database*, http://www.oecd.org/els/soc/income-distribution-database.htm.

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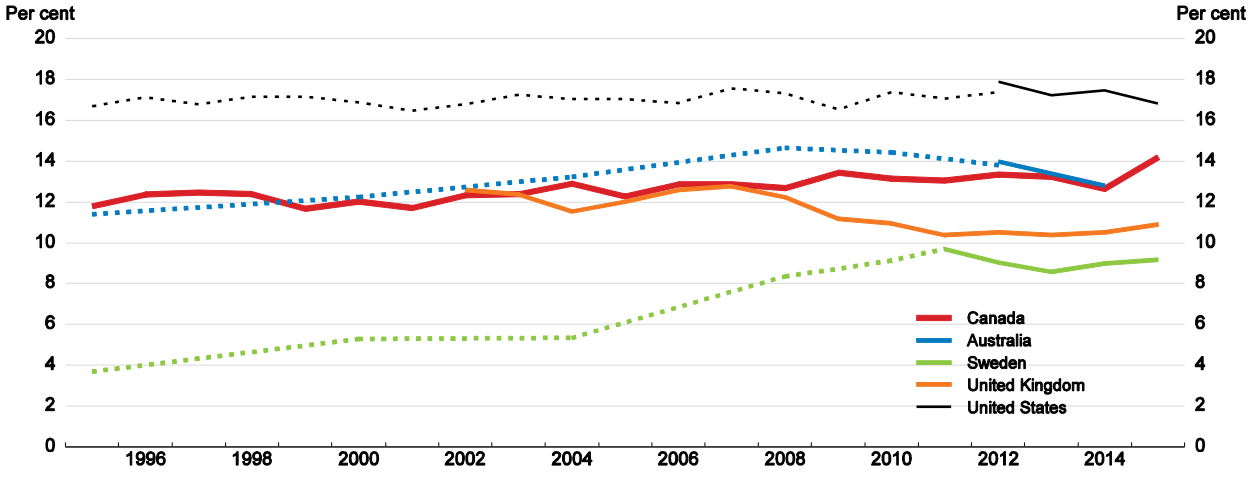
Figure 1.2. Canada's relative poverty rate after taxes and transfers is also middling

Poverty line at 50% of median disposable income[1]



1. Dotted lines are data under the old, pre-2012 income definition. The OECD average is not available due to series breaks between old and new income definitions, which are inconsistent across countries.
Source: OECD (2017), *Income Distribution database*, http://www.oecd.org/els/soc/income-distribution-database.htm.

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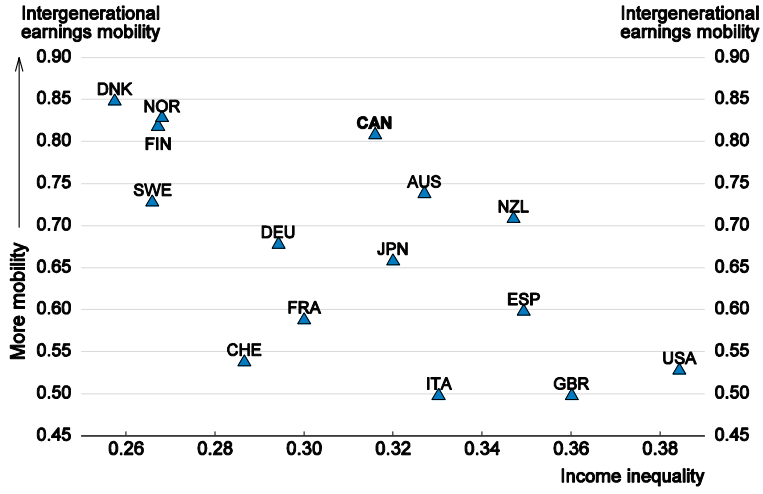
Canada is, however, a strong performer on intergenerational mobility, which is critical to ensure that all socio-economic groups can access opportunities from economic growth, to make the most of the capabilities of all Canadians and to avoid the creation of poverty traps. Intergenerational income mobility is particularly high given mid-range aggregate income inequality (Figure 1.3). Intergenerational mobility is also strong when measured in terms of the share of top-performing students from disadvantaged backgrounds, which approaches outcomes from several of the OECD's best-performing education systems (Figure 1.4). Canada is one of just eight OECD countries that perform above the OECD average in at least 9 out of 11 outcome indicators relating to equality of opportunities in education (OECD, 2017[5]).

Figure 1.3. Canada performs extremely well on intergenerational income mobility[1]



1. Income inequality is measured by the Gini coefficient for household disposable income of the working-age population in the mid-2010s. Intergenerational earnings mobility is measured as one minus the elasticity between paternal earnings and a son's adult earnings, using data on a cohort of children born, roughly speaking, during the early- to mid-1960s and measuring their adult outcomes in the mid- to late-1990s. See Corak (2006) for more details.

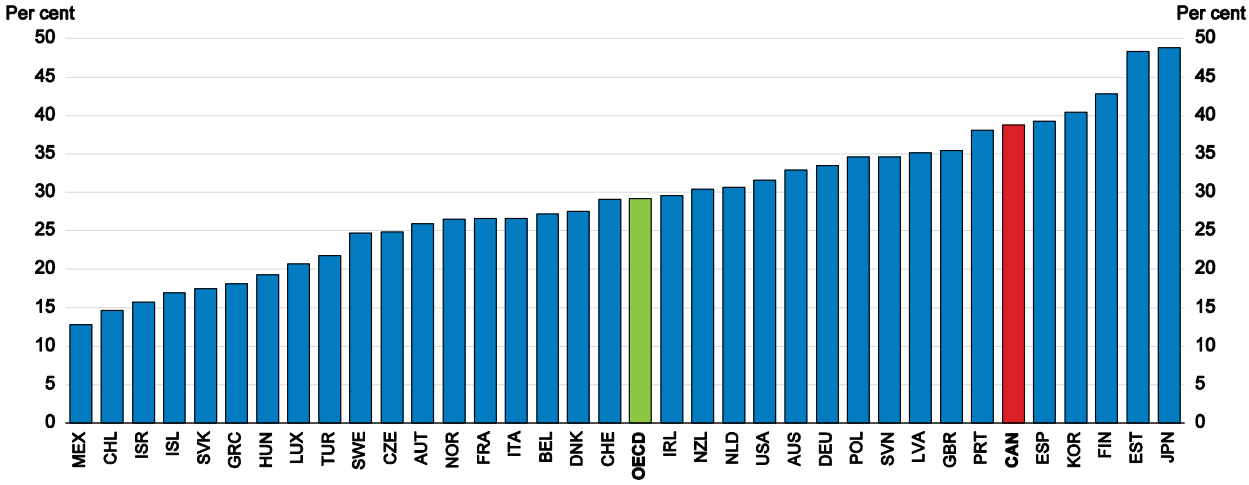
Source: OECD, *Income Distribution database*; M. Corak (2013), "Inequality from Generation to Generation: the United States in Comparison", Chap. 6 in R. Rycroft (ed.), *The Economics of Inequality, Poverty and Discrimination in the 21st Century*, ABC-CLIO, Santa Barbara, CA; M. Corak (2006), "Do Poor Children Become Poor Adults? Lessons for Public Policy from a Cross-Country Comparison of Generational Earnings Mobility", *Research on Economic Inequality*, Vol. 13, pp. 143-188.

StatLink http://dx.doi.org/10.1787/888933780207

Some groups in Canada do not fare as well on measures of inclusiveness. Regional disparities in household disposable income are high by OECD standards and have increased since the mid-1990s as incomes in resource-rich provinces have moved further ahead (Figure 1.5). Of greater importance for inclusiveness, median incomes for Indigenous Canadians are below those of the non-Indigenous population (by more than 30% for the First Nations population) (Figure 1.6). A wide range of Canadians, particularly youth, are adversely affected by rapid increases in housing prices in major centres. This decreases disposable incomes of those who have recently purchase houses and those affected by high rents, which have increased by 8% in real terms over the past decade (CMHC, 2017[6]).

Figure 1.4. Many students from disadvantaged backgrounds perform well

Percentage of top-performing students with a low socio-economic background[1]



1. Students in the bottom quarter of the PISA index of economic, social and cultural status (ESCS) in the country/economy of assessment and performing in the top quarter of students among all countries/economies, after accounting for differences in socio-economic status across countries.

Source: OECD (2016), *PISA 2015 Results (Volume I): Excellence and Equity in Education*, Table I.6.7.

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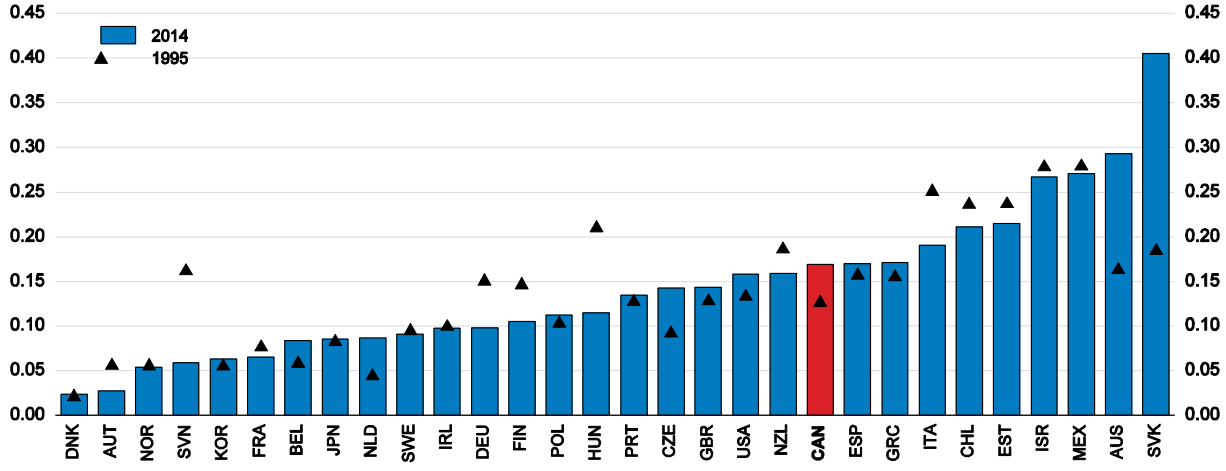
Figure 1.5. Regional disparities in household disposable income are high and increasing

Coefficient of variation of regional disposable income



Source: OECD (2016), *OECD Regions at a Glance 2016*, Figure 1.5.

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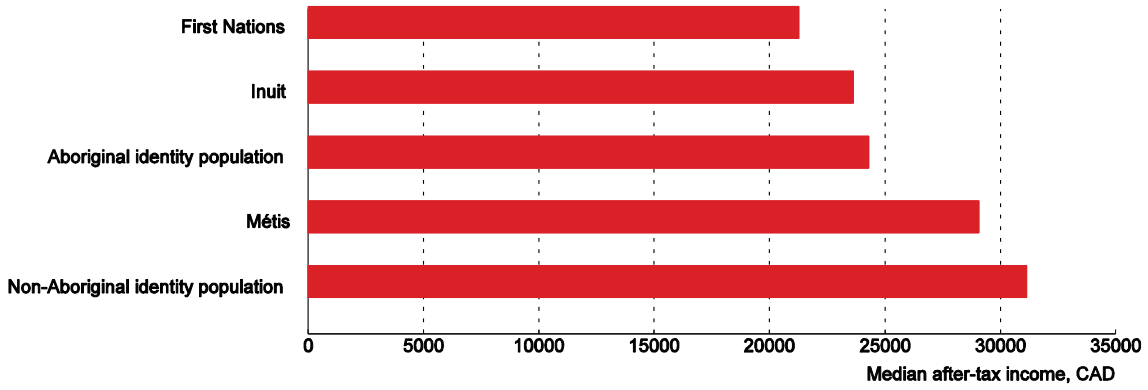
Figure 1.6. Median per capita after-tax income by Aboriginal identity

Population aged 15 years and older, 2016



Source: Statistics Canada, *2016 Census*, Catalogue Number 98-400-X2016170.

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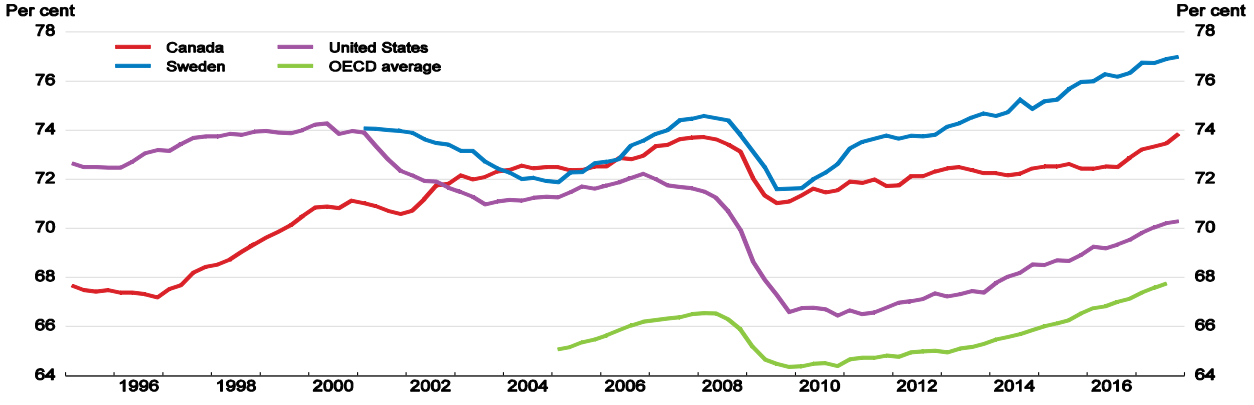
Employment

There is considerable room to improve employment rates in Canada, including among women, youth and older Canadians. For the working-age population, employment rates exceed the OECD average but have seen little increase since the years prior to the crisis and have fallen further behind leading OECD countries such as Sweden (Figure 1.7). Results from panel regressions applying the methodological approach of Bassanini and Duval (2006[7]) indicate scope to increase employment for all three groups that are the focus of this chapter by improving policy settings to match those of leading OECD countries (Figure 1.8). Potential benefits are greatest for women, associated with increasing public expenditure on early childhood education and care (ECEC) and active labour market programmes (ALMPs). Increased spending on ALMPs, and tailoring them to the needs of youth and seniors, also has the potential to boost employment among these groups, while increases in the normal retirement age could raise employment among older Canadians and also deliver budgetary savings. Policy recommendations made in this

Figure 1.7. Employment rates for 15-64 year-olds are high but growing only slowly



Source: OECD, *Short-Term Labour Market Statistics database*.

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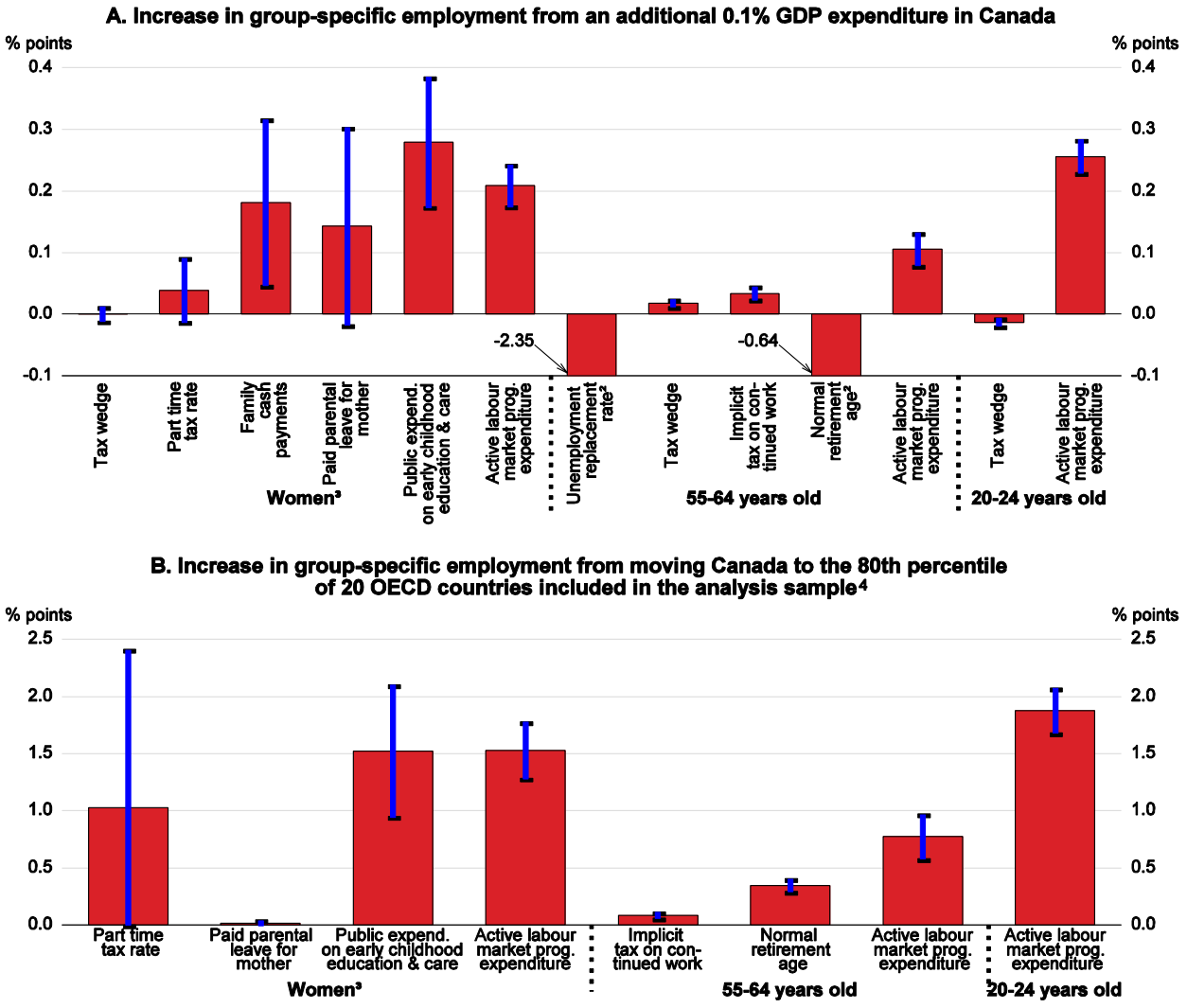
Figure 1.8. Cross-country regression of policy determinants of employment[1]



1. Columns show the estimated increase in group-specific employment rates, based on applying cross-country panel regression results to policy and budgetary data for Canada, using statistically significant parameter estimates only. Vertical blue lines represent confidence interval of ±1 standard errors around regression coefficients. Other control variables include union density, employment protection legislation, product market regulation, education for women and youth, number of children per woman, the estimated output gap, and country and year dummy variables. The analysis was undertaken separately for prime-aged women (aged 25 to 54), older workers and youth, with each estimated jointly with a prime-aged male employment equation using seemingly unrelated regression estimation applied to data for 1982 to 2014.
2. Reducing expenditure via reducing unemployment benefit replacement rates or increasing the normal retirement age is estimated to increase employment for those aged 55-64.
3. Estimates for women are a combination of estimated effects on full-time employment and on part-time employment, with the latter given a relative weighting of 0.75. Parameter estimates that are significant for one or both full- and part-time are included.
4. Canada is already at or above the 80th percentile for family cash payments, the (small) size of the tax wedge, and the (low) unemployment replacement rate.
Source: OECD estimates using data from 1982-2014, based on the approach in Bassanini and Duval (2006) and estimating budgetary costs in Canada using Statistics Canada (2017), SPSD/M database and model. For analysis using SPSD/M, the assumptions and calculations underlying the simulation results were prepared by OECD staff and the responsibility for the use and interpretation of these data is entirely that of the authors.

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chapter rely on a broader range of evidence than just cross-country panel analysis, as this can be sensitive to sample variation, heterogeneity in the effects of policies across countries and endogeneity between policy reforms and outcomes (Bassanini and Duval, 2006[7]).

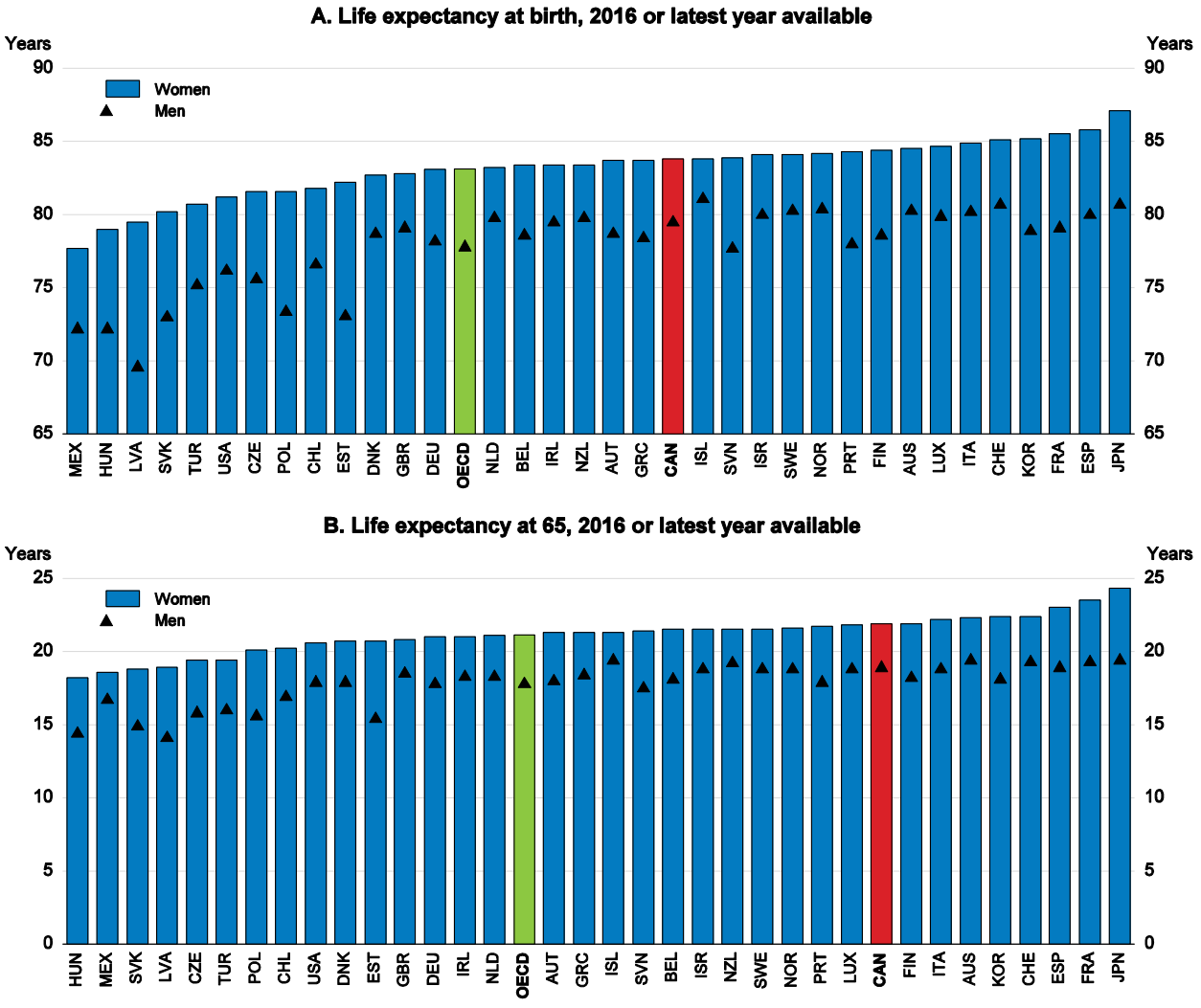
Indigenous Canadians trail the rest of the population in terms of participation and employment, which is an inclusiveness challenge but also an opportunity. The employment rate for the Indigenous population lagged that of the rest of the population by around 5 percentage points in 2016, similar to New Zealand Maori but only around one quarter of the gap between Indigenous and non-Indigenous Australians (Statistics Canada, 2017[8]; Australian Government, 2017[9]; MBIE, 2017[10]). The Indigenous share of the working-age population is projected to increase from 3.5% in 2011 to 4.4% in 2036. One-fifth of labour force growth in the next 20 years would be Indigenous if the labour force participation gap with other Canadians were to close (Drummond et al., 2017[11]). Lower educational attainment is one reason for poorer employment outcomes among Indigenous Canadians. Providing high-quality, culturally responsive ECEC to Indigenous children has been found to be the single most effective lever to improve education outcomes amongst Indigenous children (OECD, 2017[12]). The federal government has committed CAD 360 million over three years to engage with Indigenous Peoples to develop an Indigenous Early Learning and Child Care Framework.

Population health

Canada has strong health outcomes in aggregate, reflected, for example, by high life expectancy at birth and at age 65 (Figure 1.9). The gap in life expectancy between those with high and low levels of education is among the smallest in the OECD (OECD, 2017[13]). Smoking and alcohol consumption are below the OECD average, but obesity rates are high. Indicators for access to and quality of health care are generally good, achieved under a system featuring universal coverage with a level of health spending not much higher than the OECD average (OECD, 2017[13]). However, a rapidly ageing population and the diffusion of new medical technologies will place a bigger burden on the health-care system over the coming decades. This includes increasing demand for long-term care, discussed further below with regard to inclusiveness for seniors.

As for incomes and employment, the Indigenous population is disadvantaged in terms of health outcomes. Indigenous people are less likely to report very good or excellent health, have higher rates of smoking and heavy drinking, and are more likely to report difficulty accessing first-contact health-care services (Statistics Canada, 2017[14]; Clarke, 2016[15]). Indigenous people trail non-Indigenous people in life expectancy, with the gap ranging from around five years (First Nations and Métis) to more than 10 years (Inuit) (Chief Public Health Officer, 2016[16]). Appropriately, the federal government has made improving health outcomes for Indigenous Canadians a priority and allocated additional funding of CAD 1.5 billion over five years in the 2018 budget.

Figure 1.9. Life expectancy



Source: OECD, *Health database*.

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Labour market policy issues relevant for women, youth and seniors

In-work benefits

In-work benefits are employment-conditional cash transfers (including via the tax system) to individuals or families facing particular labour market challenges. They are an attractive policy option due to their capacity to reduce inequality at the same time as increasing employment (Immervoll and Pearson, 2009[17]). While certain economic or institutional traits can limit the pay-off from in-work benefits or make them more costly, such as a narrow earnings distribution or high tax rates and benefits, these conditions are not present in Canada to the same extent as in some European countries. Where the wages of potential recipients of in-work benefits are low, these transfers can make a big difference to incomes and work incentives. In-work benefits have important interactions

with other labour market policies, notably minimum wages (discussed below), which can prevent employers from "pocketing" the value of in-work tax benefits by reducing wages.

In Canada, the Working Income Tax Benefit (WITB), introduced in 2005, is a refundable tax credit intended to provide tax relief for eligible low-income individuals and families who are already in the workforce and to encourage others to enter it. Each province/territory is permitted to tailor settings to their needs; this option has been taken up by Québec, British Columbia, Alberta and Nunavut. Single mothers and people under 30 are more likely than other Canadians to claim WITB credits (Department of Finance Canada, 2016[18]). In 2017, the federal government spent 0.05% of GDP on the WITB (CAD 1.2 billion) compared with around 0.4% of GDP on similar tax credits in the United Kingdom and the United States. From 2019, the WITB will be renamed the Canada Workers Benefit, with access made automatic to those eligible and spending increased to around 0.09% of GDP in 2019.

In-work benefits are most effective when customised to the distribution of working hours and earnings in the population, which for Canada means that there are likely to be benefits from provinces tailoring the implementation of the Canada Workers Benefit to the specific context of their populations and tax schedules. Recommendations regarding potential benefits from expanding in-work benefits to specific groups are picked up where relevant in the rest of the chapter.

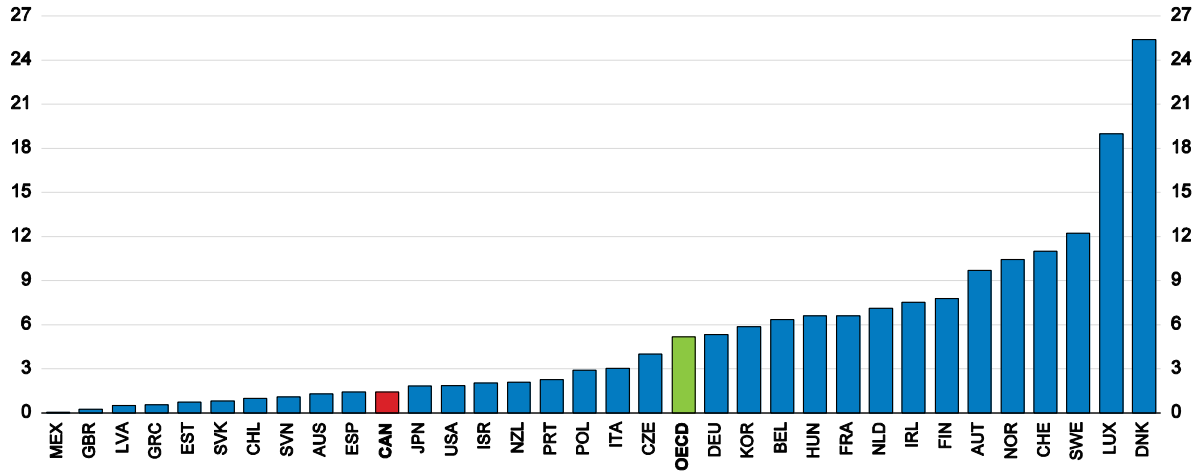
Active labour market policies (ALMPs)

ALMPs seek to get more people into jobs or improve the match between workers and vacancies, through support for those looking for work, such as job-search assistance and training. In Canada ALMPs are predominantly funded by the federal government and delivered by the provinces through Labour Market Transfer Agreements. Federal spending on ALMPs in 2015 was low in Canada compared with other OECD countries (Figure 1.10). In 2017 the federal government increased funding for Labour Market Transfer Agreements by around 15%, broadened program eligibility and gave greater flexibility to the provinces in how they meet the needs of their local labour markets. While it is too early to assess the precise impacts, these changes should help to reverse substantial reductions in funding available to disadvantaged jobseekers from 2014, such as those ineligible for Employment Insurance support and people with low education or skills (Caledon Institute, 2014[19]). ALMP spending in Canada is concentrated on training, which can have long-term positive impacts on participation, employment and earnings, but can also reduce short-term employment as participants have less time for job search.

Re-employment rates for displaced workers are lower in Canada than in Australia, New Zealand and the United States, but higher than in France (OECD, 2015[20]). Prior to recent Labour Market Transfer Agreement changes, many displaced workers – especially those involved in small-scale or individual layoffs – have had access only to basic job-search assistance. Federal responsibility for Employment Insurance payments and provincial delivery of re-employment support can make the system difficult to navigate and weaken the clarity of mutual obligations for benefit recipients (OECD, 2015[20]). Older displaced workers face the poorest re-employment prospects, while unemployment among youth has the potential to lead to long-term fiscal and welfare costs associated with scarring effects, particularly among disadvantaged youth (OECD, 2014[21]).

Figure 1.10. Spending on active labour market programmes per unemployed person is low[1]

In thousand USD PPPs, 2015 or latest available year



1. Data include federal expenditures on programmes implemented by the provinces and territories, but do not generally include the provinces' additional or complementary funding of these programmes.
Source: OECD, *Labour Market Programmes/National Accounts/Annual Labour Force Statistics databases*.

StatLink http://dx.doi.org/10.1787/888933780340

Further increasing funding for well-designed ALMPs has the potential to boost the employment of women, youth and older workers (Figure 1.8 above). Careful evaluations of ALMPs internationally reveal a mixed record but also show that well designed and targeted measures can increase the employability of jobseekers and their employment opportunities in a cost-effective manner (OECD, 2015[22]). Higher ALMP spending is associated with higher GDP growth as well as greater resilience in terms of a lower likelihood of extreme negative growth events (Caldera-Sanchez et al., 2016[23]). The effectiveness of in-work tax benefits is likely to be strengthened when they are combined with well-designed ALMPs, as demonstrated by the results of Canada's Self-Sufficiency Project (OECD, 2005[24]; Immervoll and Pearson, 2009[17]). Adverse employment effects of generous unemployment benefits have also been found to be less common in countries that spend more on ALMPs (OECD, 2006[25]).

A systematic review of the effectiveness of existing ALMPs and their congruence with the employment barriers faced by youth, women and older workers would provide a sound basis for identifying gaps in currently available employment-support programmes. Such a review could draw on new data from the shared performance measurement strategy included in the new Labour Market Transfer Agreements. There is scope to expand funding in a number of ways, including by reinstating more assistance for disadvantaged jobseekers, relaxing eligibility conditions for successful programmes such as Ontario's Second Career Program (Malatest, 2016[26]), or providing more immediate and better-tailored assistance through systematic early needs assessment.

Minimum wages

Recent and prospective minimum wage increases (Table 1.1) will increase wages for employees at the bottom of the distribution, benefitting a relatively larger share of youth and women. In 2016 minimum wages in Canada averaged 46% of the median wage, just below the 50% average across 27 OECD countries for which data are available (OECD, 2017[27]).

Table 1.1. Scheduled minimum wage increases vary considerably across provinces

	Minimum wage as of:		Percentage increase
	1 January 2017	1 January 2019	
Newfoundland and Labrador	10.50	11.22	6.9
Prince Edward Island	11.00	11.55	5.0
New Brunswick	10.65	11.22	5.4
Nova Scotia	10.70	11.07	3.4
Québec	10.75	12.00	11.6
Ontario	11.40	15.00	31.6
Manitoba	11.00	11.35	3.2
Saskatchewan	10.72	11.18	4.3
Alberta	12.20	15.00	23.0
British Columbia	10.85	12.65	16.6

Note: In provinces where minimum wages as of 1 January 2019 are yet to be announced, these were calculated based on minimum wages as of 1 January 2018, incorporating 2% CPI growth where minimum wages are indexed to the CPI.

Source: (Brouillette et al., 2017[28]); (Province of British Columbia, 2018[29]).

There is a risk of reducing employment if minimum wage increases are not properly differentiated (for example, across age groups or regions) and kept in line with the productivity of low-skilled workers. A statutory minimum wage is likely to reduce employment if set above a particular (albeit uncertain) level relative to the median. Young workers are most likely to be vulnerable to job losses resulting from a high level of the minimum wage, particularly as some provincial legislation stipulates lower minimum wages only for a small share of youth, such as students under 18. Nor do minimum wages differentiate for the higher cost of living (and average wages) in major cities such as Toronto and Vancouver. Most studies for Canada find that minimum wage increases have a statistically significant negative effect on employment, especially for younger workers, and researchers at the Bank of Canada have estimated that minimum wage increases during 2018 will lead to a 0.3% decline in employment (Brouillette et al., 2017[28]).

Independent expert commissions, as used to determine wage increases in several OECD countries and the province of British Columbia, are well placed to consider a wide range of economic and social factors and make the necessary links between minimum wages and related policy areas. In general minimum wages are not well targeted toward poverty reduction, as in many cases they benefit individuals in non-poor households where other family members earn higher wages. Canadian studies have found that minimum wage increases have not reduced poverty rates, but have been successful in reducing inequality among wage earners (Green, 2015[30]).

Universal basic income

One approach to sharing the benefits of growth is a universal basic income paid to all citizens. This concept has garnered increasing interest with the advent of widespread automation and the threat of labour market disruption from technological change. In Canada the Ontario government in 2017 put in place a pilot project in three communities to study the idea of a basic income (albeit with a design that is very different to a truly "universal" payment as eligibility is limited to those on low incomes at the commencement of the trial and does not replace existing benefits). In December 2017, the Government of Québec released its new Action Plan to Foster Economic Inclusion and

Social Participation, which announced the progressive implementation of a basic income for social assistance recipients with a severely limited capacity for employment.

A universal "no questions asked" public transfer would be administratively simple, leave no-one without support and would not reduce work incentives for low-income earners in the same way as conditional or means-tested transfer payments (such as unemployment benefits) can do. However, the lack of targeting would mean either unrealistically low payments – replacing all non-elderly cash benefit spending would provide only enough funding for a universal payment of some 15% of the relative poverty line – or high fiscal costs, which if financed through increased income tax would reduce work incentives for households that already have significant earned income (OECD, 2017[31]). An entirely unconditional basic income would also sever links between the rights and responsibilities of jobseekers. In countries where transfer systems perform well replacing existing systems with a universal basic income would result in a very large reduction in progressivity and losses in benefits for many poor households (IMF, 2017[32]). To date, no country has put a basic income in place as a principal pillar of support for the working-age population.

Inclusiveness for women

Gender equality is a key focus of the current federal government, with all policy changes to be subjected to a new "gender results framework" and gender-based analysis of future budgets to be required by law (OECD, 2018[33]). A number of measures were taken in the 2018 federal budget to advance gender equality, including combatting gender-based violence and harassment. Considerable progress is still needed for Canada to meet the Sustainable Development Goals on gender equality, notably in relation to the gender wage gap, disparities in unpaid work, violence against women and representation in parliament (McArthur and Rasmussen, 2017[34]; OECD, 2017[35]). Problems in most of these dimensions are especially severe when it comes to Indigenous women.

Gender gaps in wages and employment reduce female incomes

Employment rates for Canadian women continue to lag those of men, with no progress in shrinking the gap since 2009 (Figure 1.11, Panel A). In part the lack of any recent progress reflects the recovery from a male unemployment spike during the downturn, which hit hardest in male-dominated sectors (Moyser, 2017[36]). However, progress in closing the gender participation gap has also slowed over the past decade (Panel B).

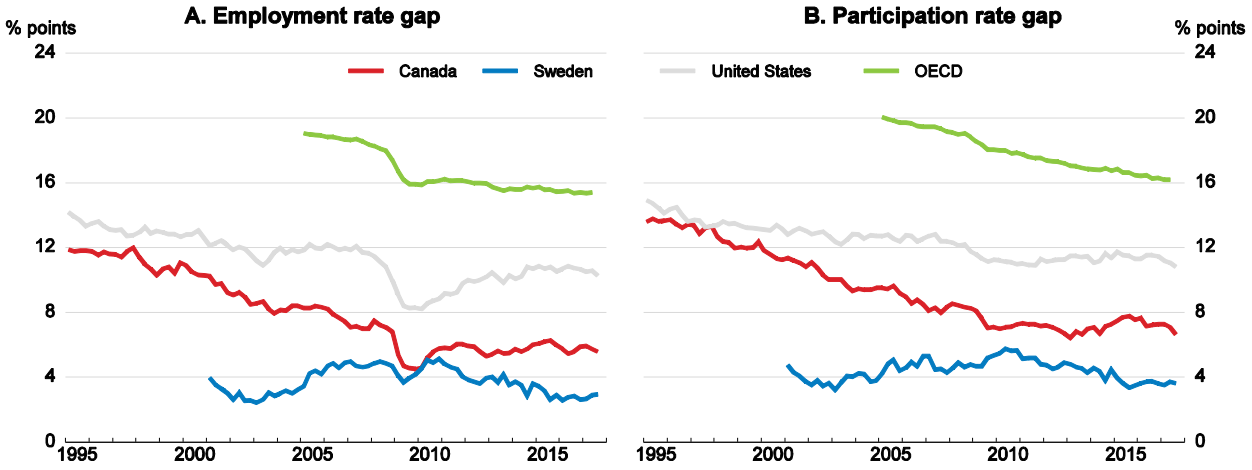
As elsewhere, low employment rates are concentrated among women with young children and single mothers. Women with a child aged under six have an employment rate around 10 percentage points lower than those with older children or no children, whereas men with children are more likely to work than those without, and the age of their youngest child has little effect. Single mothers of children up to the age of 18 have a similar employment rate to women with a child aged under six (Moyser, 2017[36]).

Geographic patterns in employment suggest that mothers of young children would like to work more if they had access to affordable childcare and other family-friendly measures (see below). The gender employment gap is greater in localities with high childcare fees, notably in Toronto and Vancouver, than in those with lower childcare costs, notably in the province of Québec, which introduced low-fee childcare in 1997. Comparison within a single urban area (Ottawa-Gatineau) illustrates the desire of women for greater employment where low-fee childcare (as well as other family-friendly measures) is

available: the gender employment gap on the Québec side is only 2.6 percentage points, compared with 7.3 points on the Ontario side (Moyser, 2017[36]). The desire for women to work more is consistent with survey evidence from Europe, where a substantial share of couples would prefer to have two earners than a single breadwinner (Steiber and Haas, 2015[37]).

Figure 1.11. Labour market gender gaps are relatively small but no longer shrinking

Difference between male and female rates, population aged 15-64 years old



Source: OECD, *Short-Term Labour Market Statistics database*.

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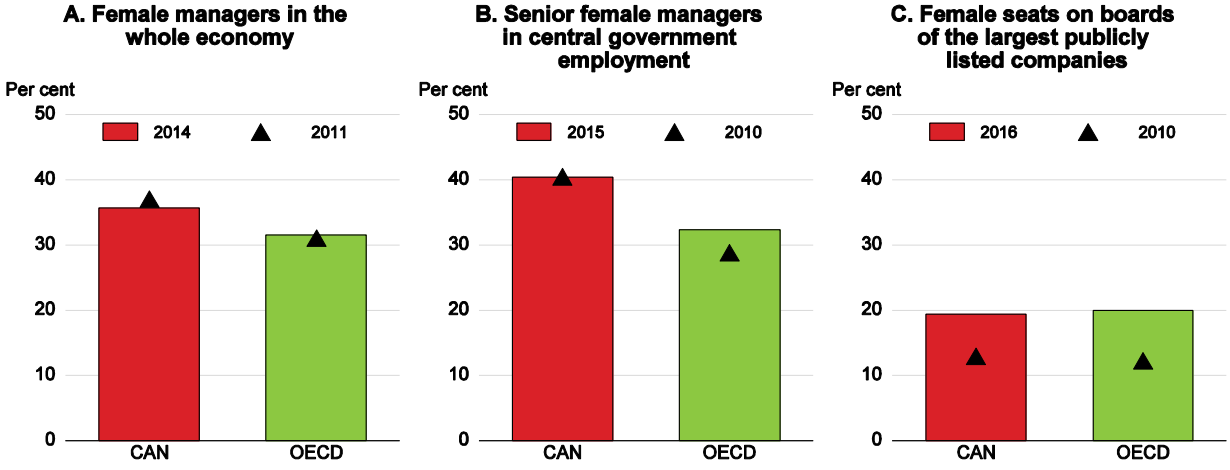
Women earn significantly less than men, particularly mothers. On an hourly basis, women who worked full-time in 2017 earned 88 cents on average for each dollar earned by men. Women also work less hours on average, so the gap in total earnings is larger again at 18%, considerably higher than the OECD average of 14% (OECD, 2018[38]). The hourly wage gap has been roughly stable since 2010 after increasing from 75 cents in the mid-1980s (Moyser, 2017[36]). Depending on the province or territory, around one-third to a half of the gender wage gap can be explained by differences in education, occupation and industry of work (Schirle, 2015[39]). An important factor is women's under-representation in top-earning management and leadership positions, in part due to challenges faced by mothers in reconciling work and childcare responsibilities in jobs at the top of the earnings distribution (Fortin, Bell and Böhm, 2017[40]). Women in Canada hold a similar or larger share of senior positions than the OECD average, but their representation still lags their 47% share of the labour force and they have made less progress in recent years (Figure 1.12). Nine OECD countries that have introduced quotas have seen more immediate increases in the number of women on boards than those such as Canada that have relied on disclosure or targets (OECD, 2017[35]). A higher share of women on boards is associated with better corporate performance in some cases (Post and Byron, 2015[41]) and with stronger corporate social responsibilities (Bear, Rahman and Post, 2010[42]).

Figure 1.12. Women in management positions

Percentage share filled by women



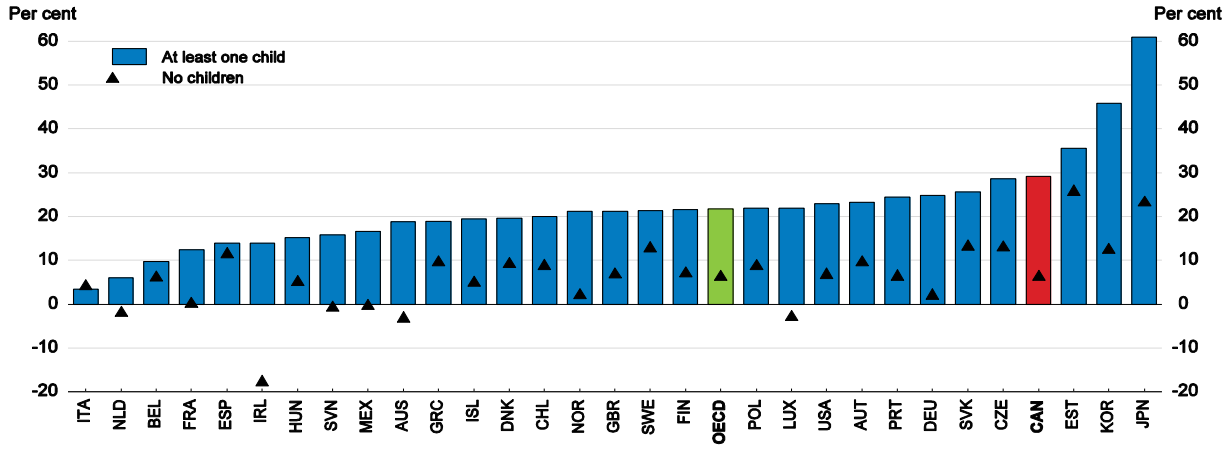
Source: OECD (2018), "*Gender – Employment*" in *Social Protection and Well-being database*; OECD (2017), *Government at a Glance database*.

StatLink http://dx.doi.org/10.1787/888933780378

In its 2018 Budget, the federal government committed to introducing new pay equity legislation to ensure that on average women and men in federally regulated public and private sectors receive the same pay for work of equal value. While this is a worthwhile aim and has symbolic value, in practice it is difficult to objectively evaluate the value of different types of work and similar provincial schemes have had mixed success. McDonald and Thornton (2016[43]) estimate that pay equity legislation in Quebec reduced the wage gap by 3.8% (at the cost of slightly lower employment for women), while pay equity had a negligible effect on the wage gap in Ontario. Baker and Fortin (2004[44]) also found that pay equity law in Ontario had no effect on the gender wage gap and argue that it is difficult to apply in decentralised labour markets.

The importance of differences in unpaid caring responsibilities in Canada is highlighted by the large gap between earnings of women with children and men or women without children (Figure 1.13). These total earnings gaps are partly explained by differences in hours of paid work, as women tend to spend more time on unpaid labour such as housework, childcare and eldercare. The gap in time spent on childcare activities between women and men in Canada is the highest among 10 OECD countries for school-aged children (Figure 1.14). Vincent (2013[45]) argues that just over half of the motherhood earnings penalty can be explained by fewer years of work experience and more hours devoted to unpaid work.

Figure 1.13. The gender earnings gap is especially severe for working mothers[1]

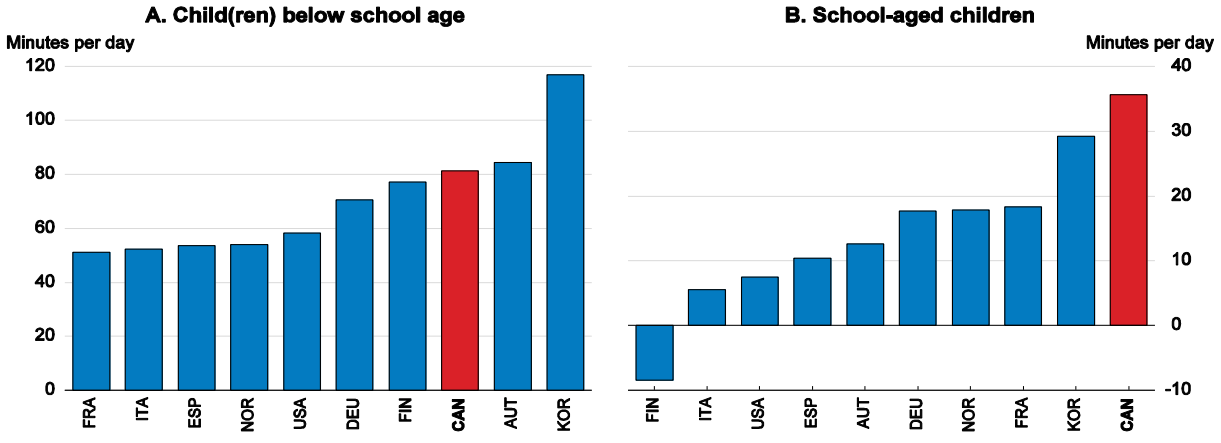


1. Earnings gap calculated for men and women aged 25-44 working full-time. Children defined as aged less than 16 years old.
Source: OECD (2012), *Closing the Gender Gap: Act Now*, Figure 13.3.

StatLink http://dx.doi.org/10.1787/888933780397

Figure 1.14. Canadian men spend less time on childcare activities than their female spouses[1]

Difference in time spent on childcare activities, by youngest child's age, in minutes per day



1. Data for partnered men and women (those who live in the same household as a spouse or cohabitating partner, married or not) in couples with a female partner aged 25-45, only. Pensioners and students excluded. Data restricted to "carers", i.e., mothers and fathers who are engaged in at least one childcare activity during a time-use diary day.
Source: OECD (2017), *The Pursuit of Gender Equality: An Uphill Battle*, Figure 15.2.

StatLink http://dx.doi.org/10.1787/888933779827

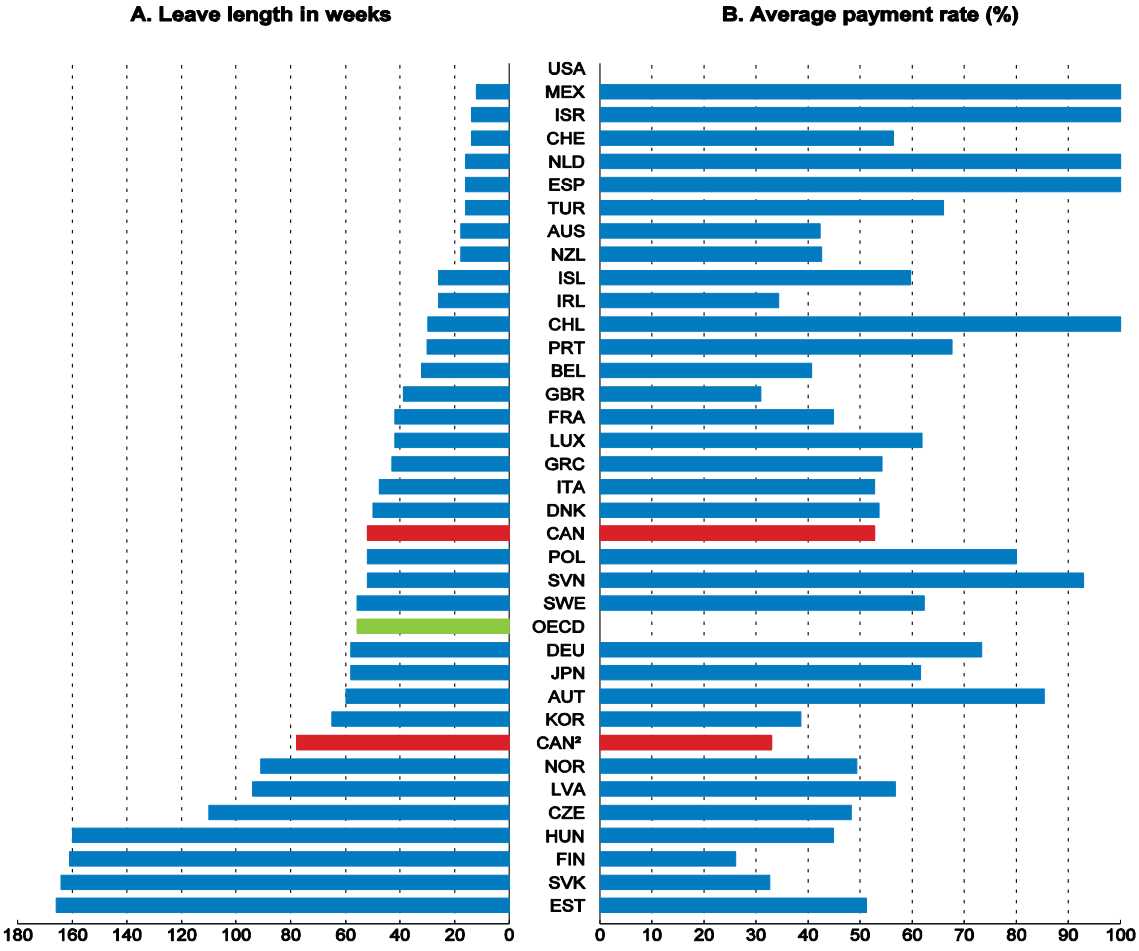
Increase fathers' use of parental leave

Parental leave available for Canadian women is around the middle of OECD countries' programmes in terms of both the duration of paid leave and the generosity of payment rates (Figure 1.15). Under the Employment Insurance system, mothers are eligible for 15 weeks of maternity leave (after a one-week unpaid waiting period) followed by up to 35 weeks of parental leave. At the conclusion of leave, employers are generally required

to allow the employee to return to the same job they had before the leave began, or a comparable job if the old job no longer exists. Parental leave is paid through the employment insurance system at 55% of mean insured earnings. Parental leave may be taken by either parent, but take-up is overwhelmingly by mothers: on average, 89% of eligible mothers received maternity or parental benefits, while just 13% of fathers claimed or intended to claim parental benefits in 2016 (Statistics Canada, 2017[46]). To qualify for benefits, new parents must have accumulated at least 600 hours of insured earnings in the previous year.

Figure 1.15. Paid leave entitlements for mothers are near the OECD average

Paid maternity, parental and home care leave available to mothers, April 2016[1]



1. For more detail, see notes in Source. Data for Canada exclude Quebec.
2. New leave option introduced in the 2017 federal Budget.
Source: OECD (2017), *Family database*, Table PF2.1.A; Ministry of Finance (2017), "Building a Strong Middle Class - Budget 2017", presented to the House of Commons, 22 March.

StatLink http://dx.doi.org/10.1787/888933780416

Changes announced in the 2017 Budget allow new parents to choose between standard parental benefits, or taking a longer leave period of 18 months, paid at a lower replacement rate of 33%. Pressure on family budgets is likely to constrain take-up, but, for those who do opt for the longer leave period, the reduced level of income support and prolonged period out of work have the potential to weaken labour force attachment. Nor

does this option support inclusiveness, as only those who are relatively well-off are likely to be able to afford the extended loss of income. While cross-country analysis indicates that extending parental leave available to mothers beyond one year is associated with greater work force participation among women (Thévenon and Solaz, 2013[47]; Adema, Clarke and Frey, 2015[48]), there is also a risk of damaging women's human capital development, career progression and wages (Thévenon and Solaz, 2013[47]; Cukrowska-Torzewska, 2016[49]).

In the province of Québec, new parents are eligible for 43-55 weeks of maternity and parental benefits, paid at a rate of 55-75%, depending on the plan chosen. Take-up by eligible mothers, at almost 97%, is much higher than in the rest of the country. Part of paid parental leave (3-5 weeks) is reserved specifically for fathers, whose take-up rates are much higher than elsewhere: 80% of fathers claimed or intended to claim parental benefits in Québec in 2016, compared with 28% in 2005 prior to the introduction of leave reserved for fathers (Statistics Canada, 2016[50]). Québec's parental-leave programme has a lower threshold for eligibility of CAD 2 000 in insured wages, or around one third as many hours as required in the rest of the country (at the minimum wage). While a wage-based threshold undermines targeting by making it easier for high-income earners to qualify, there may be value in revisiting whether the hours test in the rest of Canada is too strict (Robson, 2017[51]).

Increasing fathers' low take-up of parental leave in Canada (outside Québec) would offer inclusiveness benefits for women by increasing gender equality in unpaid childcare and wages. The bulk of international evidence indicates that fathers who take leave are more likely to take an active role in childcare both early on and after they return to work (see, for example, Almqvist and Duvander (2014[52]); Boll, Leppin and Reich (2014[53]); Nepomnyaschy and Waldfogel (2007[54]); and Sullivan et al. (2009[55])). Gender equality in couples' division of labour is especially likely when fathers take longer periods of leave (Huerta et al., 2013[56]) or take leave while their partner is working (Bünning, 2015[57]). International studies seeking to identify causal effects of paternity leave by comparing specific behaviour of parents before and after changes in policy are inconsistent in their findings. Kotsadam and Finseraas (2011[58]) find that sharing of household labour became more equal in Norway after the introduction of a "Daddy quota", but Ekberg, Erikson and Friebel (2013[59]) find that sharing of leave for sick children in Sweden did not. However, a recent study found evidence that the introduction of leave for fathers in Québec had long-run positive effects on the distribution of childcare and domestic work responsibilities (Patnaik, 2018[60]).

Gender differences in time spent on paid work are smaller in countries where gender differences in unpaid work are smaller, while several studies find that within couples female labour supply is positively related to male household labour (Adema, Clarke and Frey, 2015[48]). Parental leave by fathers can also serve to reduce gender wage gaps by increasing maternal earnings and/or decreasing paternal earnings (Johansson, 2010[61]; Albrecht, Thoursie and Vroman, 2015[62]) and may help reduce gender discrimination in the workplace and the risk that women are the only ones taking care-related leave (Rønsen and Kitterød, 2015[63]).

The federal government's announcement of an additional five weeks (or eight weeks at a lower pay rate) of non-transferable leave for second parents (usually fathers, but also available to adoptive and same-sex couples) in its 2018 budget is welcome and brings Canada into line with many other OECD countries. It is important to ensure fathers take their leave entitlement: strong causal take-up effects of the introduction of father-specific

leave have been documented in Norway (Dahl, Løken and Mogstad, 2014[64]), the province of Québec (Patnaik, 2018[60]) and Sweden (Ekberg, Eriksson and Friebel, 2013[59]), but take-up is low in some other OECD countries, such as France, Japan and Korea (OECD, 2016[65]). Critical here is ensuring that leave reserved for fathers (who are typically older and earn more than mothers) is generous enough to avoid prohibitive pressure on household budgets – payment rates for paternity leave in France (31%), Japan (58%) and Korea (30%) are all below the OECD average of 69% of median wages (OECD, 2017[66]). In this respect Québec differs from the rest of Canada not only in having parental leave reserved specifically for fathers, but also in terms of the higher rate of pay available for both mothers and fathers: a maximum replacement rate of 75% and a higher ceiling on insured income of CAD 74 000, compared with 55% and CAD 51 700 in the rest of Canada. Take-up of new parental leave should be monitored and increased payment rates for parental leave considered if take-up is weak. This is an area that would benefit from gender-based analysis of the consequences of different payment rates, applying the framework set out in OECD (2018[33]).

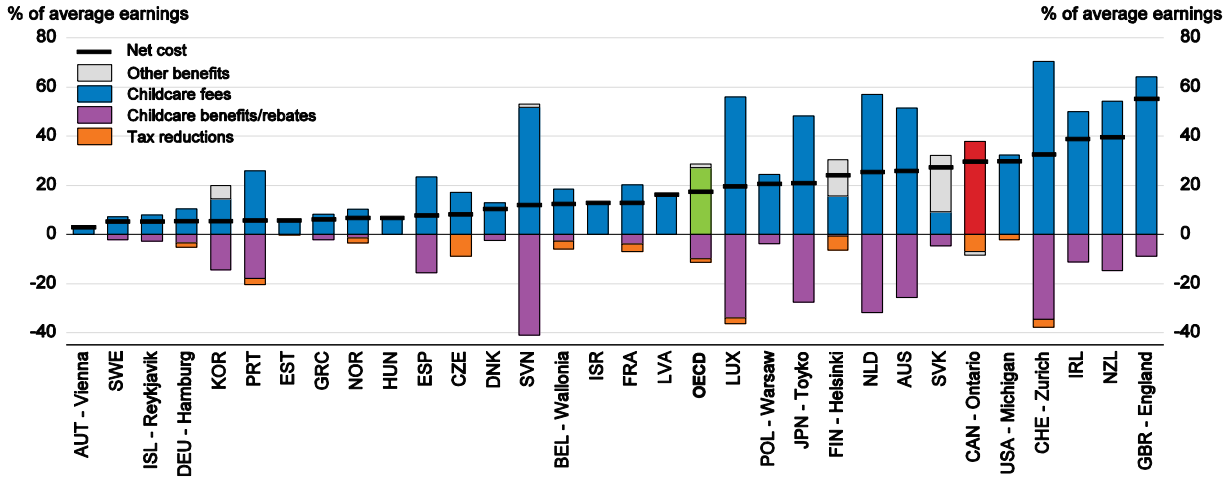
Workplace culture is also important, with organisational support critical for parental-leave policies to have their intended effect (Tremblay and Genin, 2010[67]). While non-transferable parental leave for the second parent could conceivably shift societal norms about parenthood and sharing of paid and unpaid work (Rønsen and Kitterød, 2015[63]), governments at all levels should further ensure take-up by fathers through information provision and leading by example in the public service. Governments can assist women in employment through promoting workplace flexibility by granting all employees a right to request flexible working arrangements (as enacted for federally regulated employees in 2017), encouraging social partners to cover workplace flexibility in collective bargaining, and helping companies change work organisation through the exchange of best practice and information campaigns (OECD, 2017[35]).

Increase the availability and affordability of high-quality early childhood education and care (ECEC)

While there is a lack of nationally consistent data, researchers have collated federal and provincial estimates that indicate Canadian governments spend around 0.6% of GDP on ECEC (Akbari and McCuaig, 2018[68]), boosted by high spending on kindergarten but still just below the OECD-wide average of 0.7% (OECD, 2017[66]). Net (after-tax) childcare costs for families with young children vary across Canada. In Ontario, these costs are high (Figure 1.16). As a result, the proportion of gross earnings absorbed by tax, childcare payments or reduced social benefits (participation tax rates) is well above the OECD average and exceeds 100% for low earners (OECD, 2017[69]).

By international comparison, Canada provides relatively generous family cash benefits through the Canada Child Benefit. These benefits provide one source of funds for families to pay for childcare. However, they do not reduce the marginal cost of childcare (and associated participation tax rates), and thus, while family cash benefits can have benefits from reducing poverty among families, they are less desirable than childcare subsidies for raising female employment (Schirle, 2015[70]; Jaumotte, 2004[71]).

Figure 1.16. The net cost of childcare[1] for a couple family in 2015 was relatively high



1. Effect of childcare costs for a couple family with two children, aged two and three, with both parents working full time and earning 100% and 67% of average earnings.
Source: OECD, *Tax-Benefit Model and Policy database*, http://www.oecd.org/els/benefits-and-wages-statistics.htm.

StatLink http://dx.doi.org/10.1787/888933780435

Even where parents are willing and able to pay for childcare, there is a lack of high-quality spaces in many parts of Canada. There are spaces to cover less than 25% of Canadian 0-5 year olds (Anderson, Ballantyne and Friendly, 2016[72]). Shortages are concentrated among young children: enrolment rates for children aged 0 to 4 are around 10 percentage points below the OECD average (Alexander et al., 2017[73]). As kindergarten is offered for five year-olds in all provinces and territories, enrolment rates for children aged 5 are roughly in line with the OECD average.

There are a number of initiatives underway at the federal and provincial levels to improve childcare provision (Table 1.2). The federal government allocated an additional CAD 7.5 billion over 11 years in its 2016 and 2017 budgets to support and create more high-quality, affordable childcare spaces and to implement the Multilateral Early Learning and Child Care Framework. Canadian governments have committed to increase quality, accessibility, affordability, flexibility, and inclusivity in early learning and child care, with consideration of families that need child care the most.

While federal and provincial initiatives are promising, Canadian governments need to do more to support childcare. Affordable and high-quality ECEC can increase labour force participation of women (OECD, 2017[74]), increase mothers' wages and reduce the motherhood wage penalty (Misra, Budig and Boeckmann, 2011[75]). In Québec, the introduction of low-fee childcare is estimated to have delivered net fiscal benefits over the long-term (Box 1.1). Increasing public expenditure on childcare in Canada to match the 80th percentile of OECD countries is estimated to boost female employment by 1.5 percentage points (Figure 1.8 above). ECEC is also important for child development, particularly for disadvantaged children: international studies, programme evaluations and quality measurements have repeatedly shown that access to ECEC programmes has positive effects on children's well-being, learning and development. Two years of pre-primary education has been found to be the minimum needed to have a good chance of reaching a good level of performance at age 15, at which age standardised testing is

Table 1.2. Recent provincial initiatives to improve early childhood education and care

	Programme	Funding	Key initiatives
Alberta	Early Learning and Child Care Centres	CAD 10M	Pilot programme with fees capped at CAD 25 per day.
British Columbia	Universal childcare plan	CAD 1B over 3 years	Affordable child care benefit providing up to CAD 1 250 per month in conjunction with a new child care fee reduction programme. Creation of more than 22 000 new licensed child care spaces.
	Bilateral agreement	CAD 153M over 3 years	Developing prototype centres to test the introduction of universal child care; significantly reduced parent fees.
Manitoba	Bilateral agreement with federal government	CAD 47M over 3 years	Creation of 1 400 more affordable child care spaces targeted at lower-income, French-language and newcomer families, as well as underserved communities. Core professional development training for up to 100 facilitators, providers and facilities.
New Brunswick	Bilateral agreement with federal government	CAD 30M (federal) + 41M (provincial) over 3 years	More affordable, inclusive and high-quality early learning and childcare services. More spaces for infants and toddlers to address gaps. Increase professional learning opportunities for educators.
Newfoundland and Labrador	Bilateral agreement with federal government	CAD 22.5M over 3 years	Up to 540 children to have access to free or low-cost child care. Increase in quality and training for child care centres serving up to 1 750 children.
Nova Scotia	Bilateral agreement with federal government	CAD 35.5M over 3 years	Greater access to affordable childcare in remote areas through creation of 15 new child care centres, 500 new child care spaces, and 90 new family day care sites.
Nunavut	Bilateral agreement with federal government	CAD 7M over 3 years	All 39 centres will benefit from training and as many as 838 children will benefit from continued access to child care.
Ontario	Renewed Early Years and Child Care Policy Framework; Free Preschool Care	CAD 1.6B capital expenditure over 5 years and a further CAD 2.2B over 3 years	Expectation to double the current capacity of licensed childcare for children aged 0 to 4 in the province. Free child care for children aged two and a half until they are eligible for kindergarten, beginning September 2020.
	Bilateral agreement with federal government	CAD 434.6M over 3 years	Up to 100 new Ontario Early Years Child and Family Centres, supporting as many as 100 000 more child and family drop-in visits. Up to 11 200 children supported via additional fee subsidies or equivalent financial supports.
Prince Edward Island	Bilateral agreement with federal government	CAD 10.5M over 3 years	Up to 100 children whose parents work non-standard or seasonal hours can receive specialised child care tailored to their needs. Up to 200 infants and preschool children will be able to access a regulated space.
Yukon	Bilateral agreement with federal government	CAD 7M over 3 years	Support 90% of child care centres in maintaining fees without increasing costs to parents.

Source: Alberta Government (2016), *Improving Access to Quality, Affordable Child Care*, Announcement; BC NDP (2017), *Working for You: Our Commitments to Build a Better BC*, Election Platform; Government of Canada, *Early Learning and Child Care Bilateral Agreements*; Ontario Ministry of Education (2017), *Ontario's Renewed Early Years and Child Care Policy Framework*; Ontario Ministry of Education (2017), *Ontario Making Child Care More Accessible and Affordable for Families*, News Release; Ontario Government (2018), *2018 Ontario Budget: A Plan for Care and Opportunity*.

undertaken as part of the Programme for International Student Assessment (OECD, 2017[74]). Historically, a small share of disadvantaged Canadian children has received two years of early childhood education (Figure 1.17). Using Québec as a benchmark for the upfront costs of universal ECEC indicates that long-term increases in federal government funding will be insufficient, even if provincial funding increases at the same rates. Projected funding of CAD 870 million in 2027-28 would be inadequate to achieve similar

coverage to that in Québec, as preliminary research suggests this would cost around CAD 7.5 billion annually (Fortin, 2018[76]).

Box 1.1. The introduction of low-fee childcare in Québec

A low-fee universal childcare programme was initiated in the province of Québec with the Educational Childcare Act in 1997. The programme had two explicit objectives: to improve work/life balance and to enhance child development, with an eye on equality of opportunity. By 2014, the number of regulated childcare spaces had expanded to cover around 60% of children aged 0 to 4, up from less than 20% in 1998 (Fortin, 2016[77]).

Québec's childcare programme has succeeded in increasing female labour force participation. Participation for women with children under 6 increased by 16 percentage points between 1997 and 2016 in Québec, compared with a 7 percentage point increase in Canada as a whole (Statistics Canada, 2017[8]). Female employment was boosted to such an extent that, based on comparison with the rest of Canada as a baseline, the introduction of low-cost childcare has been estimated in one study to have improved the combined federal-Québec governments' fiscal positions (Fortin, Godbout and St-Cerny, 2013[78]). This result has been achieved despite annual funding costs of CAD 3.3 billion (0.8% of GDP) incurred by the provincial government (Akbari and McCuaig, 2018[68]).

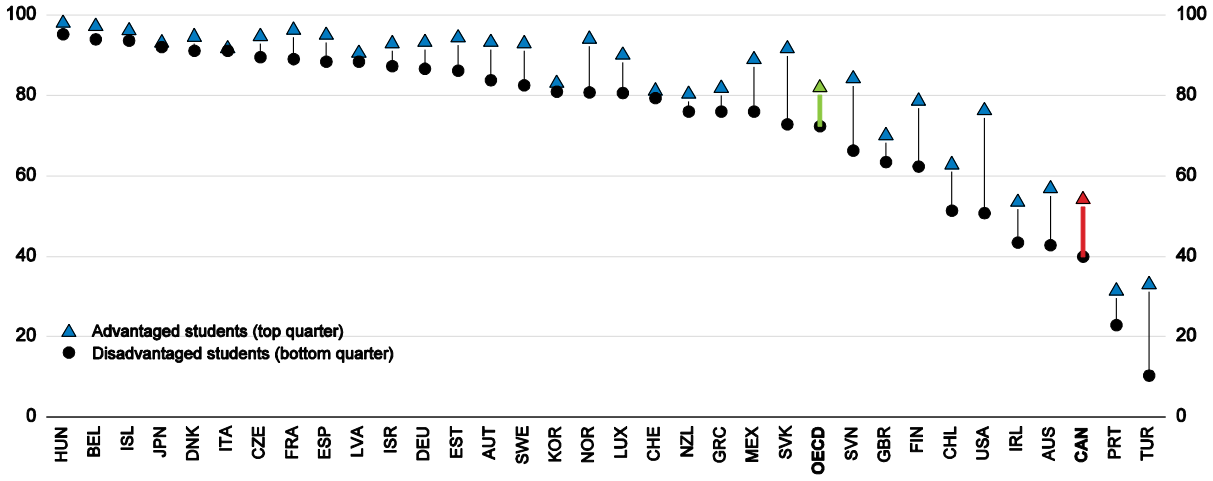
Outcomes for child development have been more mixed. In aggregate, the introduction of universal childcare in Québec has been estimated to have had no significant effect on cognitive development, but a negative effect on development of non-cognitive traits such as perseverance and emotional stability (Baker, Gruber and Milligan, 2008[79]; Baker, Gruber and Milligan, 2015[80]). This result has been shown to be a consequence of negative effects on children who gain access to subsidised childcare at an early age, while there are benefits from access to universal childcare on developmental scores for those that are above three years of age (Kottelenberg and Lehrer, 2017[81]). Beneficial development effects were most likely among children from single-parent households, particularly the most disadvantaged (Kottelenberg and Lehrer, 2017[81]).

Mixed outcomes for child development have been ascribed to a lower quality of care by some providers. Quality in non-profit public *garderies* was "good or excellent" for 45% of children and "inadequate" for only 4%; by contrast, quality in full-fee, for-profit *garderies* was "good" for 10% of children and "inadequate" for 36% (Fortin, 2018[76]). Quality care has been shown to deliver positive outcomes: non-profit public *garderies* generate positive cognitive, health and behavioural results on average; they have delivered large reductions in the risk of poor cognitive or behavioural development for children from low-income families and more modest, but still significant, reductions for children from middle- and high-income families (Laurin et al., 2015[82]).

Extending the provision of kindergarten to two years in provinces and territories where this is not already the case would be the simplest means to ensure sufficient access to pre-primary education. The kindergarten system in Canada compares well against other OECD countries in terms of availability to a large proportion of the population, low pupil-teacher ratios and investment per child (Conference Board of Canada, 2017[83]). Universal coverage, as in the kindergarten system, has the advantage of aiding socio-economic mixing and lifting quality (Fortin, 2016[77]).

Figure 1.17. Few Canadian children attended early childhood education for two years or more

Share of 15-year-old students, by socio-economic background,[1] 2015



1. Measured using the PISA index of economic, social and cultural status.
Source: OECD (2018), *Engaging Young Children: Lessons from Research about Quality in Early Childhood Education and Care*, Starting Strong, Figure 1.3.

StatLink http://dx.doi.org/10.1787/888933780454

Provision of ECEC for children three and under should also be expanded to give women the opportunity to increase their labour force participation, but adequate quality of care needs to be ensured. The brain sensitivity of highly important developmental areas, such as emotional control, social skills, language and numeracy, peak in the first three years of a child's life (Naudeau et al., 2011[84]; Gambaro, Stewart and Waldfogel, 2014[85]). There are greater risks of negative effects on child development from access to low-quality childcare at a younger age, as demonstrated in Québec (Box 1.1). The Québec example is consistent with international research showing that while high-quality ECEC is beneficial for children's early development and subsequent school performance, low-quality ECEC can be associated with detrimental effects on development and learning (OECD, 2018[86]).

To maximise net benefits, ECEC for young children should be affordable for all, with some means testing to reduce the fiscal cost and benefits targeted at those most in need. This could be achieved through public provision of care, subsidies for childcare providers or refundable tax credits. Tax deductions, such as those available through the federal Child Care Expense Deduction, are not well-targeted as they provide the greatest benefits to those with higher incomes. As noted above, child-development benefits from high-quality ECEC are greatest among children from disadvantaged families. The fiscal payback from increasing access to affordable childcare will be largest where people returning to work face high effective tax rates (for example, where they lose entitlement to welfare payments) and where improved attachment to the workforce continues to boost their probability of being in work after their children start school. Both of these effects are concentrated among low-income earners. But ensuring mid- and high-income families can access childcare is also important: increasing labour force participation of women with high educational attainment offers the greatest payoff in terms of boosting productivity (Petersson, Rodrigo and Ishi, 2017[87]).

Investment should be directed towards achieving high-quality child development outcomes, rather than the simple creation of places. This requires effective oversight and regulation of childcare services as information failures mean that parents are not well-equipped to assess ECEC quality *ex ante*. The capacity of regulatory bodies needs to expand in line with or even ahead of increases in service provision to ensure that quality standards are maintained or improved. Effective regulation of family daycare is particularly important, as quality is generally lower in family daycare and regulation that includes higher qualification requirements is associated with better interactions for children (OECD, 2018[86]).

Monitoring performance and the development of a professionalised workforce are key factors in delivering quality ECEC. Data and monitoring can be a powerful lever to encourage ECEC quality, including through informing measures to achieve improvement, and implementation of quality monitoring and rating improvement systems internationally is associated with better staff-child interaction. There is room for improvement here as Canada lacks consistent national data on child care costs, expenditures, quality of service, child care use patterns and child outcomes. Teacher qualifications and lower child-staff ratios/group sizes (particularly for younger children) are also associated with better staff-child interaction, but the evidence is inconclusive regarding effects on child learning and development. Staff years of experience are not a good predictor of quality. There are, however, clear links between in-service training or professional development and more positive child development (OECD, 2018[86]). Workforce development and monitoring performance should go hand-in-hand: a culture should be established among educators where it is the norm to know the impact that ECEC programmes are having on children's learning and development (Torii, Fox and Cloney, 2017[88]). Korea's *Appraisal for Kindergarten Teacher Professional Development* is a valuable example where self, peer and parent evaluation are used to target training and professional development activity (OECD, 2015[89]).

Improving early childhood education also offers inclusiveness gains for the other groups studied in this chapter. Early childhood education reduces the barriers to further education and finding employment faced by children from low socioeconomic groups. Early-life intervention is also critical to increase future equality among adult Canadians, as inequality cumulates over the life cycle (OECD, 2017[90]).

Remove barriers to women's participation in computing and engineering

Women are less likely than men to be employed in occupations using scientific, technology, engineering and mathematics (STEM) skills. Since these disciplines are typically highly paid, this contributes to the gender wage gap and is likely to continue to do so given projections of strong growth in demand for these skills. Just under half (45%) of graduates in science, maths and computing are female, which puts Canada in the top dozen OECD countries for gender equality in STEM education (OECD, 2017[35]). However, women make up only around a quarter of people employed in professional scientific occupations (Moyser, 2017[36]).

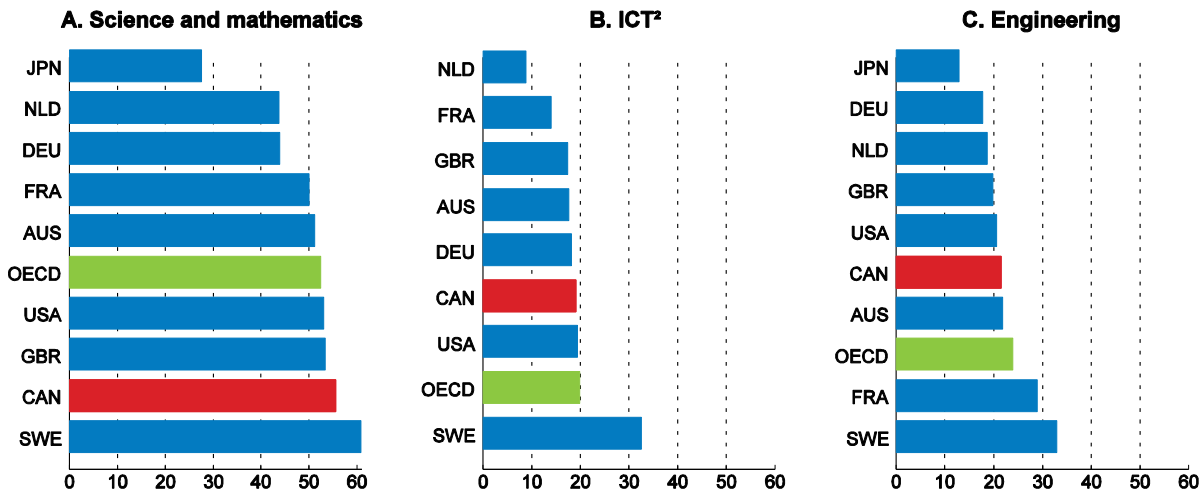
There are a large number of Canadian women with the ability and foundational knowledge to study and work in STEM fields. In the province of Ontario, for example, the gender gap in the number of students that meet prerequisites for STEM programmes is small (Card and Payne, 2017[91]). At age 15 there is no statistically significant difference in mean proficiency in science between Canadian boys and girls and only a

small gap (around one-third of a year of progress) in mean mathematics proficiency (OECD, 2016[92]).

There is substantial variation in women's participation in fields using STEM skills. In some, it has increased strongly, notably in medicine where the majority of active physicians under 45 are now female (Canadian Medical Association, 2017[93]). Women also comprise the majority of bachelor-level graduates in science and mathematics, but a much lower share in computing and engineering (Figure 1.18).

Figure 1.18. Canada's gender equality position in STEM[1] bachelor degree's graduates is mixed

Female shares in per cent, 2015 data



1. Science, technology, engineering and mathematics.
2. Information and communication technologies.
Source: OECD (2017), *Education at a Glance database*.

StatLink http://dx.doi.org/10.1787/888933780473

Gender differences in career preferences start young, with just 3% of Canadian girls and 19% of Canadian boys at age 15 planning a career in engineering and computing, a gap that exceeds the OECD average (OECD, 2016[92]). This compares with 30% of girls and 12% of boys planning a career in health services. To some extent these differences in preferences reflect different interests: on average women have a greater preference for work that is altruistic and people-oriented, compared with men's preference for "thing-oriented" work (Kahn and Ginther, 2018[94]). But preferences are also likely to reflect barriers to female involvement such as gender stereotypes, workplace culture, lack of role models and risk aversion.

High female drop-out rates in male-dominated fields contribute to the low share of female professionals. In the United States, for example, women are less likely than men to start in computer science jobs after completing their degrees and much more likely to leave those jobs (Ginther and Rosenbloom, 2015[95]). The exit rate for women compared to men is significantly higher from engineering, as in other male-dominated fields. Hunt (2016[96]) concludes that the explanation is thus likely to lie in a lack of mentoring and networks or discrimination by managers and co-workers, rather than the nature of engineering work itself. Since differences in preferences are driven by gender norms,

Xie and Shauman (2003[97]) argue that the gender gap in parenting responsibilities is a critical barrier to the further advancement of women in science and engineering.

There are a number of initiatives underway to promote greater participation of women in STEM. For example, the PromoScience Program funds organisations that offer children of kindergarten or school age opportunities to participate in activities known to build engagement, interest, skills and knowledge in STEM. The ChooseScience digital campaign, launched in February 2017, offers resources for parents and teachers to encourage young women to consider careers in STEM. The federal government also committed to tying increased funding for researchers in its 2018 Budget to objectives and conditions that will ensure greater diversity among the researcher population.

A number of further measures should be taken to remove barriers to women's participation in STEM, beginning with better information on labour market outcomes, as discussed in more detail in relation to youth below. The Canada–United States Council for Advancement of Women Entrepreneurs and Business Leaders (2018[98]) has recommended the creation of an online STEM portal to provide further information on STEM career paths, programs, learning tools and case studies. Teachers and curricula should focus on helping students, particularly girls, to overcome their anxiety towards mathematics and to develop a "growth mindset" that emphasises the value of effort rather than natural ability (Kahn and Ginther, 2018[94]). Programmes should be aimed at young children and their parents, carers and teachers to address unconscious biases and stereotyping of girls' interests and abilities in STEM subjects. Expectations and role models are important (BIAC, 2018[99]). Alleviating the burden from gender disparities in childcare responsibilities on women and shifting cultural norms through more parental leave by fathers and better access to childcare may therefore also help.

Improving well-being for single mothers

Single mothers face particular challenges. Average family incomes for lone mothers were less than half of those for couples with children in 2015 after adjusting for family size, while their average net worth in 2016 was a third of couple families' and half of lone fathers' (Fox and Moyser, 2018[100]). The latest internationally comparable data from 2014 show that single parents in Canada had comparatively high rates of relative poverty (Figure 1.19). Recent reforms are likely to have reduced poverty among single parents, although data are not yet available to assess progress. The most important of these was the 2016 introduction of the Canada Child Benefit, which helped single parents in particular, as they did not lose from the simultaneous removal of income-splitting provisions in the tax code. There have also been increases in childcare funding and minimum wage increases.

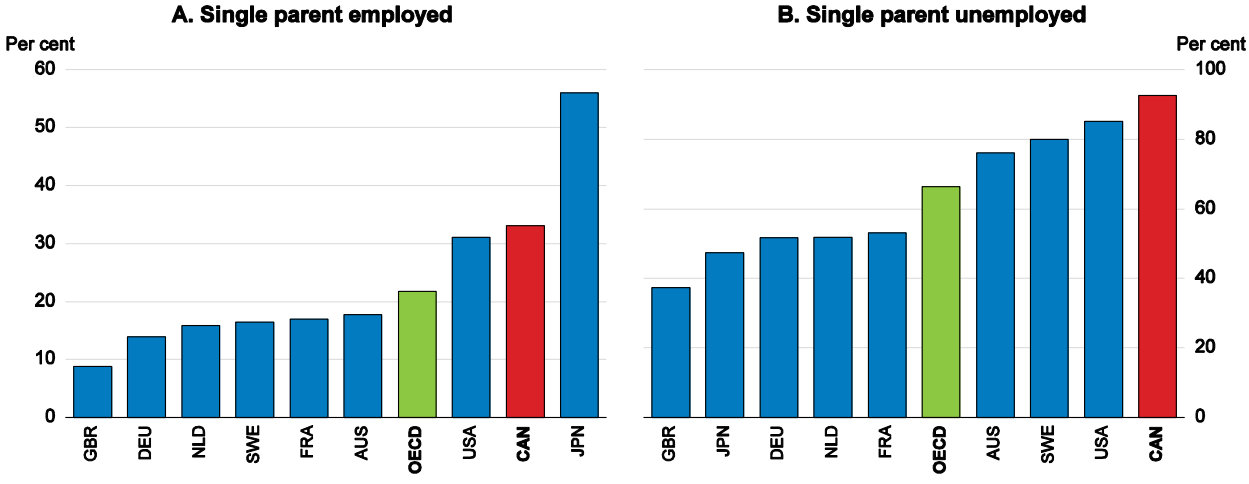
In 2016 only 56% of single mothers of children under six were employed (Statistics Canada, 2017[8]). Employment is somewhat higher at 68% for single mothers of children under 16, which is around the OECD average, although definitional differences prevent a like-for-like comparison (OECD, 2017[66]; Statistics Canada, 2017[8]). Low-income single mothers have muted incentives to find work, as they face high participation tax rates, as mentioned above.

A number of complementary reforms would help to continue to address high rates of poverty among single mothers. The emphasis should be on achieving sustainable improvements in well-being and reducing the risk of poverty traps by removing barriers to employment among single mothers, as employment is associated with a significant

reduction in the risk of poverty for single-parent households (Maldonado and Nieuwenhuis, 2015[101]).

Figure 1.19. Poverty rates of employed and unemployed single-parent families are high

Share with income after taxes and transfers below 50% of the median, 2016 or latest year available



Source: OECD (2017), *Income Distribution database*, http://www.oecd.org/els/soc/income-distribution-database.htm.

StatLink http://dx.doi.org/10.1787/888933780492

In-work tax benefits should be made more generous for low-income single parents to tackle high participation tax rates, with higher payments under the Canada Workers Benefit a good start in this regard. Targeting in-work benefits at single parents is an effective way to address needs. More generous in-work benefits than the current WITB for lone parents were included in trials under Canada's Self-Sufficiency Project, and the evidence established that this can be a cost-effective way to increase employment and incomes (Immervoll and Pearson, 2009[17]). Expanding active labour market spending has the potential to complement more generous in-work benefits by overcoming barriers to employment among single parents; active labour market policy has been shown to have bigger effects for women than men (Bergemann and Van den Berg, 2008[102]). Better access to high-quality affordable childcare will also be helpful: the poverty rate among single-mother families in Québec fell from 36% to 22% following the introduction of low-cost childcare and the associated increase in workforce participation (Fortin, Godbout and St-Cerny, 2013[78]).

Promoting female entrepreneurship

Canadian women are more actively involved in entrepreneurship than their counterparts in most OECD countries, and the number of self-employed women has more than doubled over the last 30 years. While 38.8% of the self-employed are women (Moyser, 2017[36]), only 15.5% of SMEs were majority-owned by females in 2011, compared with about two thirds that were owned by males (Industry Canada, 2015[103]). Majority female-owned SMEs tend to be smaller, to grow more slowly than their male-owned counterparts and less likely to export, and are also under-represented in (relatively high-growth) high-tech manufacturing and knowledge-intensive sectors.

There are a number of barriers to Canadian female entrepreneurship including lack of management experience, role models, access to finance and large buyers, as well as the low share of women in STEM disciplines (Canada-United States Council for Advancement of Women Entrepreneurs and Business Leaders, 2018[104]; OECD, 2017[105]). Removing these barriers is important to increase inclusiveness of opportunity to benefit from economic growth and to offer more flexibility in work. The federal government has given priority to supporting women entrepreneurs through the Women Entrepreneurship Strategy, which has the potential to bring together scattered existing programmes and build institutional consensus on the policies required to narrow entrepreneurship gaps. The Strategy includes CAD 1.4 billion in new financing for women entrepreneurs through the Business Development Bank of Canada and CAD 250 million through Export Development Canada, both of which are promising initiatives given evidence that women-specific loan guarantees create more jobs than mainstream programmes (Western Economic Diversification Canada, 2014[106]). Additional funding for gender-disaggregated data on entrepreneurship will help build the evidence base for policy making and should incorporate information on obstacles and programme use. The Strategy also includes funding to implement regional female entrepreneurship initiatives, aims to increase the proportion of women entrepreneurs participating in federal procurement and includes reforms to federal innovation programmes to increase the participation of underrepresented groups in the innovation economy.

Other steps to address barriers to women's entrepreneurship include ensuring skill-building, incubator and accelerator programmes are targeted at women by providing female role models, expanding the provision of microfinance for women entrepreneurs, removing unwarranted restrictions on eligibility for part-time entrepreneurs to public enterprise support programmes and extending successful western Canadian women's entrepreneurship programmes to the rest of the country. Good practice examples of European inclusive entrepreneurship initiatives illustrate the importance of defining clear objectives and targets for policy intervention, targeting outreach to engage under-represented groups, using competitive mechanisms to target intensive support at those with the potential to succeed, and collecting data on outcomes to learn from experience (OECD/EU, 2016[107]).

Inclusiveness for youth

The majority of young Canadians are well-equipped to manage transitions between school, post-school education and work. More than 60% of Canadians aged 25-34 in 2016 had completed tertiary education (OECD, 2017[108]). This is the second highest share in the OECD behind Korea, boosted by Canada's large college sector. The share of 19 year-olds enrolled in a post-secondary education programme increased steadily from 2001 to 2014 among youth from all families, but particularly among those at the bottom of the income distribution (Frenette, 2017[109]). However, post-secondary education attendance remains much lower for those from low-income families, due primarily to differences in academic achievement and parental expectations (Frenette, 2007[110]).

A substantial minority of Canadian youth are at risk of becoming detached from the labour market

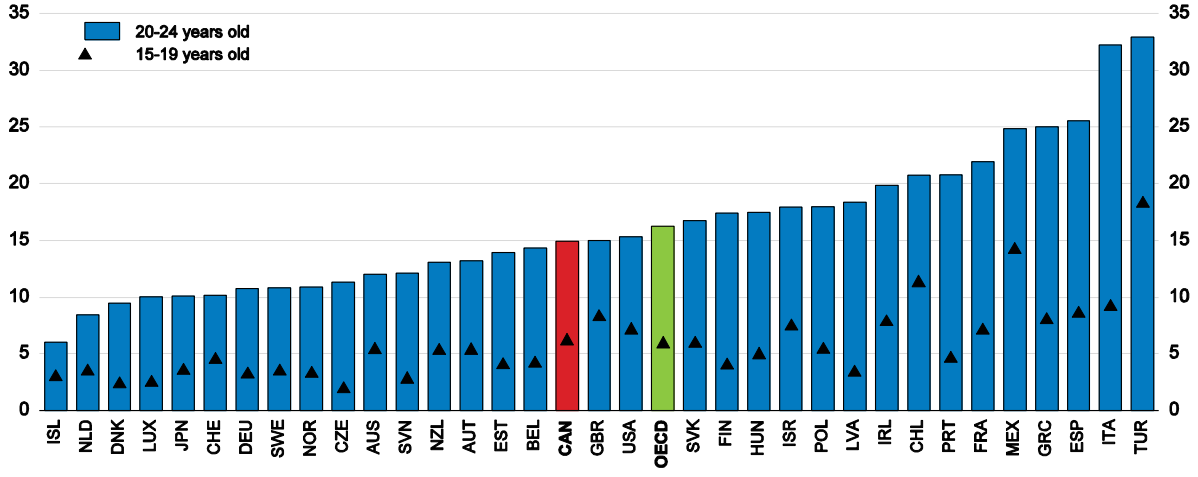
Around 15% of Canadian youth aged 20 to 24 were not in employment, education or training (NEET) in 2016 (Figure 1.20). While this is a slightly lower share than the

OECD average, it still indicates a substantial number of youth at risk of not developing the skills and experience needed for success in the labour market of the future.

The unemployment rate for youth in Canada is around double that of the working-age population as a whole, consistent with historical experience and just below the OECD average. Recent labour market strength has reduced youth unemployment to below 11%, only the third time in the last 40 years that this has been achieved (the others being in 1989-90 and 2007-08) (Statistics Canada, 2017[8]). Unemployment remains elevated for the declining share of youth who have not finished secondary school (Figure 1.21).

Figure 1.20. Slightly fewer youth than average are not in employment, education or training

As a percentage of those in the same age group, 2016 or latest available year



Source: OECD, *Education at a Glance: Transition from School to Work database*.

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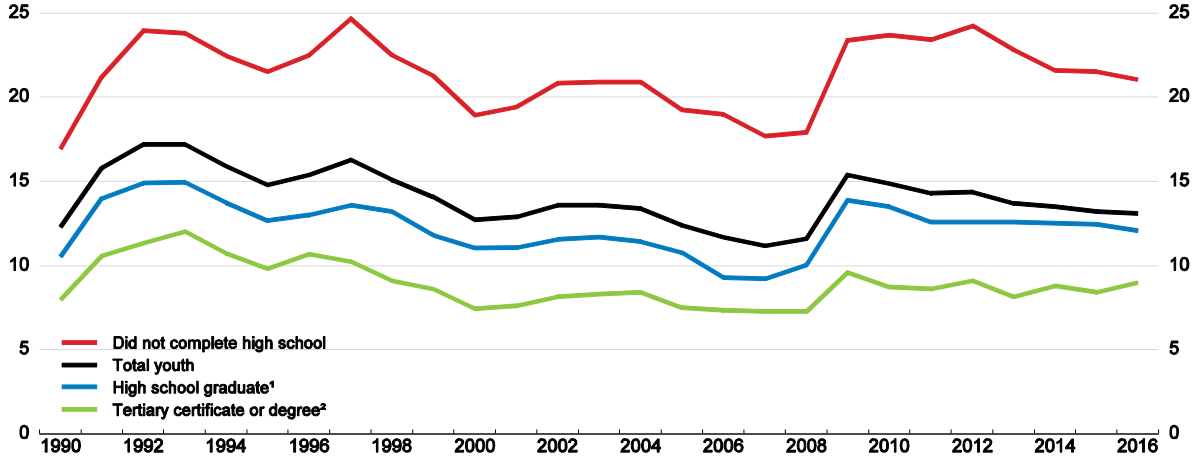
Figure 1.21. Youth unemployment is high for those who do not complete high school

Unemployment rate for 15-24 year-olds



1. Graduated from high school and/or started some postsecondary studies.
2. Have a postsecondary certificate or a university degree.
Source: Statistics Canada, *Labour Force Survey*, Table 282-0004.

StatLink http://dx.doi.org/10.1787/888933780530

Earnings for most young men are yet to recover from earlier declines

Real median annual wages and salaries for men aged 28 to 29 were lower in 2015 than they had been in the late 1970s, with earnings growth since the mid-1990s insufficient to make up for earlier falls (Morissette, 2018[111]). The earlier fall in earnings was larger for those further down the income distribution and for those with low educational attainment (Beaudry and Green, 2000[112]). By contrast, real wages for those at the 90th percentile of the earnings distribution have increased. As in several other OECD countries (Flores and Geppert, 2018[113]), successive cohorts of men have failed to "catch up" with the wages of their predecessors, so that lifetime earnings for those in the bottom half of the income distribution have fallen. Median cumulative earnings over the first 12 years in the workforce were 9% lower for those who entered the workforce in 2004 compared with 1978, with even greater falls for those earning below the median (Morissette, 2018[111]).

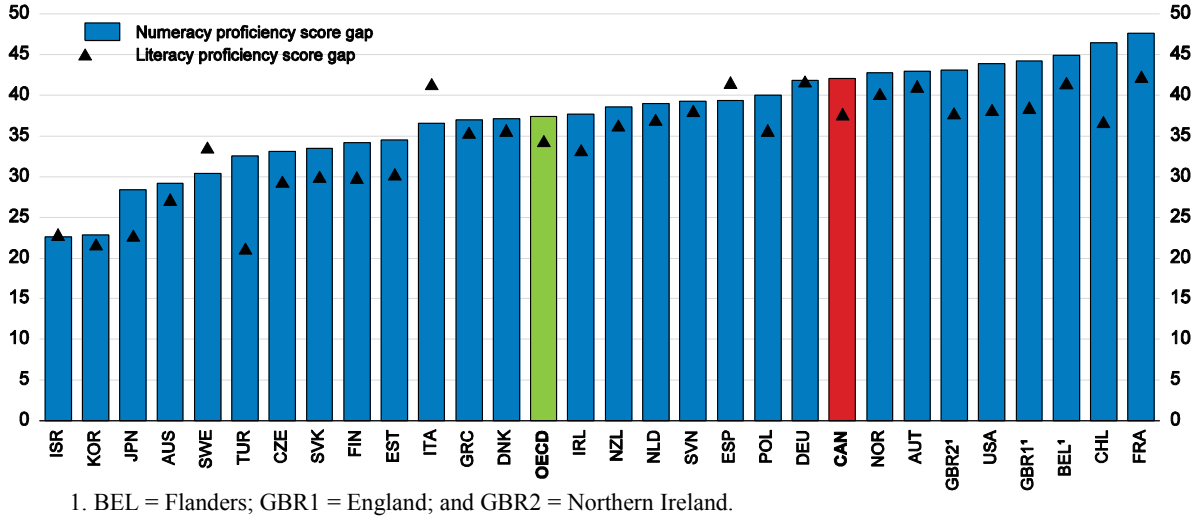
Women also experienced a decline in median earnings during the 1980s, but declines were shallower and had more than recovered following wage growth in the late 1990s and 2000s. Weak earnings growth between the late 1970s and the mid-1990s was not limited to youth, with a similar pattern observed in equivalised household median incomes among all Canadians (Corak, 2016[114]).

Skills development should continue to be prioritised

Young people's science, literacy and numeracy skills are generally strong, but comparison of two surveys from 2003 and 2012 indicates that skill levels have declined recently among Canadians aged 16 to 24 (Mahboubi, 2017[115]). The gap between literacy and numeracy skills of those aged 20-24 who have a tertiary qualification (or are enrolled in tertiary education) and those who do not is among the upper half of OECD countries (Figure 1.22). Across all Canadians aged 16-24, around one in six youth have skills at or below the lowest threshold according to the OECD's PIAAC results. This is comparable to the OECD average but well behind leading OECD countries such as Finland, Japan, Korea and the Netherlands, where less than one in ten people aged 16-24 have such low literacy and numeracy skills.

Figure 1.22. Skills gaps between those with and without tertiary education are large

Difference in proficiency for young adults aged 20 to 24



1. BEL = Flanders; GBR1 = England; and GBR2 = Northern Ireland.

Source: OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, Annex A, Tables A3.4 (L) and A3.4 (N).

StatLink http://dx.doi.org/10.1787/888933780549

The existence of a small but significant minority of youth with poor basic skills presents a problem for future workplace needs, where lifelong learning is likely to be increasingly important. Adult learners need the literacy, numeracy, communication and other essential skills to be able to retain learning and apply it. Canada currently sits just above the OECD average on participation in formal and informal adult learning (OECD, 2017[5]). Declining skill levels are also a problem given the increased demand for those with high skills due to skill-biased technological change. Between 1995 and 2015, the share of Canadian jobs requiring high skills expanded by 4.3%, while those requiring middle-level skills contracted by 6.2% and those requiring low skills expanded by 1.8% (OECD, 2017[116]). A similar pattern of job polarisation was experienced in almost all OECD countries and has contributed to lower earnings at the bottom of the distribution, as the disappearance of mid-level jobs has reinforced competition for lower paid jobs. In a globalised, knowledge-intensive economy where technological change is continually reshaping the labour market, individuals with low educational attainment and skills are being increasingly penalised.

Government policy should continue to promote development of basic skills through school and adult education programmes, given the clear links between skills and workplace outcomes as well as the decline in skills among the current youth cohort. The government provided additional funding in its 2018 Budget to support doubling of the number of job placements funded under the Canada Summer Jobs program, launched the Student Work-Integrated Learning Program to help post-secondary students in STEM and business programs get work experience, and is currently developing a renewed Youth Employment Strategy. If implemented well, these initiatives could bring much-needed improvement in how skills are used in the workplace and the alignment between work force skills and business' needs. Support should be targeted at those at greatest risk of becoming NEET and potentially falling into long-term inactivity. Outcomes from raising the compulsory schooling age to 18 in Manitoba, Ontario and New Brunswick should be studied further to ascertain whether benefits from earlier increases documented by Oreopoulos (2006[117]) have been repeated. If they have, other provinces should follow suit, along with measures to diversify curricula to meet the needs of a broader student population at upper-secondary level. In particular, upper-secondary VET programmes are underdeveloped, which complicates labour market entry and restricts further schooling for young people who are not interested in pursuing higher education.

Improve labour market information and dissemination

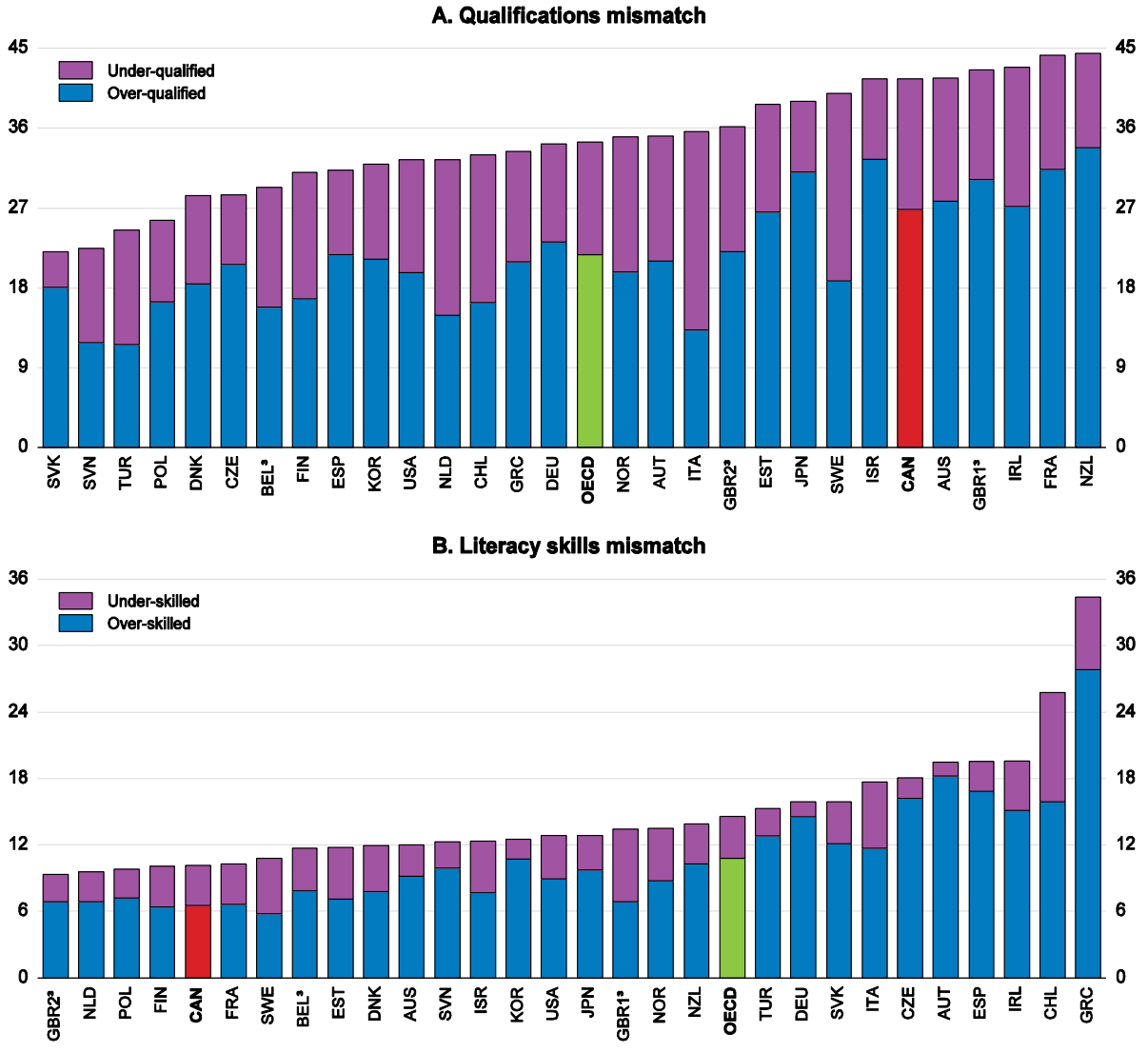
Workers and their jobs are generally well matched, but there is a high prevalence of qualifications mismatch (Figure 1.23). Over-qualification has a significant impact on wages, even after adjusting for skills, and Canada is among the nations in the OECD's Survey of Adult Skills with the largest associated wage penalties (OECD, 2016[118]). The prevalence of qualifications mismatch raises questions about the capacity of the Canadian education system to adapt to future workplace needs, which have the potential to change rapidly with advances in digitalisation, notably artificial intelligence.

Fragmented data on labour market outcomes undermine labour market matching by failing to provide clear signals to young Canadians regarding the career prospects from different types of post-secondary education. When they see little connection between their studies and future employment, it becomes easier for students to disengage or drop out. There is inconsistency in

labour market data sampling and terminology across jurisdictions, for example poor correspondence between Statistics Canada's Economic and Employment Insurance Regions and Employment Ontario regions (OECD, 2014[119]; Advisory Council on Economic Growth, 2017[120])). Labour market information is available across multiple sites, hard to find and challenging to interpret and apply to stakeholders' specific needs (Highly Skilled Workforce Expert Panel, 2016[121]). In some places, for example in Saskatchewan, there is a lack of location-specific labour market information (OECD, 2016[122]). It was estimated that there

Figure 1.23. Qualifications mismatch[1] is large

Percentage of mismatched workers, by type of mismatch, 2012 and 2015[2]



1. Qualifications mismatch occurs when a worker has a higher or lower level of qualification than is required for his/her job. Skills mismatch occurs when a worker's skills are higher than the 90th percentile or lower than the 10th percentile of workers with self-reported well-matched skills.

2. Data correspond to 2012 for countries participating in the first round of the Survey of Adult Skills: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway, Poland, Slovak Republic, Spain, Sweden, United States and United Kingdom. Data correspond to 2015 for countries participating in the second round of the Survey of Adult Skills: Chile, Greece, Israel, New Zealand, Slovenia and Turkey.

3. Data indicated as Belgium correspond to Flanders; GBR1 = England and GBR2 = Northern Ireland. *Source*: OECD (2016), *Skills Matter: Further Results from the Survey of Adult Skills*, Annex A, Tables Chapter 5 – Table A5.7; *OECD Survey of Adult Skills (PIAAC) database* (2012 and 2015).

StatLink http://dx.doi.org/10.1787/888933779846

were over 10 000 community-based organisations delivering career-development services across Canada in the early 2000s, which brings services closer to end-users but can also result in service fragmentation (OECD, 2004[123]). Better labour market data would help these organisations to function more effectively by providing timely and relevant information on job opportunities and how these are linked to specific courses of study.

Fortunately, there are a number of initiatives underway to improve labour market information, including the creation of a new national Labour Market Information Council, the Education and Labour Market Longitudinal Linkage Platform announced in the 2018 Budget, the federal government's Job Bank portal (for which a new mobile application was recently launched) and provincial-level initiatives such as Ontario Job Futures. The new Future Skills organisation, scheduled for launch in spring 2018, will also have a role in identifying skills required by Canadian employers and workforce trends. The objectives of new federal and provincial initiatives should be clearly defined to avoid duplication and overlap.

The formation of the Labour Market Information Council is a key step in the provision of better labour market information across Canada. Having a single national body responsible for publishing detailed labour market information, with full support from the provinces and territories, would eliminate regional gaps while improving consistency and accessibility. The Council should build on the existing federal Job Bank website, which provides a national source for career information, job search and skills matching, exploring new methods to bring together substantial data available from provinces and post-secondary institutions. Additional information should include the number of students projected to graduate by detailed post-secondary programme, the number of apprentices per trade, and employment and salary outcomes by detailed region, qualification and institution, as well as qualitative analysis on the in-school experience of students and how useful they find their programme for workplace preparation. Similar data has been made available in other OECD countries, for example in Spain where the government in 2014 made data available on labour market outcomes of graduates by degree and institution (OECD, 2014[124]).

Leverage benefits from vocational education and training

Employability of youth can be boosted by combining learning with work experience wherever possible, as this improves job-related skills and enhances engagement by demonstrating practical application of classroom skills (OECD, 2017[5]). There are two main strands to post-secondary vocational education and training in Canada: apprenticeships and college programmes. Vocational education is a provincial/territorial responsibility, and each such jurisdiction has its own designated apprenticeship system. This can create problems of consistency and recognition across the country, although federal government support for certification through the Red Seal Programme has helped to establish common standards.

Better labour market information has the potential to address the often poor reputation of vocational education and training by correcting misconceptions about employment outcomes from specific types of vocational training. Governments should also encourage further development of pathways from vocational education to advanced diploma and degree programmes that are certified and recognised nationally, which has the potential to

improve the status of and career opportunities from vocational education (Álvarez-Galván et al., 2015[125]).

Vocational education systems in Ontario (in particular) and Québec are relatively flexible and accommodate the needs of workers well compared to other OECD jurisdictions (OECD, 2014[126]). While around half of all apprentices fail to complete their apprenticeships, many continue to work in relevant trades where certification is not mandatory (OECD, 2014[119]). Compared with many other OECD countries, it is less common for consortia of employers to offer apprenticeships jointly, which makes it more difficult for youth to find apprenticeships.

For youth at risk of being NEET, pre-apprenticeship training can be a valuable way to tip the balance between costs and benefits for employers who take them on for work-based training (Kis, 2016[127]). A new Pre-Apprenticeship Program announced in the 2018 federal Budget will target people who are currently underrepresented in the trades, including women (supporting a number of other new programmes to boost participation of women in the trades), youth, Indigenous Peoples, new immigrants and people with disabilities. One issue that could be addressed through the Program is educational institutions' lack of certainty regarding pre-apprenticeship training programmes, as they generally need to re-apply for funding each year, which undermines long-term planning and programme development. Further support services, such as marketing, information and guidance could be provided to local employers wishing to take on apprentices, particularly SMEs (OECD, 2014[119]).

Also critical is priority access to other forms of training and assistance to give NEET youth the skills they need to be more employable. This is done through the Youth Employment Strategy at the federal level and by provincial initiatives such as the Ontario Youth Jobs Strategy and Youth Employment Centres (*carrefours jeunesse-emploi*) in Québec. The overlap between federal and provincial measures means that strong coordination is essential. More intensive programmes should be targeted towards the small group of youth that face multiple employment barriers. Tying social assistance to participation in youth-specific training or employment programmes, as in Sweden, could boost participation (Steeve et al., 2017[128]).

Inclusiveness for seniors aged 55 and above

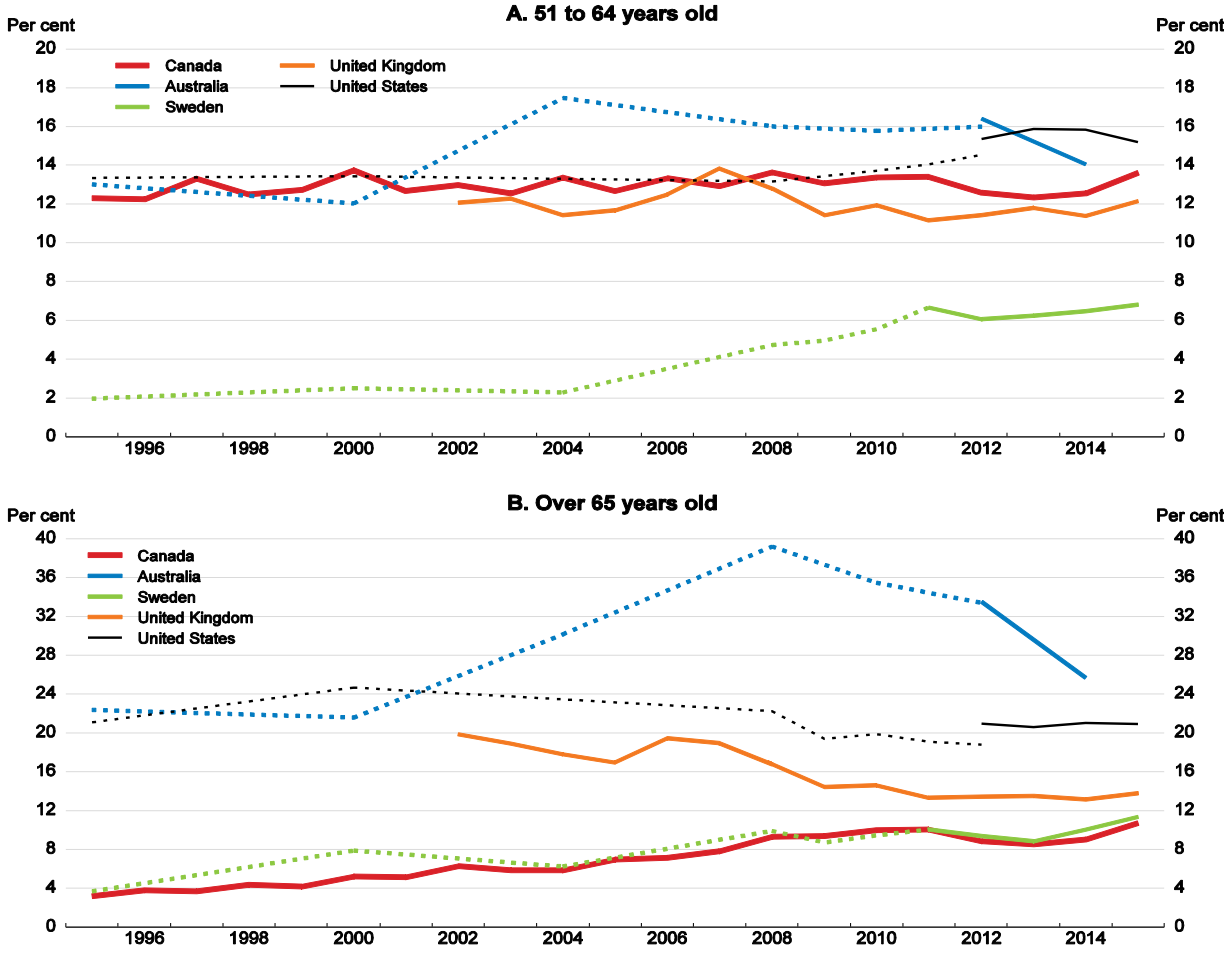
Canada's retirement income system (Table 1.3) shapes employment incentives for older Canadians as well as income adequacy for retirees. The relative poverty rate for those aged 65 or older is less than that of the entire population, lower than in several comparable countries and a substantial step-down from a much higher poverty rate for those aged 51 to 64 (Figure 1.24). However, the poverty rate for those aged 65 or over has risen from record low levels in 1995 due to the failure of minimum public pensions (indexed to the CPI) to keep up with median wage growth, declining rates of employer pension plan coverage and inadequate retirement savings (Shillington, 2016[129]). Poverty rates are much higher among singles and recent immigrants, particularly those who have not resided in Canada long enough to qualify for public first-pillar (OAS) payments.

Table 1.3. A description of Canada's retirement income system

	Key programmes	Key characteristics
Pillar 1	Old Age Security (OAS), Guaranteed Income Supplement (GIS) and smaller federal and provincial supplement programmes	Financed from general revenue and publicly administered. Benefits are income-tested (although OAS benefits are only withdrawn with income above CAD 79 510) and based on duration of residence. OAS and GIS available from age 65.
Pillar 2	Canada Pension Plan (CPP) and Québec Pension Plan (QPP)	Mandatory social insurance administered by federal and provincial governments, with earnings-related contributions and benefits Full benefit at age 65. Available from age 60, with payment rates decreasing by 8.4% per year with early take-up. Payment rates increase by 7.2% per year after age 65 for deferral up to age 70.
Pillar 3	Workplace (registered) pension plans Registered Retirement Savings Plans Tax Free Savings Accounts	Privately administered Voluntary for employers and/or individuals Regulated and tax-supported

Source: Adapted from B. Baldwin and R. Shillington (2017), *Unfinished Business: Pension Reform in Canada*, IRPP.

Figure 1.24. Canada's relative poverty rate after taxes and transfers is low for the over-65s[1]



1. Dotted lines are data under the old, pre-2012 income definition.
Source: OECD (2017), *Income Distribution database*, http://www.oecd.org/els/soc/income-distribution-database.htm.

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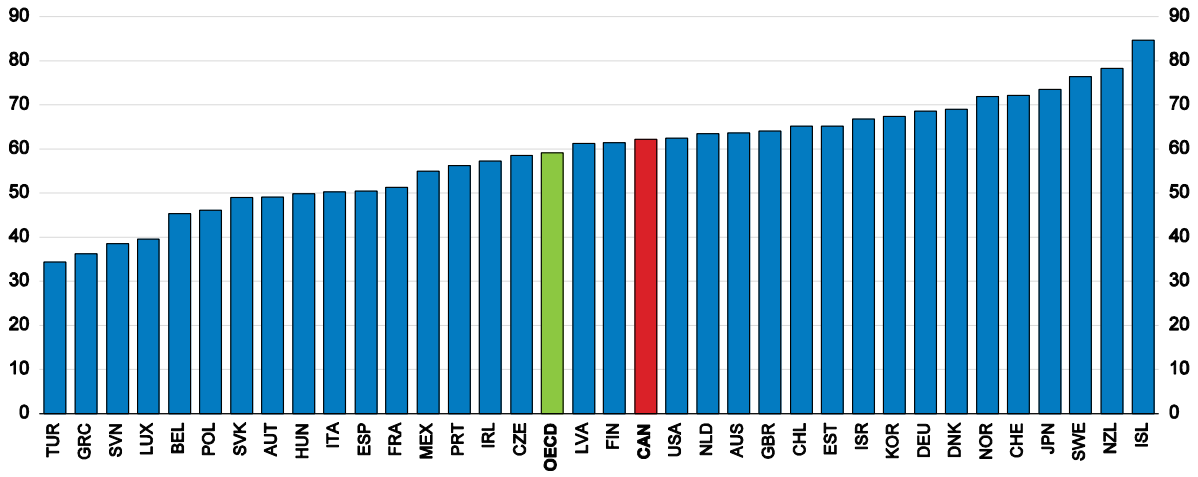
There is room to increase employment of seniors

Employment rates for older Canadians are slightly above the OECD average (Figure 1.25). This places Canada just behind English-speaking countries such as the United States, Australia and the United Kingdom, and around 10 percentage points behind leading OECD countries such as Iceland, New Zealand and Sweden. Cross-country analysis indicates scope to achieve small but significant increases in employment among older Canadians by increasing the normal retirement age and ALMP expenditure to match leading OECD countries (Figure 1.8 above).

Figure 1.25. Employment rates of 55 to 64 year-olds were slightly above the OECD average in 2016

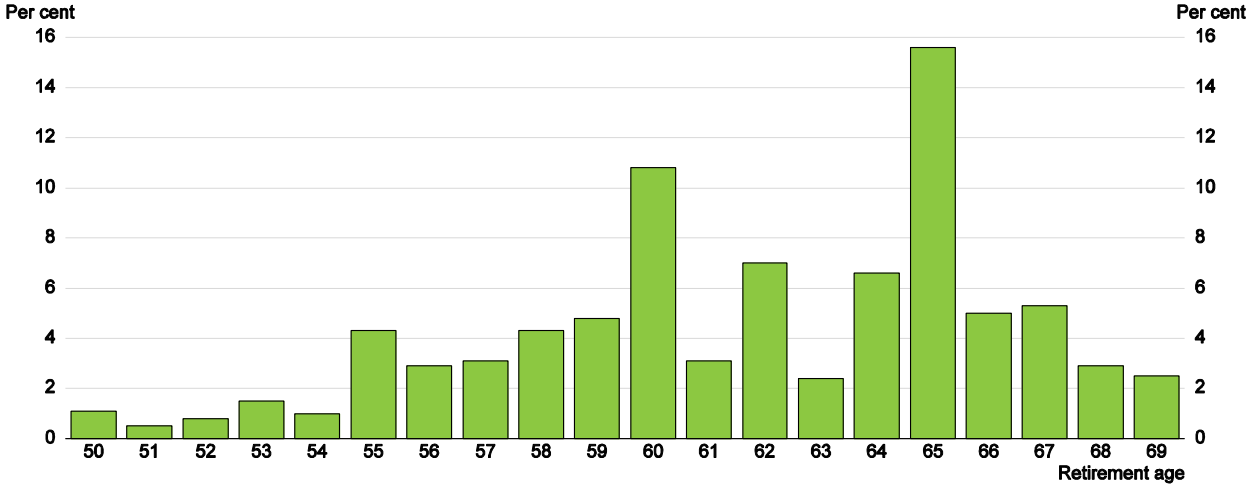


Source: OECD, *Short-Term Labour Market Statistics database*.

StatLink http://dx.doi.org/10.1787/888933780587

The average effective retirement age is just above the OECD average of 65 for men and just below the OECD average of 64 for women (OECD, 2017[130]). Labour force participation rates for older Canadians and average retirement ages have been rising since the mid-to-late 1990s, reflecting better health, higher levels of education, pension reforms that remove penalties for delaying retirement and higher female participation. Yet, further increases in retirement ages are likely to be held back if retirements continue to cluster around 60 and 65, the ages at which CPP and other public pensions (respectively) first become payable (Figure 1.26). Eligibility ages have a significant effect on retirement timing decisions across OECD countries, probably reflecting their importance for liquidity-constrained individuals and/or effects on community norms (Duval, 2003[131]). As in all OECD countries, participation drops considerably for those aged 65-69 and there is much unused work capacity among this age group (OECD, 2017[90]).

Figure 1.26. The age distribution of retirement was concentrated around 60 and 65 in 2014



Source: Finance Canada.

StatLink http://dx.doi.org/10.1787/888933779865

Reduce marginal effective tax rates for people eligible for GIS payments

High marginal effective tax rates (METRs) for some older Canadians diminish their incentives to work. On average, changes in net pension wealth from remaining in the workforce are below the OECD average for those aged 55 to 59 and above for those aged 60 to 64 (Figure 1.27). Consistent with this, implicit taxes on continued work are moderate for the average Canadian worker (OECD, 2014[132]). However, METRs exceed 50% for many low-income earners aged 65 or over due to the steep phase-out of GIS payments. METRs are at least 75% for the range of incomes over which GIS and the GIS top-up benefit are phased out simultaneously (from CAD 2 000 per year up to around CAD 8 500 for singles). In British Columbia, Manitoba, Ontario and Saskatchewan, METRs and average tax rates are equal to or even exceed 100% over some low income ranges, due to the interaction of provincial and federal income supplement schemes (Laurin and Poschmann, 2014[133]). These high effective tax rates reduce work incentives for current and prospective GIS recipients and are also unfair, as people who earn and/or save more can have lower net incomes than their peers.

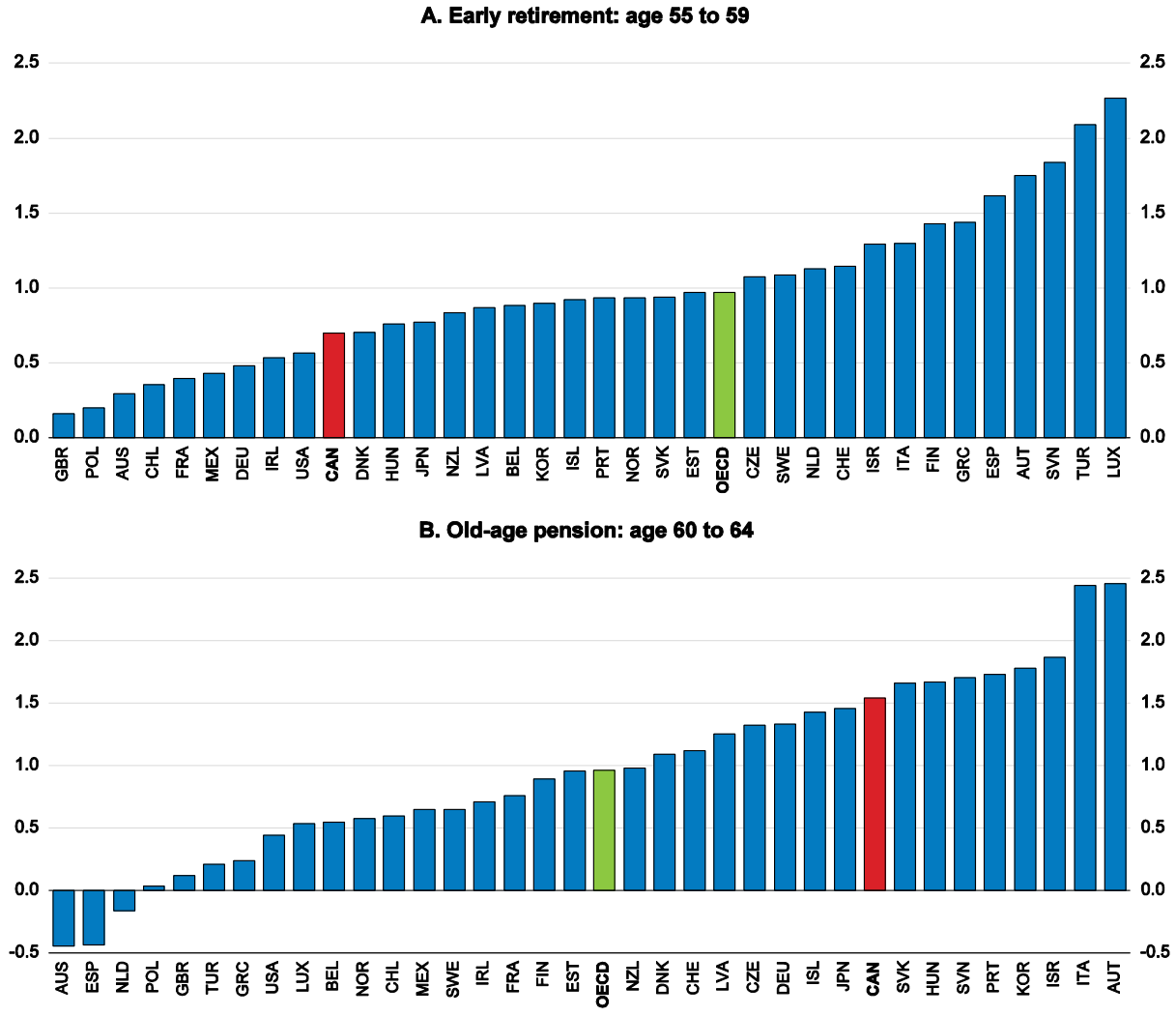
The unemployment rate for those aged 55-64 was around 1.5 percentage points above the OECD average in 2016 (OECD, 2017[134]). Older workers who lose their jobs are more likely to suffer extended periods of unemployment, and previous research has identified a need to expand the access of older, long-tenured, displaced workers to intensive job-search assistance, case management and training (OECD, 2015[20]).

Effective tax rates close to or above 100% should be eliminated by reforming provincial income supplement schemes to ease phase-out provisions that overlap with that of GIS. Steps should also be taken to reduce marginal effective tax rates of at least 75% where phase-out of the GIS top-up and basic GIS overlap. However, reducing phase-out rates would increase the number of recipients on GIS, raising both fiscal costs and the number of people affected by high marginal tax rates. Many low-income seniors have weak attachment to the workforce and are thus largely unaffected by the work-disincentive effects. Among those aged 65-69, only 14% use any part of the CAD 3 500 employment income (excluding self-employment income) exemption under GIS and just 9% use all of

it (Statistics Canada, 2017[135]). In any case, recent analysis indicates that in practice older Canadians respond more to average than marginal tax rates (Messacar, 2017[136]).

Figure 1.27. Incentives to remain in the workforce beyond 55 and 60 vary by age group

Changes in net pension wealth,[1] as a percentage of gross annual individual earnings, 2016



1. This concept measures the increase in the level of pension entitlements by remaining in employment for an additional year. Net pension wealth is the present value of the flow of pension benefits, taking account of the taxes and social contributions that retirees have to pay on their pensions. See OECD (2013) for more details.

Source: OECD (2018), *Economic Policy Reforms: Going for Growth 2018*; OECD (2013), *Pensions at a Glance 2013: OECD and G20 Indicators*.

StatLink http://dx.doi.org/10.1787/888933780606

The retirement-timing problem associated with GIS phase-out – reduced incentives to work beyond 60 – could be addressed by increasing in-work income tax benefits specifically for older workers, beyond general increases under the Canada Workers Benefit. People aged below 65 who expect to receive GIS payments in future face reduced incentives to continue working beyond 60, as at least half of increased future CPP payments will be lost in GIS clawbacks (Laurin, Milligan and Schirle, 2012[137]).

Increase the normal retirement age in line with life expectancy

Increasing the normal retirement age has the potential to increase employment of older Canadians, boosting growth while also delivering budgetary savings. Life expectancy at 65 increased by over 3½ years in the three decades to 2013 (OECD, 2017[138]), over which time the minimum age for public first-pillar benefits and the normal age for CPP and QPP benefits were unchanged (the minimum age for CPP and QPP was reduced from 65 to 60). Life expectancy at 65 is projected to increase by a further 2½ years by 2050 (Office of the Chief Actuary, 2017[139]). The previous government legislated two-year increases in the ages of eligibility for public pensions over the 2023-29 period, but these changes were reversed by the current government. These age increases would have delivered fiscal savings of 0.3% of GDP in 2030 (Office of the Chief Actuary, 2016[140]). Indexing the pension age to life expectancy, as some OECD countries have done, is a way to gradually change social norms around retirement timing while depoliticising future pension-eligibility decisions. Other retirement-age-related rules (for example, those in the tax system and provincial rules) would also need to be adjusted for later pension eligibility.

One concern is that increasing the retirement age can unduly affect low-income seniors, as these people may face challenges to working longer and often have lower-than-average life expectancy. In particular, people who do manual labour may be physically unable to work longer. While further increases in automation and mechanisation are set to make this less common, it is important to ensure that disadvantaged older workers have access to retraining and job opportunities, with adequate safety net provisions such as disability benefits as a fall-back. Health-adjusted life expectancy at 65 over 2005-07 was 3.3 years less for those in the bottom income quintile than those in the top (Statistics Canada, 2018[141]). This means that increasing the retirement age has a proportionately larger effect on pension wealth of low-income workers. However, this effect is quantitatively small if increases in retirement ages are matched by increases in life expectancy, in particular if indexing is incomplete (for example if the share of an average lifetime spent in retirement was to remain fixed) (OECD, 2017[90]). Fortunately in Canada, unlike in the United States, recent increases in life expectancy at age 65 have been larger for those with low incomes (Statistics Canada, 2018[141]; 2018[142]).

Inequality in life expectancy strengthens the importance of redistribution through the pension system more generally, on which front Canada performs well but could increase targeting of OAS pension payments, as these are means tested on individual incomes only and are not phased out below very high income levels (CAD 122 843 in 2018). Another way to address distributional concerns would be allowing some early pension payment, on an actuarially neutral basis, as the normal retirement age increases. Of greatest importance is ensuring that there are sufficient opportunities for disadvantaged older workers through skill development and removing other barriers, as discussed below.

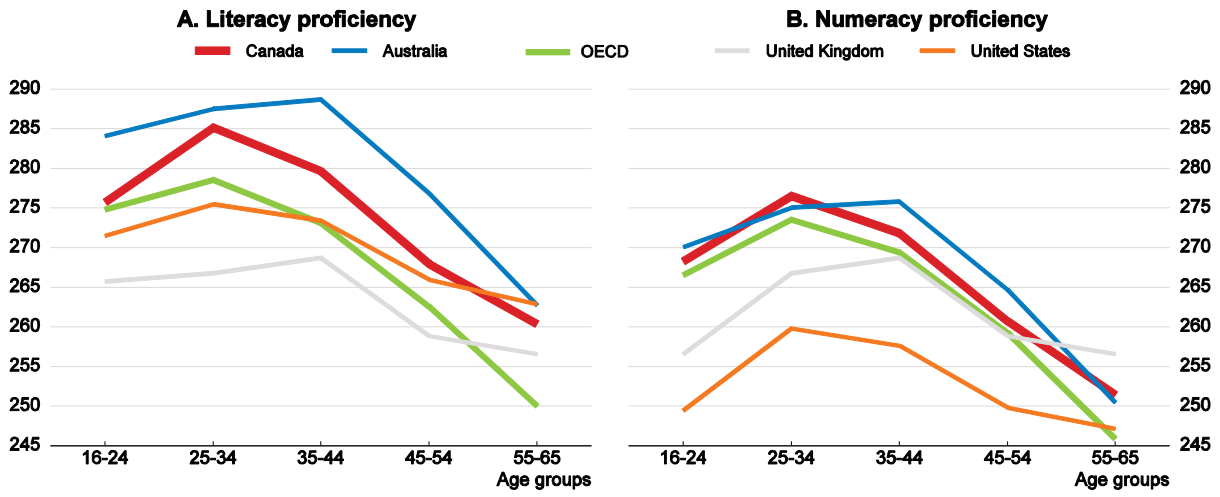
Improve skills of older workers through lifelong learning

Governments can assist those choosing to work longer through ensuring that the skills of the elderly are up-to-date. Strong skills are crucial for seniors to find work and will become even more so in the future, as digital technologies are likely to accelerate skills obsolescence. Literacy and numeracy skills are high among Canadians aged 55-65 and decline less across age groups than the OECD average (Figure 1.28). As in most OECD countries, however, older adults are generally much less proficient in computer skills: 20% of Canadian 55-65 year-olds have no computer experience or failed core ICT tests,

compared with 5% of 16-24 year-olds (OECD, 2016[118]). Canadians' participation in adult education and training is above average overall but decreases with age and is much lower for those with low literacy skills or low educational attainment (OECD, 2017[5]; 2017[90]). Less-skilled workers who have not received training to stabilise their cognitive capacities are more vulnerable to technological change, and research findings suggest that adult education and job-related training are most important for disadvantaged individuals with low level of education attainment and skills (OECD, 2013[143]; 2017[5]).

Figure 1.28. The age profile of information-processing skills

2012 or 2015[1]



1. For the exact year of reference of the data, see footnote 2 in Figure 1.22. The UK data is composed of England and Northern Ireland.

Source: OECD (2016), *Skills Matter - Further Results from the Survey of Adult Skills*, Annex A; *OECD Survey of Adult Skills (PIAAC) database* (2012 and 2015).

StatLink http://dx.doi.org/10.1787/888933780625

Lack of access to training for those who need it most highlights the importance of prioritising equity in lifelong learning through support targeted towards the most vulnerable. Canadian governments should complement successful initiatives for co-financing of adult education and training with measures to promote innovative and flexible delivery, such as through online learning and convenient hours for those with work and/or caring responsibilities. Pilot projects commencing in 2018 under the Skills Boost plan, including targeted grants for low- and middle-income adult learners, should be evaluated once sufficient data are available and extended if found to be successful. The success of the Digital Literacy Exchange program, which supports teaching of fundamental digital literacy skills to Canadians, should also be monitored. New Labour Market Transfer Agreements (as discussed above) give provinces greater flexibility to respond to specific training needs in their jurisdiction, but it is too early to assess the effects on opportunities for lifelong learning for the most vulnerable.

Remove other barriers to employment of older workers

A lack of job flexibility precludes many older workers from choosing their working hours, resulting in earlier retirement. In Canada over one quarter of retirees state that they might have changed their decision to retire if they had been able to reduce their work schedule (Morissette, Schellenberg and Silver, 2004[144]). Adapting working arrangements

to the capacities of older workers can allow them to maintain their productivity equal to that of prime-age workers (Sonnet et al., 2014[145]). To increase workforce participation, governments should promote phased retirement and workweek flexibility for older Canadians. One way to do this is through government cooperation with employer groups to educate businesses on the benefits of offering flexible work arrangements and the small costs of their set-up and management (Steeve et al., 2017[128]).

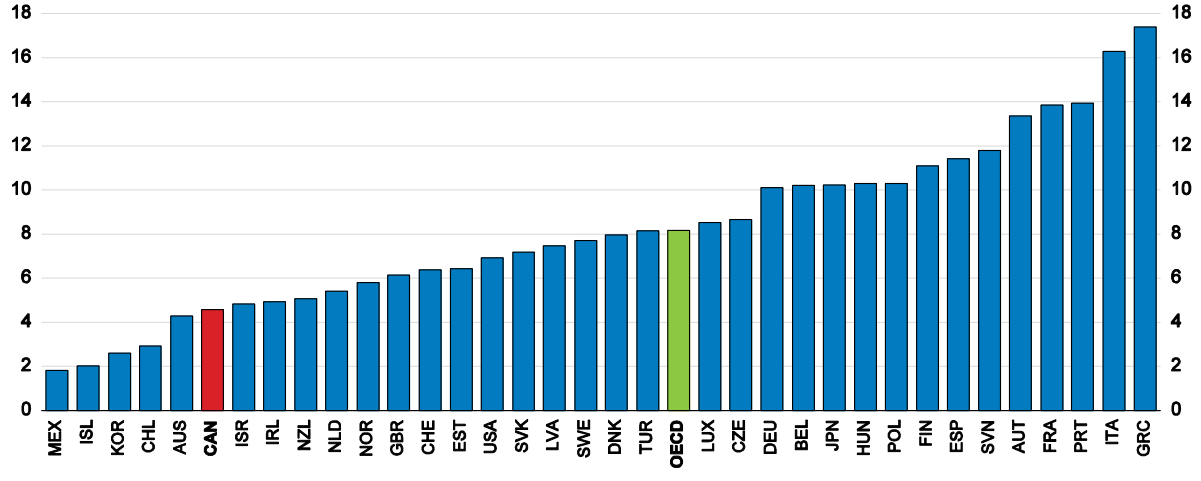
Anti-discrimination legislation and information provision regarding the potential benefits from experienced employees can be useful to support demand for older workers. However, special employment protection rules for older workers should be avoided, as these can reduce the incentives for firms to hire and retain older workers. Disability is often a barrier to continued work, as the incidence of disability increases markedly with age. Prevention policy regarding smoking, drinking and obesity has the potential to reduce health inequalities by delivering the greatest benefits to vulnerable population groups, while also improving their labour market outcomes (OECD, 2017[90]).

Curb old-age poverty through further real increases in public pensions

Currently, a decline in living standards after retirement is largely a middle- and upper-income earner problem, concentrated among those not in a workplace pension plan. Gross replacement rates for lower income earners are high, in many cases exceeding 100% compared with a common benchmark for retirement income adequacy of 70% (Baldwin and Shillington, 2017[146]; Ostrovsky and Schellenberg, 2010[147]). Canada has achieved high replacement rates for low-income earners while spending only 4½ per cent of GDP on pensions, well below the OECD average of 8% (Figure 1.29). This has been done through strict income testing of access to the GIS component of first-pillar pensions, redistribution through the first and second pillars and a reliance on occupational pension plans and tax-favoured individual savings (the third pillar) to provide adequate retirement incomes for higher-income earners. All these factors contribute to a fairly high progressivity of the old-age pension system in Canada (OECD, 2017[90]), which helps limit inequality in pension incomes.

Figure 1.29. Public expenditure on pensions is low

Old age and survivors pensions as a percentage of GDP, 2015 or latest available year



Source: OECD, *Social Expenditure database*.

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In the future, however, CPI indexing of first-pillar OAS benefits is likely to create retirement income problems for some low earners given expected real wage growth. Based on Canadian pension legislation and an internationally standardised set of assumptions for earnings and price growth, people aged 20 in 2016 who earn half the average wage throughout their career are expected to receive a gross replacement rate of just 54% from mandatory public and private pension schemes when they retire, compared with the OECD average of 65% (OECD, 2017[130]). Changing to full wage indexation would put Canada above the OECD average, as this is estimated to add 28 percentage points to their replacement rates (OECD, 2015[148]). The biggest effect of declining replacement rates from public pension payments due to CPI indexing will be felt by low-income earners, with up to 20% of low-income earners in 2015 projected to experience a decline in living standards when they retire (Moore, Robson and Laurin, 2010[149]). Indexing first-pillar pensions to the CPI also does not allow for the possibility that seniors might face faster increases in the cost of living due to different consumption patterns, such as a lower share of spending on electronics and a higher share on healthcare. However, earlier Statistics Canada research shows that in practice seniors-only households experienced a similar rate of inflation to other households (Chiru, 2005[150]).

The federal government needs to ensure that it continues to share the fruits of economic growth with low-income seniors through real increases in pension payments. This could be achieved through more generous indexing of OAS and GIS payments, where there are a number of different implementation options (Table 1.4). Alternatively, real increases in public pensions could continue to be delivered through *ad hoc* adjustments.

Table 1.4. Options to introduce more generous indexation of public pensions

	Benefits	Drawbacks	Examples in other OECD countries	Estimated cost
Full indexation to wages	Maintain relativities of public pensions to working incomes	Substantial fiscal costs. Compression of pension benefits from inconsistent indexation – CPP payments are indexed to prices – reducing incentives to work longer	Denmark, Germany and Ireland; also United Kingdom if wage growth exceeds price growth	0.3% of GDP in 2030 1.5% of GDP in 2060
Indexation to a weighted average of consumer prices (CPI) and wage growth	Less costly than full indexation to wages	Replacement rates for those relying on public pensions still decline over time	Czech Republic, Estonia and Switzerland	Indexing 40% to CPI and 60% to wages: 0.9% of GDP in 2060
Indexation to wages until retirement then CPI after retirement.	Prevent a fall in replacement rates over time, while maintaining living standards for those in retirement Consistency of indexation with CPP and (at the time of retirement) with unemployment benefits	Additional complexity and perceived unfairness of different payments for people of different ages Substantial long-term fiscal costs	Basic contributory pensions in Japan	Similar cost as indexing 40% to CPI and 60% to wages over about 30 years

Source: OECD (2017), *Pensions at a Glance 2017: OECD and G20 Indicators*; OECD (2015), *Pensions at a Glance 2015: OECD and G20 indicators*; Office of the Chief Actuary (2017), *14th Actuarial Report on the Old Age Security Program as at 31 December 2015*.

Discretionary adjustments give governments the capacity to better target emerging areas of need (such as increased GIS payments for singles in the 2016 budget) but are also subject to political processes and less clearly linked to economic and wage growth. Canada has no long-term budgetary need to reduce the value of public pension payments, which currently account for a relatively low share of GDP, and replacement rates are not especially high.

Make long-term care more responsive to user needs

Long-term care is expensive and can trigger financial problems for older Canadians. People on low incomes are the most likely to become disabled and the least likely to be able to afford professional care, leaving them at risk of unmet needs. In Canada, as in several other major OECD countries, the cost of care for someone with heavy needs recently topped 60% of disposable income even for those among the eighth (i.e. third-highest) income decile (Colombo et al., 2011[151]). The cost of institutional care is particularly high in Canada, with both of the Canadian provinces analysed by Muir (2017[152]) (Ontario and Nova Scotia) falling in the top half of jurisdictions studied.

Canadian governments spent 1.1% of GDP on long-term care in 2014, just below the OECD average of 1.4% (OECD, 2017[153]). Around 80% of long-term care costs are publicly funded. There is also considerable in-home care provision by family and friends: the size of the family care "workforce" is estimated to be more than ten times the size of the formal-care workforce in Canada, as in a few other OECD countries (Colombo et al., 2011[151]). The value of informal care in Canada was estimated at CAD 27 billion (1.6% of GDP) in 2010, exceeding the estimated annual fiscal cost of institutional elderly care of CAD 24 billion (Busby and Blomqvist, 2016[154]; Blomqvist and Busby, 2014[155]).

Despite substantial government funding, unmet needs remain. A few years ago just over 10% of people with long-term home-care needs did not receive any services, and a further 10% of people who received home care required more care than they are getting (Turcotte, 2014[156]). People in need of non-urgent care are increasingly on waiting lists or deemed ineligible for publicly funded services to which they once had access (Donner et al., 2015[157]). In a recent survey of people who needed help with daily living activities, 19% of people in Canada did not receive the assistance that they needed because of costs, compared to 2–10% of respondents in most countries outside North America (Osborn et al., 2017[158]). Fifteen per cent of acute-care hospital beds are estimated to be occupied by people who would be better off or would prefer to be at home or in community-based setting (Sutherland and Crump, 2011[159]; Government of Canada, 2017[160]).

A shortage of formal care puts heavy strain on carers, the majority of whom are women. Across OECD countries, carers face an increased risk of mental health problems and may find it difficult to remain in work (Colombo et al., 2011[151]). Carers are supported through federal and provincial tax credits, Employment Insurance Family Caregiver benefits, carers' allowances at the provincial level and respite care.

Demand for long-term care is set to increase rapidly as the population over 65 is projected to more than double between 2011 and 2036 (Morency, Malenfant and MacIsaac, 2017[161]). Public costs of long-term care are predicted to increase by more than 50% as a share of GDP by 2040, holding the degree of public subsidisation fixed (Blomqvist and Busby, 2014[155]). There is a risk that informal-care provision will not be able to expand in proportion to demand, as the elderly population share rises and as women have stronger attachment to the labour force and thus greater opportunity costs of caring. The 2017 federal budget dedicated an additional CAD 6 billion over 10 years for home care,

including funding to provinces to improve access to home-, community- and palliative-care services as well as more support for informal caregivers.

Governments should act to provide greater consumer choice regarding the basket of publicly funded services received, as recommended by Ontario's Expert Group on Home and Continuing Care (Donner et al., 2015[157]) and Busby and Blomqvist (2016[154]). In most cases, people in need of care and their families will be best placed to decide what care is needed and whether to remain at home. Canadians in need of care and their families have a desire to be actively involved in the development and implementation of their care plan, with flexibility in tailoring the plan to their family's unique and evolving situation (Donner et al., 2015[157]). Competition among providers where consumers are free to choose the personal- and nursing-care services they require can lead to a more dynamic system, with enhanced incentives for efficiency, innovation and quality. This needs to be supported by information provision as well as adequate regulatory oversight of safety and quality standards to protect vulnerable consumers and ensure that information asymmetries between providers and consumers are not exploited. There have been some success stories in moves toward more self-directed care in Canada, such as tele-home-care initiatives that have led to a reduction in hospital admissions while improving clients' self-management ability (Colombo et al., 2011[151]). Australia's National Disability Insurance Scheme is an example where greater user choice supported the emergence of a market with an expanded range of personal care services and contributed to greater well-being for participants (Mavromaras et al., 2018[162]).

Additional funding is needed to confront waiting lists and ensure that future demand growth can be met. Private long-term-care insurance is unlikely to overcome funding gaps: even in OECD countries with the broadest coverage, less than 10% of the population aged 40 and above hold such insurance, and in most OECD countries less than 2% of total long-term-care expenditure is financed through private long-term-care insurance (Colombo et al., 2011[151]). There are a number of reasons for this, including low product awareness, myopic decision-making and adverse selection.

A possible alternative to the current system of funding out of general revenue (pooling risks through the social security system) is a social insurance approach with dedicated channels for financing long-term care, as in Germany, Japan, Korea, Luxembourg and the Netherlands (Colombo et al., 2011[151]). This can ensure a reliable and predictable source of revenue while creating a sense of entitlement for people, raising their willingness to pay, and can also improve intergenerational equity to the extent that funding available for each generation matches their contributions. However, it is too late for such an approach to fund a substantial part of the long-term care costs of the baby-boom generation. A compulsory insurance model would also raise substantial design and transitional issues, such as who would administer the scheme, and how the rate of contributions would vary with income and age and adjust to changes in expected future costs, as well as how to smooth the transition from pay-as-you-go to pre-funding.

Another potential source of financing to expand the provision of long-term care is greater reliance on user charges, in particular for non-healthcare services. User charges are calibrated to ability to pay using means tests, but currently only two provinces – Québec, and Newfoundland and Labrador – take into account assets in assessing ability to pay. In practice, income is correlated with assets, but the incidence of income-poor/asset-rich older Canadians is likely to have increased with rapid appreciation of house prices. Average wealth among Canadians aged 70 to 74 increased more than four-fold in real terms between 1984 and 2012, exceeding real average income growth of just over 50%

(Sarlo, 2017[163]). Including assets in the means test can broaden the base of users contributing to the cost of care and better reflects the distribution of ability to pay and economic welfare among individuals, but it can also make the system more cumbersome to administer. Public-sector mechanisms used in other OECD countries to allow users to mobilise cash from home ownership include bonds/equity release and similar interest-free loan schemes (as in Australia) and measures to defer payment of nursing-home costs (Ireland and some local councils in the United Kingdom).

User charges for low- and moderate-needs homecare could be increased without exceeding affordability thresholds. Most Canadian provinces provide nursing- and personal-care coverage without charge in home-care settings, and as a consequence care recipients earning median incomes pay a smaller share of their disposable incomes in Ontario and Nova Scotia than in many other OECD countries (Muir, 2017[152]). Any increase in co-payments for home-based care needs to be calibrated with co-payments for institutional care to avoid creating incentives to move out of the home for low- or moderate-level care, which would raise overall budgetary costs.

Recommendations to increase inclusiveness for women, youth and seniors

(Key recommendations are in bolded text)

- Review active labour market programmes with a view to further increase funding for effective measures through expanding eligibility and/or providing greater access to more intensive re-employment counselling and retraining.
- Introduce independent expert commissions to periodically update provincial minimum wages, including the scope for regional variation and lower minimum wages for youth.

Inclusiveness for women

- **Further increase federal and provincial funding of childcare with a goal of making access to affordable high-quality childcare available to all children aged three and under.**
- **Extend kindergarten so that all four year-old children have access to affordable pre-school education.**
- Improve the quality of early childhood education through expansion of regulatory oversight, development of professional capacity and collection and use of outcomes data.
- **Support take-up of new parental leave by fathers through information provision and, if necessary, increasing payment rates.**
- Make in-work tax benefits more generous for low-income single parents, as planned.
- Take further steps to address financial, mentorship and support-programme barriers to female entrepreneurship through a comprehensive national strategy for women's enterprises, underpinned by more gender-disaggregated data.

Inclusiveness for youth

- **Consolidate the existing range of career guidance and education information into a single national portal to provide a comprehensive one-stop shop.**
- Continue to promote basic skills development through school-based education and adult-learning programmes, particularly for students from disadvantaged backgrounds.
- Improve the accessibility and reputation of apprenticeship and vocational education systems through increasing funding certainty for pre-apprenticeship training and encouraging further development of pathways to advanced diplomas and degrees.

Inclusiveness for seniors

- **Index the eligibility age for public pensions to life expectancy, supported by encouraging flexibility in working hours and skill development.**
- Reduce clawback rates for GIS top-up benefits, and reform provincial income supplement schemes for seniors to reduce marginal effective tax rates to well below 100%.
- Further increase in-work tax benefits for low-income earners aged over 60 to increase incentives to remain in the workforce.
- **Manage growing demand for long-term care by improving the targeting of public payments, wider application of user charging and further encouraging home-care services.**

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Chapter 2. Making the most of immigration

Canada's immigration policy aims to promote economic development by selecting immigrants with high levels of human capital, to reunite families and to respond to foreign crises and offer protection to endangered people. Economic-class immigrants, who are selected for their skills, are by far the largest group. The immigration system has been highly successful and is well run. Outcomes are monitored and policies adjusted to ensure that the system's objectives are met. A problematic development, both from the point of view of immigrants' well-being and increasing productivity, is that their initial earnings in Canada relative to the native-born fell sharply in recent decades to levels that are too low to catch up with those of the comparable native-born within immigrants' working lives. Important causes of the fall include weaker official language skills and a decline in returns to pre-immigration labour market experience. Canada has responded by modifying its immigration policy over the years to select immigrants with better earnings prospects, most recently with the introduction in 2015 of the Express Entry system. It has also developed a range of settlement programmes and initiatives to facilitate integration. This chapter looks at options for further adjusting the system to enhance the benefits it generates.

The main objectives of Canada's immigration policy are to promote economic development by selecting immigrants with high levels of human capital, to reunite families and to respond to foreign crises and offer protection to endangered people (IRCC, 2017[1]). The federal government sets annual admission targets for permanent resident visas to achieve a pace and mix of immigration that is judged best to contribute to meeting these objectives. Economic-class principal applicants, who are selected for their skills, and their spouses and dependent children comprise by far the largest immigrant category, followed by the family and refugee and humanitarian categories. The focus on economic immigration reflects the view that it improves the quality and productivity of the Canadian labour pool over the long term, leading to higher potential growth (ibid). In addition to the economic and social benefits of furthering the above objectives, immigration policy also enhances well-being by increasing cultural diversity and the variety of goods and services available and by strengthening understanding of diverse cultures, potentially improving international relations.

Canada's immigration system has been highly successful in many respects. Immigrants and their children are better integrated into society in Canada on a variety of indicators than in most other countries (OECD and European Union, 2015[2]). The system is well run. Outcomes are constantly monitored and policies adjusted accordingly to ensure that the system's objectives are met. Immigration has become the main source of population growth, increasing the immigrant share of the population to one of the OECD's highest. It has contributed to an increase in educational attainment of the working-age population, made the country more culturally diverse and helped to grow the main cities, facilitating agglomeration economies. Immigrants' children succeed well in education and enjoy strong labour-market outcomes. Immigrants selected for their skills earn substantially more than other immigrants, indicating that selection is succeeding in identifying immigrants with the greatest potential for labour market integration.

A problematic development, both from the point of view of increasing immigrants' well-being and productivity, is that initial earnings for immigrants relative to the native-born fell sharply in recent decades, despite immigrants being more highly educated on average than the native-born. Immigrants' relatively low productivity and earnings are the reason why studies of the impact of immigration on GDP per capita have typically failed to find a positive effect. Canada has responded by modifying its immigration policy over the years to select immigrants with better earnings prospects. It has also developed a range of settlement programmes and initiatives to facilitate integration but could get better results by reallocating resources from the least effective programmes and initiatives to those that are more beneficial.

Immigration also raises hopes and fears about a variety of economic effects other than productivity and about social effects, all of which are typically found to be small. Some see immigration as a solution to Canada's population ageing, but even a doubling of the immigration rate would only have minor effects on the working-age and elderly population shares. Concomitantly, the effects on government budgets are modest in the long term and small over shorter horizons. A vast literature has developed on the effects of immigration on the wages of the native-born. While not conclusive, this literature generally also finds that such effects are only minor. And immigration does not appear to have weakened social cohesion in Canada, in contrast to the situation in many other countries (Picot, 2013[3]).

After discussing the main features of immigration policy in Canada and its demographic effects, this chapter reviews the effects of immigration on GDP per capita, the wages of

the native-born and government budgets. The causes of the long-term drop in immigrant earnings relative to those of the native-born are tackled in the next section followed by a discussion of measures to improve immigrants' labour-market integration. These broadly fall into the categories of selecting immigrants with better labour-market prospects and improving integration of those already settled in Canada.

Canada takes a managed approach to immigration

Canada has a managed immigration model with defined legal pathways for people wishing to come and live in the country. It sets annual targets for permanent resident admissions to achieve a pace and mix of immigration that is judged best to contribute to economic and social well-being. The minister responsible for immigration must table a plan in Parliament by 1 November each year setting out the intended ranges for permanent-resident admissions in total and within each of the classes – economic, family and protected persons and refugees – in the following year. The 2018 plan has an admissions target of 310 000 (0.84% of the population) with a range of +/- 20 000, which is slightly higher than in 2016 (296 352) and 2017 (300 000) and 19% higher than the average intake over 2006-2015 (257 000) (Table 2.1). This target will rise to 340 000 in 2020. Economic immigrants account for 57% of planned admissions in 2018 (of which two thirds are spouses and dependent children of principal applicants), family immigrants 28% (mostly spouses, partners and children of residents, making this target more an

Table 2.1. Immigration levels

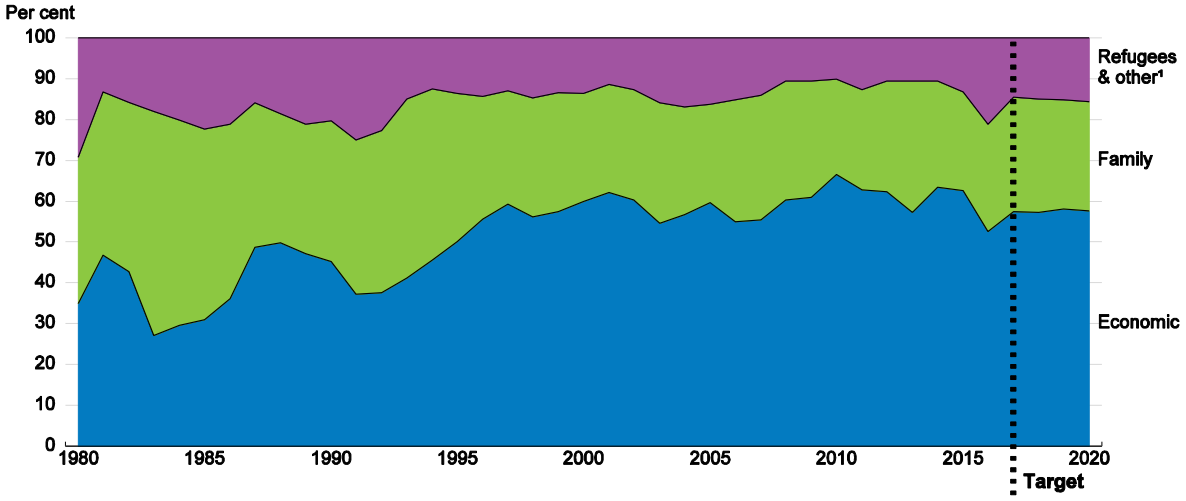
	2015	2016	2017	2018	2019	2020
	Admissions				Targets	
Economic						
Federal High Skilled[1]	68 795	59 999	73 700	74 900	81 400	88 000
Caregivers[2]	27 214	18 481	18 000	17 000	14 000	5 000
Provincial Nominee Program	44 535	46 169	51 000	55 000	61 000	67 800
Quebec Skilled Workers and Business[3]	28 787	30 492	29 300	28 900	32 500	32 500
Other economic[4]	1 036	867	500	1 700	2 700	2 500
Total Economic	**170 367**	**156 008**	**172 500**	**177 500**	**191 600**	**195 800**
% of total	62.7	52.6	57.5	57.3	58.1	57.6
Family						
Spouses partners children	49 996	60 944	64 000	66 000	68 000	70 000
Parents, grandparents	15 489	17 039	20 000	20 000	20 500	21 000
Total Family	**65 485**	**77 983**	**84 000**	**86 000**	**88 500**	**91 000**
% of total	24.1	26.3	28.0	27.7	26.8	26.8
Refugees and Protected Persons, Humanitarian and Other	**35 969**	**62 361**	**43 500**	**46 500**	**49 900**	**53 200**
% of total	13.2	21.0	14.5	15.0	15.1	15.6
Total	**271 821**	**296 352**	**300 000**	**310 000**	**330 000**	**340 000**

1. Includes Federal Skilled Worker Program, Federal Skilled Trades Program and Canadian Experience Class.
2. Includes admissions in the Caring for Children Class and the Caring for People with High Medical Needs Class, pilot programmes that replaced the Live-in Caregiver Program in late 2014.
3. Under the 1991 Canada-Quebec Accord, Quebec has full responsibility for the selection of immigrants destined for Quebec except for Family Class and in-Canada refugee claimants.
4. Includes the Atlantic Immigration Pilot Program and Federal Business programmes.
Source: Immigration, Refugees and Citizenship Canada (2017), "Notice – Supplementary Information 2018-2020 Immigration Levels Plan" and "Canada's Immigration System and the Points-based Approach for Human Capital".

exercise in projecting demand as these persons are normally entitled to immigrate) and refugee and humanitarian immigrants 15% (Table 2.1). The share of economic-class

immigrants in the total has increased markedly since the early 1990s to one of the highest levels among OECD countries (Figure 2.1 and Figure 2.2).

Figure 2.1. Permanent resident admissions and planned levels by main class



1. Refugees and protected persons, humanitarian and other.
Source: Immigration, Refugees and Citizenship Canada, *IRCC Facts and Figures*, various years; IRCC (2017), "Notice - Supplementary Information 2018-2020 Immigration Levels Plan".

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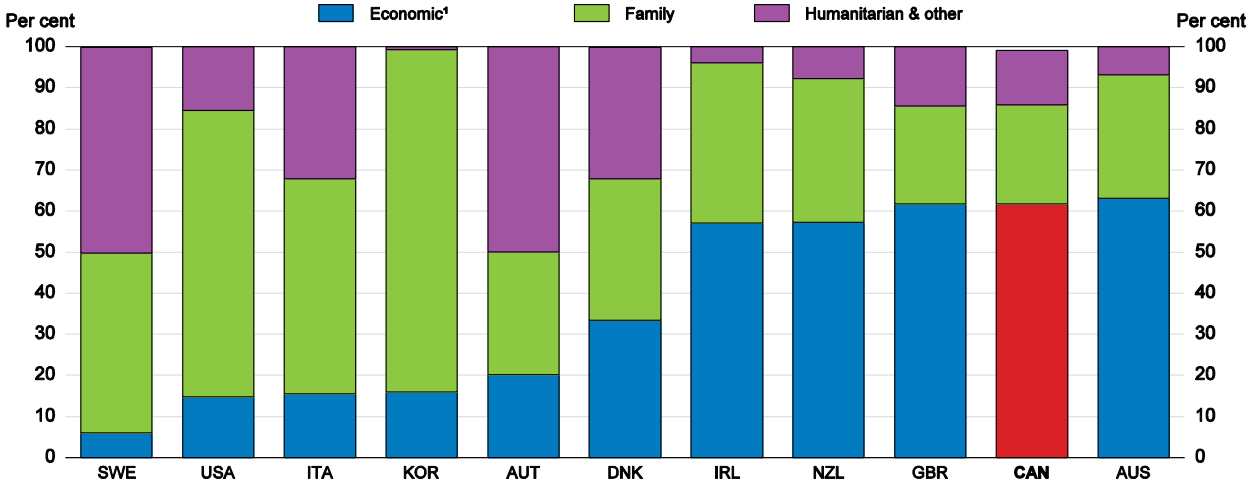
Figure 2.2. Permanent migration flows by category

Percent of total migration flows excluding free movements and other, 2015



1. Work immigrants and accompanying family of workers.
Source: OECD (2017*), International Migration Outlook 2017*, Table 1.A.2.

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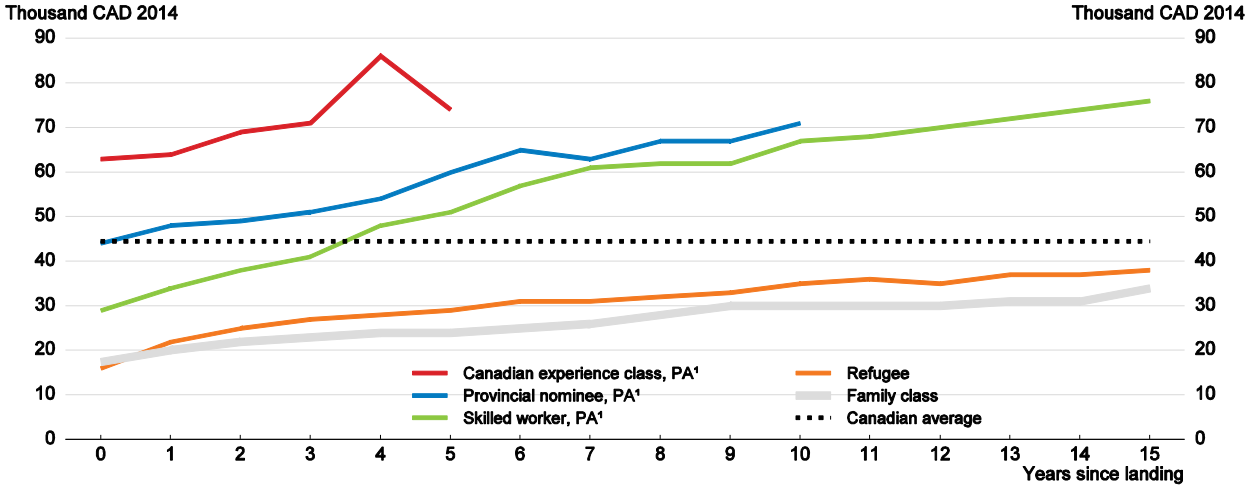
Economic-class principal applicants, who are selected for their relatively high skill levels, tend to have higher productivity and labour market earnings than family-class (i.e., family reunification and formation) immigrants and landed refugees, and hence contribute more to economic development, as intended (Figure 2.3). The other priority of economic-class immigration is to supply workers sought by employers and/or to alleviate local/regional

labour-market shortages. The main pathway for such immigration is through the Provincial Nominee Program (PNP); the main permanent economic immigration programmes are summarised in Box 2.1. These immigrants typically receive a job offer before landing in Canada. In 2014, they had more favourable economic outcomes than other economic-class principal applicants for cohorts landed up to ten years except for those entering through the Canadian Experience Class programme; the fall-off in PNP principal applicant earnings for cohorts landed more than ten years reflects the lower levels of skills and education of provincial nominees in the early years of the programme.

Figure 2.3. Average employment earnings by years since landing

Thousand CAD 2014, 2014 tax year



1. Principal applicants (economic class).

Source: H. Zhang (2017), "2014 Longitudinal Immigration Database (IMDB): Current Measures of Immigrant Economic Outcomes and Strategic Enhancements", IRCC, Research and Evaluation Branch, April, calculations based on data from *Longitudinal Immigration database 2014*, and *Canadian Income Survey 2014*.

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Box 2.1. Main permanent economic migration programmes[1]

Federal

- ***Federal Skilled Workers (FSW)***. Applicants are selected for having skilled work experience and high human capital. Points are awarded to applicants based on criteria that have been shown to help individuals adapt to the Canadian labour market and society, notably age, language and education.
- ***Federal Skilled Tradespersons (FST).*** People with a job offer or Canadian qualifications in certain skilled trades may be eligible for permanent residence if they have sufficient language proficiency, training and work experience in a trade.
- ***Canadian Experience Class (CEC)***. This programme is for applicants who have at least one year's work experience in a skilled occupation in Canada and who have sufficient official language proficiency to remain in

Canada permanently. It is attractive for international graduates of Canadian educational institutions, who can satisfy the work experience requirement while on a post-graduate work permit.

- ***Federal Business Immigration (FBI)***. There are currently two programmes accepting new applications – the Start-Up Visa Program for Immigrant Entrepreneurs and the Self-Employed Program, which targets persons with the experience and ability to contribute significantly to Canada.
- ***Caregivers***. The Caring for Children Class and the Caring for People with High Medical Needs Class are pilot programmes that replaced the Live-in Caregiver Program in late 2014. They provide eligible caregivers with pathways to permanent residence.

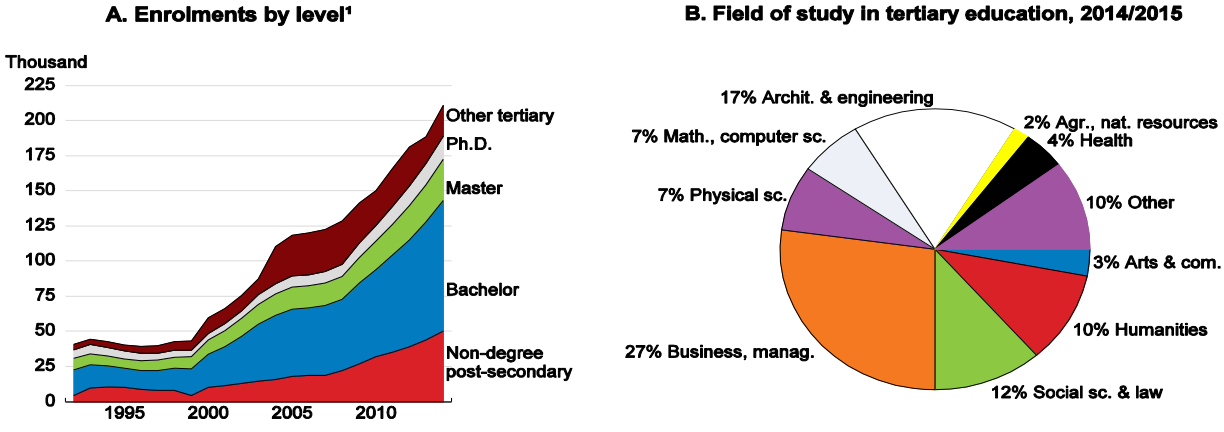
Provincial/Territorial

- ***Québec Skilled Workers (QSW) and Québec Business Immigration (QBI)***. Under the Canada-Québec accord, Québec has full responsibility for the selection of immigrants (except Family Class and in-Canada refugee claimants), as well as for delivering integration services in the province, supported by an annual grant from the federal government.
- ***Provincial Nominee Program.*** Nine provinces and two of the territories manage programmes which allow them to nominate individuals for permanent residence based on regional needs, including those of employers, and on an individual's potential to integrate economically.

1. Based on descriptions in IRCC (2017[11]).

The government also issues temporary visas for foreign nationals to come to Canada for a limited time to study or work. The number of student visas issued has soared in recent years (Figure 2.4, Panel A). STEM studies (science, technology, engineering and

Figure 2.4. International students by level and field of education



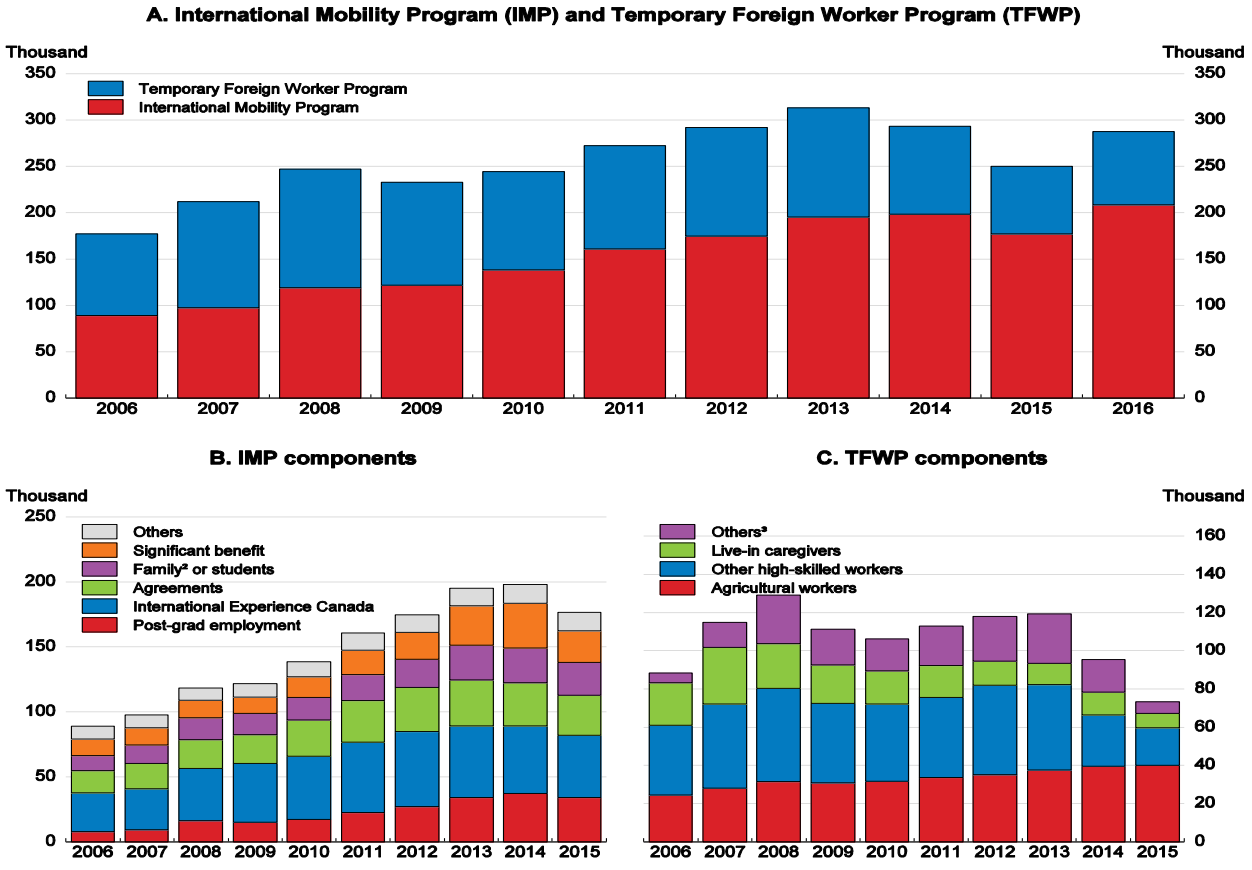
1. The year shown corresponds to the beginning of the schoolyear.
Source: Statistics Canada, Table 477-0019.

StatLink http://dx.doi.org/10.1787/888933780663

mathematics), which can support innovation if international students in these fields subsequently work in Canada in STEM jobs, comprise 31% of international student enrolments. Temporary foreign workers may enter Canada under either the Temporary Foreign Worker Program (TFWP) or the International Mobility Program (IMP) for higher-skilled workers. Employers can hire foreign workers through the TFWP when qualified Canadians are not available. The lack of local qualified workers must be verified through a Labour Market Impact Assessment (LMIA). Workers entering under the TFWP are tied to a specific employer, while those entering through the IMP do not require a LMIA and are not necessarily tied to a specific employer. There has also been a large increase in visas issued for temporary foreign workers, reflecting growth in the IMP, notably for post-graduate employment, International Experience Canada, which facilitates mobility of young adults aged 18 to 35 years, and spouses of skilled workers and students (Figure 2.5).

Figure 2.5. Recent trends in temporary residents

Work permit holders by type and programme, sign year[1]



1. Sign year is the year the permit was signed by an authorised signing agent/officer of Immigration, Refugees and Citizenship Canada. It is the date that an issued permit becomes effective.
2. Spouses of skilled workers.
3. Other low-skilled and other occupation.
Source: Immigration, Refugees and Citizenship Canada, *IRCC Facts and Figures 2015*; IRCC (2017), "Canada's Immigration System and the Points-based Approach for Human Capital", August.

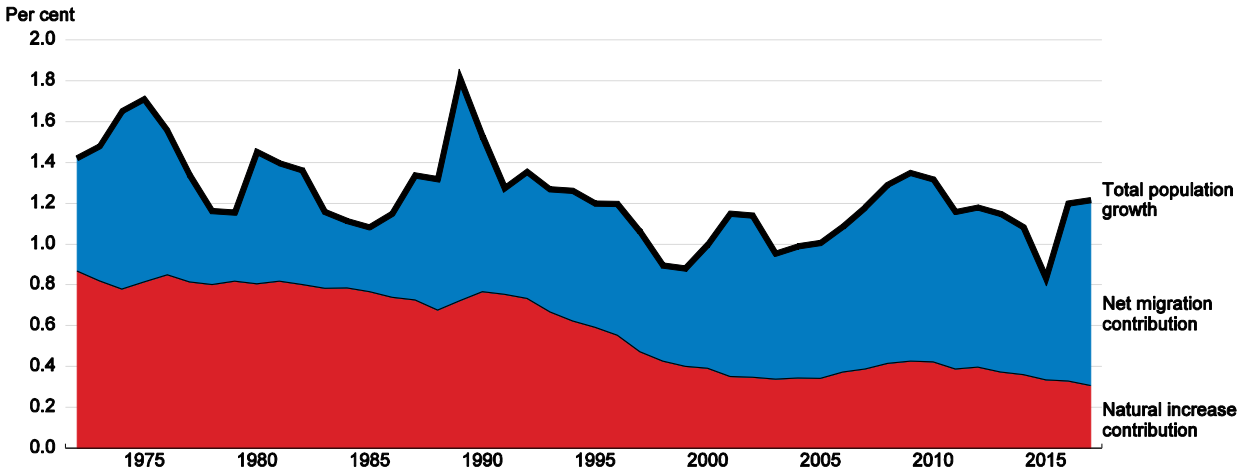
StatLink http://dx.doi.org/10.1787/888933780682

Immigration has demographic effects but is not a solution to population ageing

Immigration has become the main source of population growth

Net migration has become the primary source of population growth in Canada in recent decades (Figure 2.6). The share of immigrants, defined as people born abroad, in the total population has increased by one third since the 1970s, to 21.9% in 2016. This is one of the highest shares in the OECD (Figure 2.7). In Statistics Canada's reference scenario, which assumes an annual immigration rate per thousand of population that is close to recent rates at 8.3, immigration becomes almost the entire source of population growth by the early 2030s, and the share of immigrants in the total population increases to 28.2% in 2036.

Figure 2.6. Immigration underpins high population growth in Canada



Source: Statistics Canada, Tables 051-0001 and 051-0004.

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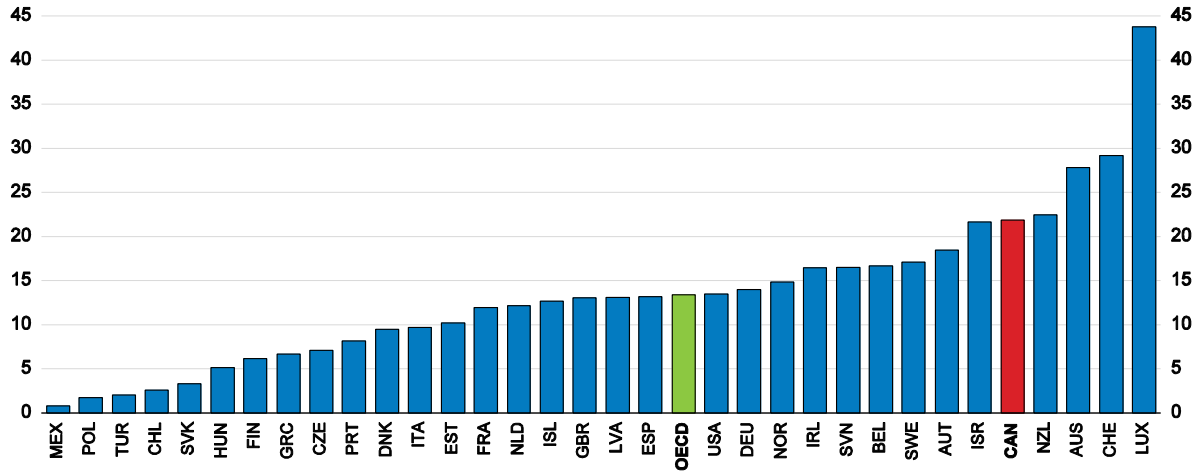
Immigration mitigates population ageing, but the effects are small

Canada's population is ageing rapidly. The population aged 65 or over is projected to more than double between 2011 and 2036 in Statistics Canada's reference scenario, while the working-age population is set to grow only marginally (Table). In this scenario, the old-age dependency ratio almost doubles, and the overall dependency ratio rises by 30%. If the labour-force participation rate and productivity growth were to remain unchanged, the increase in the overall dependency ratio would reduce annual average growth in GDP per capita over the 25 years to 2036 by 0.5 percentage point.

Immigration is essential to working-age population growth over coming decades. Without it, Canada's working-age population would decline by 4.6% over 2011-36 according to Statistics Canada's reference scenario (Figure 2.8). With immigration, the working-age population rises by 13% in the reference scenario over this period, an annual average rate of 0.5%, which is low by historical standards. Doubling the immigration rate from the low scenario (five immigrants per thousand of population) would increase growth in the working-age population from 4% to 17% over this period.

Figure 2.7. Immigrant share of the population

Share of the foreign-born in the total population, 2015[1] or latest year available



1. 2016 for Canada according to the Canadian 2016 Census Program.
Source: OECD, *International Migration and Economic Outlook databases*.

StatLink http://dx.doi.org/10.1787/888933780720

Table 2.2. Age structure of the population

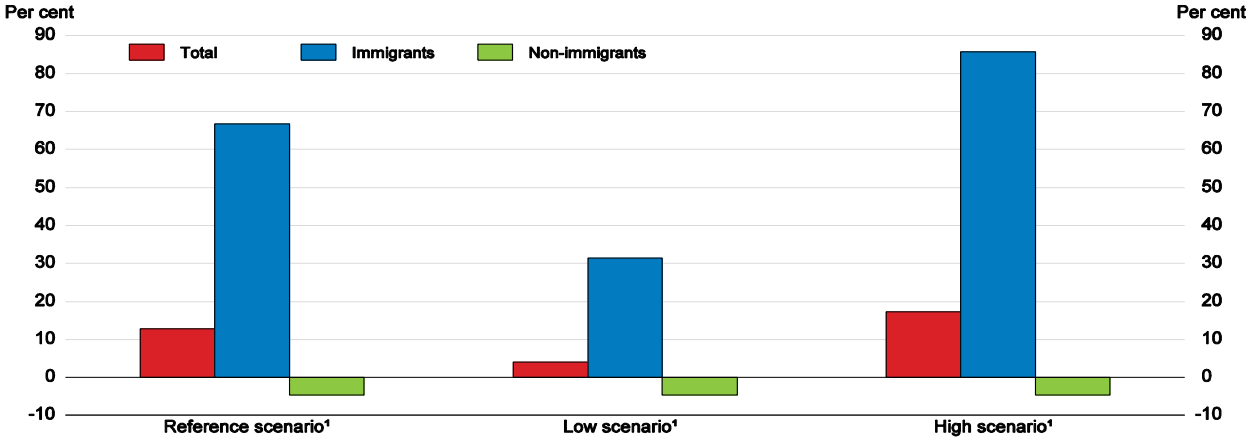
2011 and Statistics Canada's 2036 reference scenario[1]

	Millions		% growth 2011-36	
Age group	2011	2036	Total	Annual average
0-14	5.6	6.9	23.2	0.8
15-24	4.6	4.9	6.9	0.3
25-64	19.1	21.6	12.7	0.5
65+	4.9	10.4	111.3	3.0
Total	34.3	43.8	27.8	1.0
Old-age dependency ratio[2]	0.26	0.48		
Overall dependency ratio[3]	0.79	1.03		

1. The reference scenario combines the following: a medium immigration level of 8.3 immigrants per thousand of population, medium emigration, a progressive decrease in the net change in the number of non-permanent residents to zero by 2021, a medium fertility rate of 1.67 children per woman and medium growth in life expectancy.
2. The population aged 65 years or over divided by the population aged 25-64 years.
3. The sum of the populations aged 0-24 years and 65 years or over divided by the population aged 25-64 years.
Source: J.-D. Morency, É. Malenfant and S. MacIsaac (2017), "Immigration and Diversity: Population Projections for Canada and its Regions, 2011 to 2036", *Statistics Canada Catalogue,* No. 91-551-X.

Figure 2.8. Immigration will be essential to working-age population growth

Population growth for those of working-age (25-64) from 2011 to 2036



1. The reference scenario assumes an annual immigration rate of 0.83% (8.3 immigrants per 1000 population); the low scenario corresponds to an immigration rate of 0.5% and the high scenario to 1%.
Source: J.-D. Morency, E. Caron Malenfant and S. MacIsaac (2017), "Immigration and Diversity: Population Projections for Canada and its Regions, 2011 to 2036", Appendix 1 and Appendix 4, Statistics Canada, Cat. No. 91-551-X.

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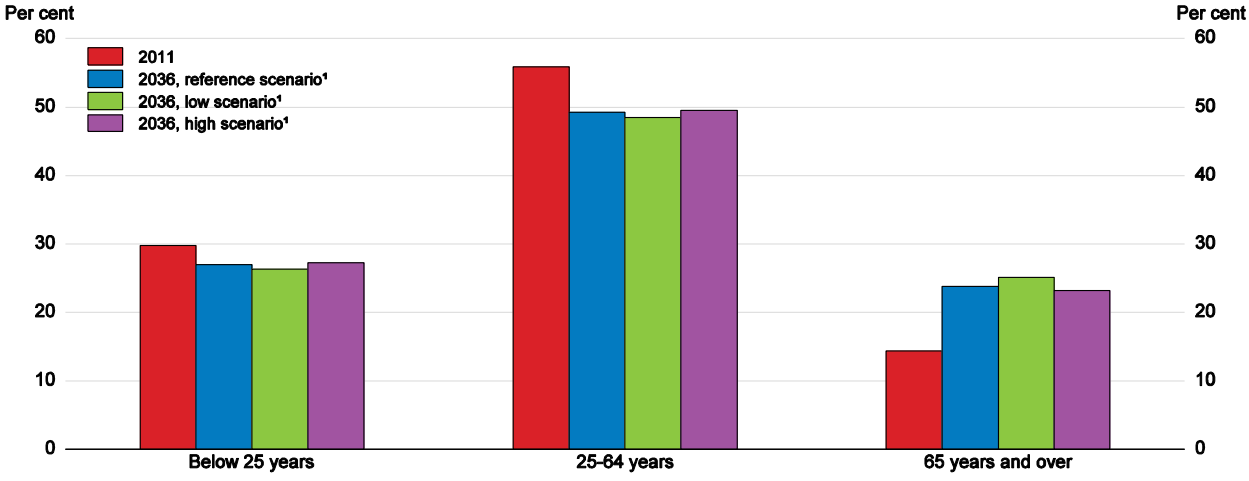
However, while immigration helps to mitigate population ageing, the impact is small as immigration does not have much effect on the age structure of the population in the long run because immigrants age too. Even a doubling of the immigration rate (from the low scenario to the high) would have little effect on the working-age and elderly-population shares, and hence on the old-age dependency ratio over the next two decades (0.54 and 0.47, respectively, in the low- and high scenarios) (Figure 2.9), and an even smaller effect in the long run, when the increase has impacted all age groups. Along the same lines, Banerjee and Robson (2009[4]) find that even huge increases in immigration and extreme age filters to select young immigrants could only slow the coming increase in Canada's old-age dependency ratio. In projections where immigration is used to control this ratio, Canada's resulting population projections in 2058 range from 60 million to over 200 million.

Immigration is increasing university attainment numbers, but immigrants' share of university graduates will not rise much

Immigration is increasing the average educational attainment of the Canadian population. The share of those aged 25-54 with university attainment is much higher for immigrants (47% in 2016) than for the native-born population (28%), and the gap has grown over time (Figure 2.10, Panel A). The rapid increase in university attainment of immigrants does not reflect rising levels of attainment among recent immigrants – these levels have been over 50% for many years – but rather the replacement of earlier, lower-attainment waves of immigrants by more highly educated waves since the 1990s (Panel B).

Figure 2.9. Immigration has modest effects on the population age structure in the long run

Age distribution of total population in Canada

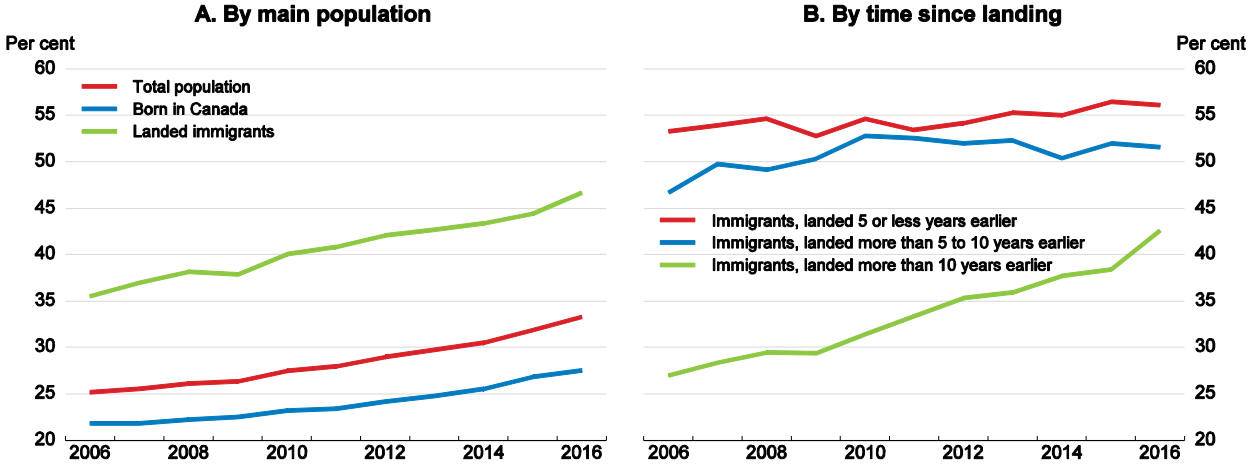


1. The reference scenario assumes an annual immigration rate of 0.83% (8.3 immigrants per 1000 population) from 2011 to 2036; the low scenario corresponds to an immigration rate of 0.5% and the high scenario to 1%.
Source: J.-D. Morency, E. Caron Malenfant and S. MacIsaac (2017), "Immigration and Diversity: Population Projections for Canada and its Regions, 2011 to 2036", Appendix 1 and Appendix 4, Statistics Canada, Cat. No. 91-551-X.

StatLink http://dx.doi.org/10.1787/888933780017

Figure 2.10. University-level educational attainment of immigrants and the Canadian born

Population aged 25-54 with the educational level indicated relative to the group's total population



Source: Statistics Canada, Table 282-0106.

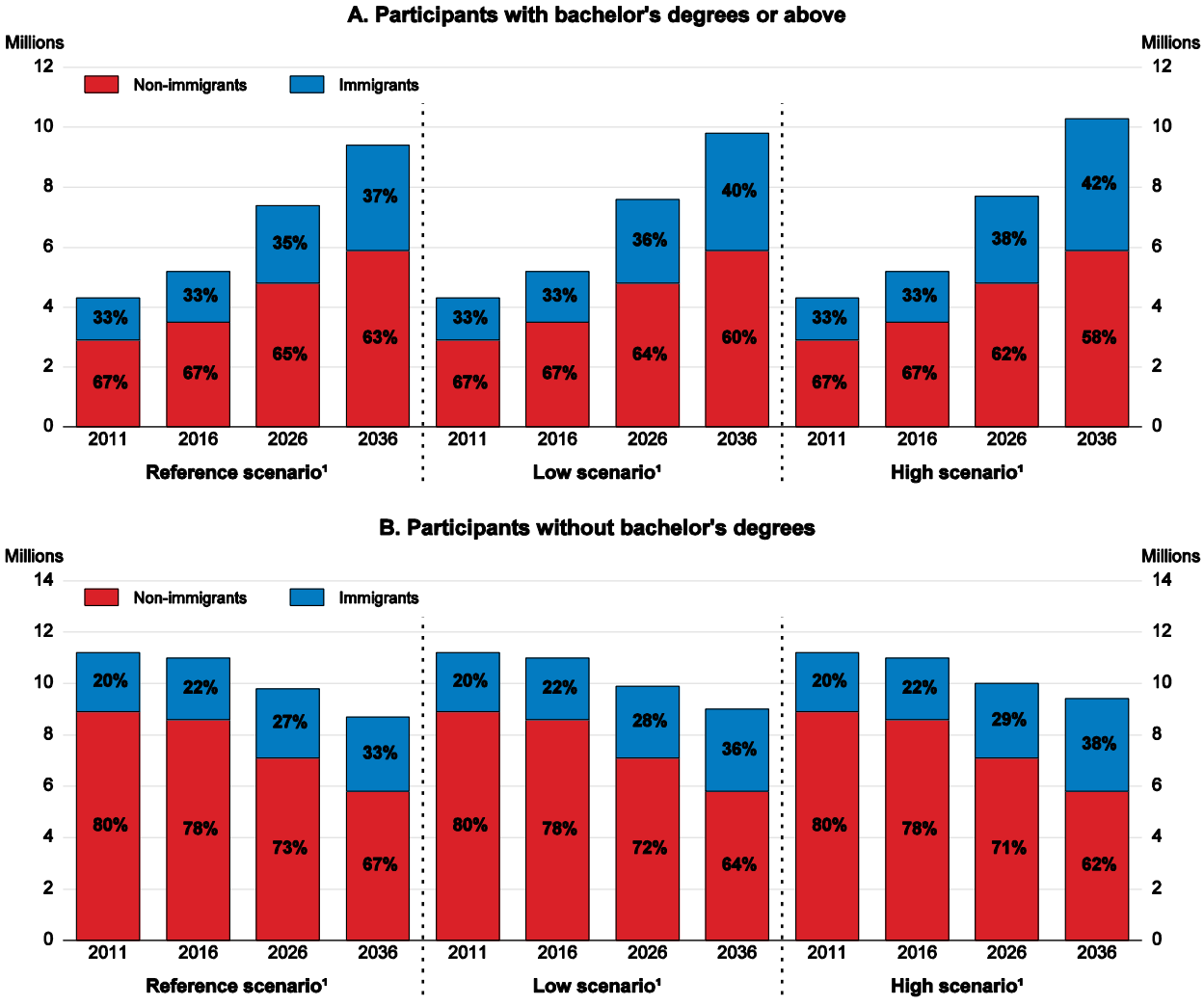
StatLink http://dx.doi.org/10.1787/888933780739

Over the next two decades immigrants will contribute to the increase in the share of the labour force (aged 25-64 years) with university attainment, but their share of the highly educated labour force is not projected to rise by much because of the projected increase in university attainment of the native-born (Figure 2.11, Panel A). At the same time, immigrants are projected to account for a much larger share of the labour force without university attainment owing to a shrinking of the Canadian-born population in this

category (Panel B). Changing immigration rates has only minor effects on both sets of projections. Given that under-employment (notably work in part-time jobs) and over-qualification (i.e., highly educated people in low-skilled jobs) are more prevalent among immigrants, especially recent immigrants, than the Canadian-born, immigrants are set to occupy a large proportion of the relatively low-skilled labour market.

Figure 2.11. Immigration and educational attainment of the labour force

Labour force participants aged 25-64, 2011-36



1. The reference scenario assumes an annual immigration rate of 0.83% (8.3 immigrants per 1 000 population); the high scenario corresponds to an immigration rate of 1% and the low scenario assumes 500 000 new immigrants per year.

Source: H. Zhang (2017), "The Economic and Fiscal Impacts of Immigration: the Canadian Evidence", IRCC, Research and Evaluation Branch, October.

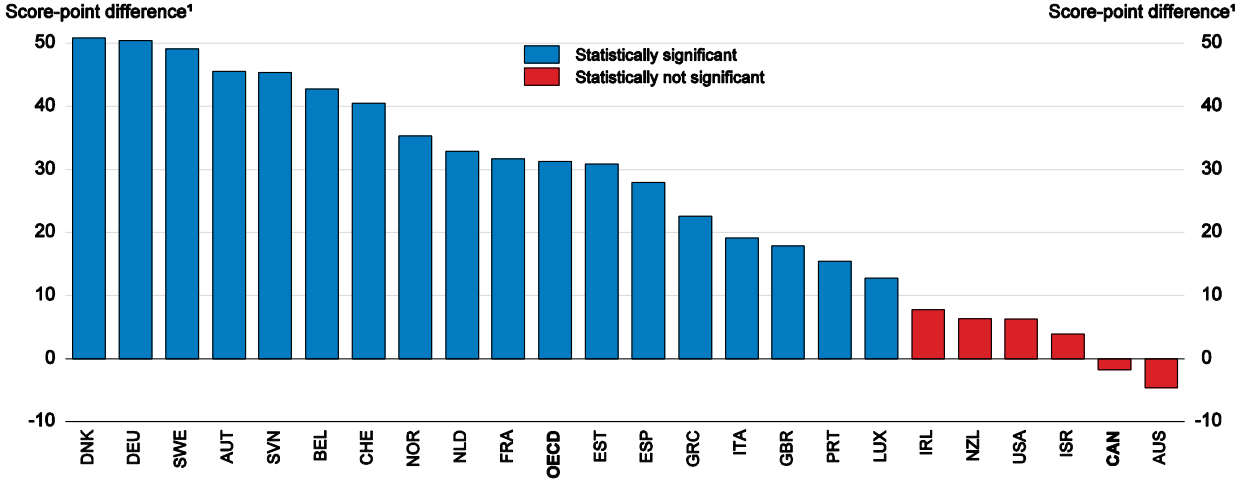
StatLink http://dx.doi.org/10.1787/888933780758

Immigrants' children succeed well in education. Their PISA results are on a par with those of non-immigrant children controlling for social-economic background, whereas in most other countries their scores are lower (Figure 2.12). And second-generation Canadians have higher levels of education attainment on average than other Canadian-

born people, although there are large differences by origin of the immigrant parent or parents; university degree completion rates are especially high among children of Asian immigrants and low for children of immigrants from Central America, the Caribbean and Southern Europe and for the Black visible minority category. Moreover, there has been persistent, significant upward education mobility among children of immigrants from less educated families. Including second-generation Canadians in the immigrant population would increase the projected increase in the contribution of immigration to university attainment in Canada.

Figure 2.12. Differences in PISA science performance between non-immigrant and immigrant students

Score-point difference in science, after accounting for socio-economic status



1. A positive score indicates better performance for non-immigrants than (first- and second-generation) immigrants.
Source: OECD (2016), *PISA 2015 Results (Vol I): Excellence and Equity in Education*, Table I.7.4a.

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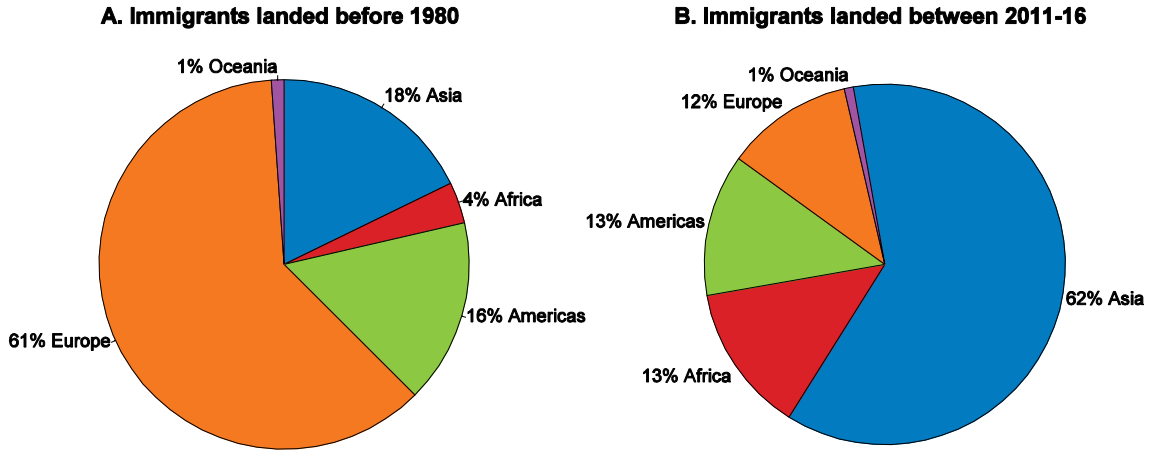
Immigration is making Canada more culturally diverse

Immigrants' origins have changed sharply in recent decades, making Canada more culturally diverse. Most immigrants who landed before 1980 came from Europe, but most who landed in 2011-16 came from Asia (including the Middle East) (Figure 2.13). Assuming that shares in recent years are sustained, a further increase in the proportion of the population born in Asia and decline in the share from Europe is in prospect (Figure 2.14). These trends will be even more marked in Toronto and Vancouver, where the share of the population born in Asia in Statistics Canada's reference scenario is projected to increase by around one third to 33% and 36%, respectively, by 2036.

Figure 2.13. Immigrant place of birth

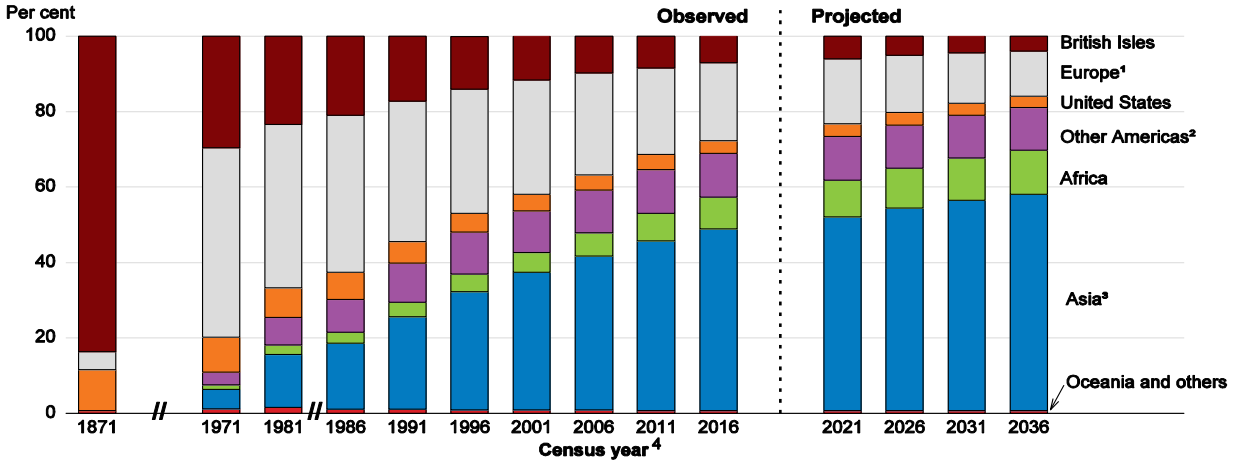
Share of immigrants from each region in total immigrants



Source: Statistics Canada, *2016 Census Program*, http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dv-vd/imm/index-eng.cfm.

StatLink http://dx.doi.org/10.1787/888933780777

Figure 2.14. Distribution of foreign-born population, by region of birth



1. Excluding the British Isles.
2. Caribbean, Bermuda, Central and South America.
3. Including the Middle East.
4. // denotes a break in the time series.

Source: Statistics Canada, https://www.statcan.gc.ca/eng/dai/btd/othervisuals/other009.

StatLink http://dx.doi.org/10.1787/888933780796

Aggregate immigration has modest economic effects

Effects on real GDP per capita

In response to the Advisory Council on Economic Growth's recommendation (Advisory Council on Economic Growth, 2016[5]) to boost immigration sharply to 450 000 by 2021 and then hold it constant as a share of the population, El-Assal and Fields (2017[6]) of the

Conference Board of Canada modelled the economic effects of implementing such an increase. In this high-immigration scenario, immigration reaches 450 000 by 2025 (any sooner was judged to be logistically impossible) and is held at 1.1% of the population thereafter. They also modelled a *status quo* scenario in which immigration remained constant at its 2016 rate of 0.82% of the population for 2017-40 and a medium-immigration scenario in which immigration rises slowly to 350 000 by 2020, 400 000 by 2030 and 450 000 by 2040 (0.99% of the population). The authors assumed that 60% of immigrants were economic class, 28% family class and 12% refugee class, the average composition over 2006-15, and that immigrants' wages and employment rates evolve as they did over 1991-2014; typical immigrants' wage rates rose from just over 40% of the Canadian average upon landing to 83% after 23 years, with economic-class immigrants earning the highest wages and refugees the lowest. Moreover, they assumed that wage rates reflect productivity.

Despite slightly attenuating the decline in the number of workers per retiree, the higher-immigration scenarios result in slightly lower GDP per capita in 2040 than the *status quo* scenario (Table 2.3). This is mainly because immigrants earn less than the rest of the Canadian population. However, immigrants could be better off still if labour market integration were improved. El-Assal and Fields concluded that this was the policy priority, not increasing the level of immigration.

Table 2.3. The impacts in 2040 of the Conference Board's three immigration scenarios

	Canada (end of 2017)	Status Quo Scenario	Medium-Immigration Scenario	High-Immigration Scenario
Immigration (number)	300 000	361 824	450 000	528 468
Population (number)	37 079 264	44 290 842	45 624 736	47 929 010
Real GDP (2007 CAD millions)	1 836 811	2 785 941	2 844 593	2 924 989
Real GDP per capita (CAD 2007)	50 087	62 901	62 348	61 628
Real GDP per capita difference with status quo (CAD 2007)	NA	NA	-553	-1 273

Source: K. El-Assal and D. Fields (2017), *450 000 Immigrants Annually? Integration is Imperative to Growth*, The Conference Board of Canada.

Another, albeit less important, factor explaining lower growth in GDP per capita in the higher-immigration scenarios is that the capital stock does not fully adjust to higher population growth, resulting in slightly lower capital intensity and labour productivity. This is an empirical feature of the Canadian economy as estimated by the Conference Board, but it has also been observed in cross-country correlations (Estevão, 2011[7]) and is present in other Canadian studies (Fougère, Harvey and Rainville, 2011[8]).

The Conference Board's model, in line with economic literature more generally, assumes that the economy is subject to constant returns to scale (CRTS: doubling inputs doubles output). This is in contrast to the widespread assumption of the general public and some politicians of increasing returns to scale (IRTS: doubling inputs more than doubles output). In the last wide-ranging study looking at the impact of immigration on the Canadian economy (Swan, 1991[9]) the Economic Council of Canada argued that while there may have been a time in the early stages of Canada's development when the economy was characterised by IRTS, CRTS was likely to be a more appropriate characterisation now. This, in the report's view, eliminated a key economic motivation for immigration.

Using a macroeconomic forecasting model, Dungan et al. (2013[10]) also find that an increase in immigration would slightly reduce GDP per capita owing to immigrants having lower productivity than the native-born. Fougère et al. (2011[8]) also found a small negative effect on Canada's GDP per capita even for high-skilled immigration.

These studies are subject to methodological limitations, the most important of which is that second-generation effects are not taken into account. Yet, second-generation Canadians have higher levels of education attainment and are more likely to live in major urban centres whose residents have appreciable earnings premia over the rest of the native-born population, and they consequently are paid higher average wages, albeit not as high on average as for other native-born persons with the same characteristics (Aydemir and Sweetman, 2008[11]). Another weakness is that it is assumed that immigrant labour-market outcomes have not changed in the recent past despite policy reforms aimed at improving them. Moreover, it is assumed that immigrant composition does not change, even though Canada's policy priorities could evolve. In addition, the costs of higher immigration levels are not taken into account. Allowing for these limitations, the effect of immigration levels on GDP per capita is likely to be positive, albeit remaining modest. This effect would be greater, and immigrants' incomes and well-being higher, if immigrants' labour market integration were enhanced.

Increasing diversity of Canadian immigrants' origins may have made the impact of immigration on GDP per capita more positive than it would otherwise have been. Alesina et al. (2016[12]) find that diversity (measured by the Herfindahl-Hirschmann concentration index for country of birth) of (and arising from) skilled (i.e., university-educated) immigration is significantly positively related to GDP per capita in advanced countries; there is no such effect in low-income countries nor is there for diversity of low-skilled immigrants in high-income countries. Increasing the birthplace diversity of skilled immigrants by one percentage point is associated with an increase in long-run GDP per capita of about 2%. The authors find that their results are robust to their attempts to account for potential reverse causality and unobserved heterogeneity among skilled immigrants.

Effects on innovation

Numerous US and European studies have found that increasing skilled immigration, especially of immigrants educated in STEM fields, has a significant positive effect on patenting. For example, Hunt and Gauthier-Loiselle (2010[13]) find that a one percentage point increase in the share of a US state's population composed of college-educated immigrants can be expected to increase state-level patents per capita by 9-18%. This effect is considerably greater than the 8-9% effect implied by the differential patenting rate of immigrants observed in individual-level data (a college-graduate immigrant contributes at least twice as much to patenting as his/her native-born counterpart), pointing to substantial spill-over effects on the patenting rates of native-born Americans. The higher contribution of college-graduate immigrants to patenting than their native counterparts is fully explained by the greater share of immigrants with science and engineering degrees.

Blit et al. (2017[14]) replicate this study to see whether similar conclusions hold for Canada. They find that increasing the share of university-educated immigrants in a city's population does not have a significant effect on patenting per capita. This is true even for university-educated immigrants in STEM fields. On the other hand the estimated effect of Canadian-born university graduates on patenting rates is virtually the same as in the Hunt

and Gauthier-Loiselle study, suggesting that the smaller immigrant effects in Canada do not reflect measurement error or some intrinsic feature of the Canadian economy or innovative sectors. When Blit et al. isolate the effects of immigrants who were university educated in a STEM field and are currently employed in a STEM occupation, the estimated effects become much greater and are statistically significant. Thus, the small impact largely appears to reflect the relatively low shares of Canadian immigrants in STEM jobs, including among those educated in STEM fields.

A key policy issue is whether the employment barriers that Canadian STEM-educated immigrants encounter in getting STEM-type jobs reflect differences in their skills and abilities or labour market inefficiencies arising from information frictions in job search, foreign-credentials recognition or racial discrimination. Blit et al. note that a key difference between skilled immigration policies in the two countries is that the vast majority of skilled immigrants in the United States are admitted via temporary work permits from sponsoring employers (especially H-1B visas) whereas skilled-stream immigrants arriving in Canada as new permanent residents typically do not have pre-arranged employment. The advantage of the US system is not only that immigrants have a job immediately but also that more able immigrants are selected as employers are likely to have considerable information about the productivity of the foreign workers they are sponsoring, including skills unobservable to the "points system". Blit et al. conclude that a greater emphasis on pre-arranged employment in immigrant selection would help to increase the proportion of university-educated immigrants in STEM fields who find STEM jobs, thereby increasing their contribution to innovation.

In a more recent study, Blit et al. (2018[15]) find that immigrants in Canada with a PhD in a STEM field working in a STEM job contribute disproportionately to innovation. The educational and employment characteristics of some ethnic minorities (notably, Korean, Japanese and Chinese), in particular the share with a PhD, a STEM education and a STEM job, account in large part for their higher patenting rates. The effect of PhDs on patenting rates is almost entirely driven by PhDs employed in a STEM occupation.

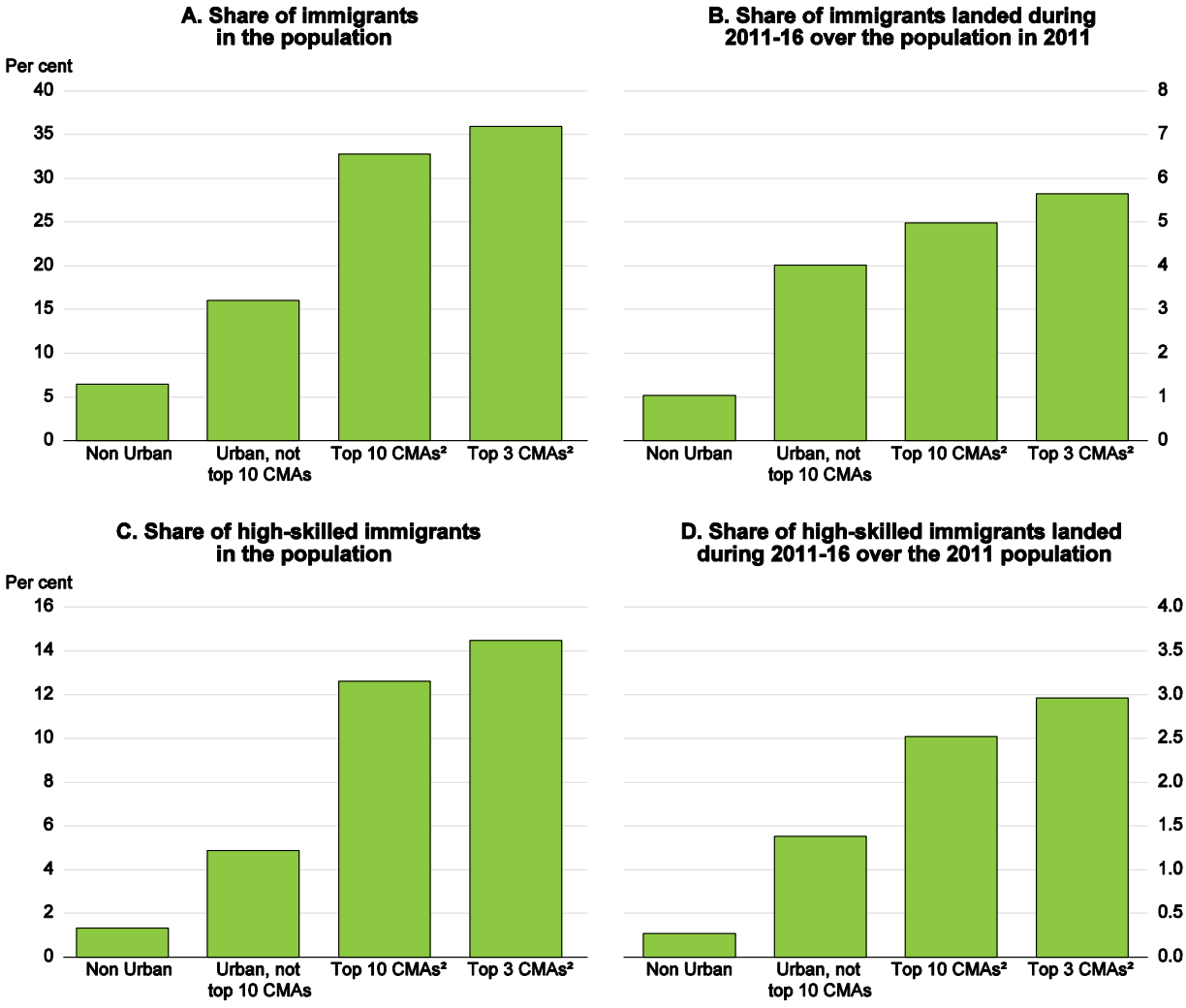
Agglomeration economies

Concentration of population in cities and industrial clusters may generate agglomeration economies, increasing productivity (Glaeser, 2010[16]); the downside can be large increases in house prices and congestion, as has occurred in Toronto and Vancouver. Such economies may result because population density in large urban areas reduces transport costs, makes for deeper labour markets in which specialised skills can be better matched to jobs, increases knowledge spill-overs from high-skilled workers and reduces labour-market information asymmetries (Ciccone et al., 1996[17]); (Greenstone, Hornbeck and Moretti, 2010[18]). The distribution of Canada's immigrants has been such as to expand the size of major urban areas, where population density is highest, more than in the rest of the country, with this effect having been especially marked in Toronto and Vancouver (Figure 2.15, Panels A and B).

The continued flow of high-skilled immigrants to the largest metropolitan areas (Figure 2.15, Panels C and D), which is even more pronounced than for immigrants in general, is consistent with there being agglomeration economies – these inflows do not seem to dampen further inflows to these destinations, as would occur if high-skilled workers were complementing unskilled workers or other fixed factors of production, and may even reinforce them. In many high-skilled occupations and sectors, each individual's productivity is enhanced by interactions with other high-skilled workers employed in

similar or related occupations and sectors, a mechanism that can be reinforcing (Jones, 1995[19]). Kerr et al. (2017[20]) report that in many US studies high-skilled immigrants boost productivity in cities and regions where they are concentrated and rarely find adverse wage and employment consequences for high-skilled workers already in place. They note that agglomeration effects make the rewards for skills much higher in some countries than others and create differences across locations within the same country.

Figure 2.15. Concentration of immigrants by population density[1]



1. The population density is determined by data in 2016.
2. Census Metropolitan Areas (CMAs) are grouped by population density. The top 3 CMAs by density are Toronto, Montréal and Vancouver. The top 10 CMAs also include Kitchener-Cambridge-Waterloo, Hamilton, Victoria, Oshawa, Windsor, Ottawa-Gatineau and Abbotsford-Mission.
Source: Statistics Canada, Table 051-0056 and *2016 Census Program*, http://www12.statcan.gc.ca/census-recensement/2016/dp-pd/dv-vd/imm/index-eng.cfm.

StatLink http://dx.doi.org/10.1787/888933780815

Kerr et al. go on to point out that trade in services provided by high-skilled workers is at the heart of the agglomeration process. As the market for these services is global, not local, they can be massively scaled up, increasing productivity. Such workers share

technical knowledge and business information through social and professional networks, made more efficient by physical proximity. Moreover, deeper labour markets facilitate greater specialisation, boosting productivity. Agglomeration also enhances the presence of complementary specialised inputs and services, such as legal advice.

Effects on trade

Immigration does not appear to have a large effect on trade intensity, another potential mechanism by which it could increase productivity. Head and Ries (1998[21]) find that a 10% increase in immigration is associated with a 1% increase in Canadian exports to the immigrant's home country and a 3% increase in imports from it. They also find that self-employed immigrants have the greatest impact on trade, while entrepreneur-class immigrants have the least (bar refugees). Similar results were found at the provincial level (Wagner, Head and Ries, 2002[22]). Partridge and Furtan (2008[23]) got similar results but also found that new immigrants affect imports almost immediately, whereas for exports the immigration effect is not significant for at least five years and may take as long as 20 years to reach full impact. Similar results have been found for other developed countries (Peri and Requena-Silvente, 2010[24]). It should be noted that these results concern trade in goods. Trade in services and capital market flows could behave differently.

Labour-market effects

Canadian studies generally find that overall immigration has no or only a small negative impact on the wage rates of Canadian workers but a relatively larger effect on those of other immigrants (Table 2.4). However, in line with most of the literature in this field, these studies contain estimates of parameters that are often different from each other, non-comparable and sometimes difficult to interpret (Box 2.2). Moreover, unrealistic assumptions about labour-supply elasticities and whom immigrants compete with are often made (in particular, no allowance is made for immigrants downgrading to lower-skilled jobs upon arrival than those that correspond to their education levels). For example, Aydemir and Borjas (2007[25]) produce estimates that overstate the negative effect of immigration on native high-skilled wages by abstracting from downgrading. Yet, downgrading is widespread across countries, including in Canada: for example, Dustmann, Frattini and Preston (2013[26]) demonstrate downgrading of immigrants in the United States, the United Kingdom and Germany.

In a study of the effects of immigration on wages in the United Kingdom that avoids these pitfalls Dustmann et al. (2013[26]) allocate immigrants to their position in the wage distribution -- not the education distribution -- and estimate total effects (allowing for different labour-supply responses). Despite UK immigrants having a far higher level of educational attainment than the native-born population, the authors find that immigration depresses wages below the 20th percentile and contributes to wage growth above the 40th percentile. They also find that the average effects of immigration on measured average wages are slightly positive. The possibility that immigrants receive wages that are less than their marginal product, either because of initial mismatch or downgrading, could explain a substantial part of the average wage gain for the native-born. Given that the distribution of immigrants by education attainment is similar in the United Kingdom and Canada and that downgrading occurs in both countries, there is a reasonable chance that comparable conclusions would be obtained – i.e., that immigration has negative effects on the lower part of the wage distribution but positive effects on the upper part – if this methodology were applied to Canadian data.

Table 2.4. Studies on the impact of immigration on the wage rates of Canadian workers

Canadian studies	Findings
Aydemir and Borjas (2007[25])	• A 1% labour supply increase due to immigration is associated with a 0.3%-0.4% decrease in wages. • Immigration narrowed wage inequality because immigrants in Canada tend to be disproportionately highly skilled.
Tu (2010[27])	At the national level the substantial immigrant inflows after the policy change in the late-1980s did not adversely affect native-born wage growth rates in the following decade.
Fougère, Harvey and Rainville (2011[8])	Wage rates for all workers could decrease by 0.1% in 2026 and 0.2% in 2034 if there is an increase of immigrants from 0.75% to 1% of the population because of an extra inflow of highly skilled immigrants.
Hou and Picot (2014[28])	A 10% increase in the immigration level is associated with an average 0.8% decline in entry earnings among immigrant men and 0.3% among immigrant women.

Source: H. Zhang (2017), "Economic and Fiscal Impacts of Immigration: the Canadian Evidence", IRCC, Research and Evaluation Branch, October.

Box 2.2. Why do studies of immigration's effect on wages reach disparate results?

Dustmann, Schönberg and Stuhler (2016[29]) examine why studies on the impact of immigration on wages starting from the same canonical model yield contradictory results and draw lessons on how such studies should be configured to give unbiased policy-relevant parameter estimates. The starting point of these studies is a partial equilibrium model that combines one or more types of labour with capital in a constant-returns-to-scale production function. In this model an expansion in the supply of a certain type of labour will lead to a decrease in the wage rates for native labour of the same kind in both absolute terms and relative to other types of labour as well as an increase in the marginal product of capital. This model underlies the common view that immigration is harmful for people with skills most similar to those of immigrants, but beneficial for those with different skills and for owners of capital. Using variants of this model for the United States, Borjas (2003[30]) finds that wages of the native born have been adversely affected by immigration, while Card (2009[31]) finds only minor effects and Ottaviani and Peri (2012[32]) find positive effects; for Canada, Aydemir and Borjas (2007[25]) find that immigration reduces average wages over the short term and that, while there is no impact on average wages in the long run if the capital stock adjusts fully to the increase in the labour supply, high-skilled immigration reduces the wages of the high-skilled native-born relative to other native-born.

The different empirical strategies employed in this literature result in structural parameter estimates that are not comparable. Borjas (2003[30]) and Aydemir and Borjas (2007[25]) exploit variation in immigrant flows across education-experience cells on a national level ("national skill-cell approach"), yielding estimates of the relative wage effect of immigration on one experience group versus another within an education group. Card (2001[33]) uses variation in immigrant inflows both across education groups and regions (a "mixture approach"), yielding estimates of the relative wage effect of immigration on one education group compared with another. In the other main specification Altonji and Card (1991[34])

use the variation in the total immigrant flow across regions (a "pure spatial approach").

Research in this area typically makes two assumptions that are unrealistic and bias estimates made using the "national skill-cell approach" and the "mixture approach". First, it is assumed that the elasticity of labour supply is the same (often inelastic) across different native-born groups. This enables the studies to abstract from labour-supply responses. However, labour supply is likely to be elastic and to have an elasticity that differs across groups. Dustmann et al. demonstrate that with group-specific labour-supply elasticities, the "national skill-cell approach" produces estimates that are hard to interpret, while the other two approaches still have a clear interpretation. Second, the national skill-cell and the mixture approaches assume that an immigrant and a native with the same measured education and experience compete against each other. However, there is strong empirical evidence that immigrants downgrade upon arrival to occupations filled by less educated native-born workers, earning less than a native-born worker with the same education and age characteristics. Dustmann et al. provide evidence for the United States that downgrading may overstate the negative effect of immigration in both the national skill-cell and mixed approaches. In contrast, approaches that estimate the total effects of immigration, such as the pure spatial approach, are robust to downgrading because they do not entail allocating immigrants to skill groups. They also point out that, as a result of downgrading, studies such as Ottaviano and Peri (2012[32]) that estimate the underlying parameters of the canonical model underestimate the elasticity of substitution between immigrants and the native born, which may help to explain why these studies tend to find positive wage effects.

In light of the above, Dustmann et al. recommend investigating the effects of the overall (as opposed to group-specific) immigration shock on wages and employment of the various native-born groups. This approach avoids misclassification of immigrants resulting from downgrading and yields parameters that are of direct policy relevance and more easily interpretable.

Relieving skills shortages through immigration

Skills shortages occur when demand for workers in an occupation, industry or geographical area exceeds the supply of qualified workers at the going wage. In a market economy such shortages elicit various adjustments to reduce them, such as higher wages to encourage more workers to move to areas where the shortages are most acute, more people to obtain the qualification necessary to enter the occupation, some people in these occupations to delay retirement and firms to adjust production technologies to economise on such workers. Another could be more immigration of suitably qualified people.

Picot (2013[3]) reports that none of the main approaches for identifying skills shortages caused by labour-market mismatches is very reliable. Many such shortages are short term, such as those observed at the peak of the business cycle or because the adjustments discussed above eliminate them. Using immigration policy to alleviate such shortages sometimes goes wrong. Canada selected large numbers of IT professionals and engineers to address shortages in these fields in the late 1990s, but, following the dot.com bust, these immigrants experienced large falls in earnings. Many subsequently emigrated. More generally, Picot argues that immigration is more suited to addressing long-run issues, not

short-run needs. As immigrants normally come to Canada to reside indefinitely, it is more important that they have the skills needed to adjust to long-run economic changes than to alleviate short-term shortages. Even so, expected labour-market conditions need to be (and are) taken into account when planning the levels and mix of immigration to limit the risk of immigrants landing during economic downturns experiencing a "scarring effect" on their earnings potential from poor initial outcomes.

Immigration policy may also not be well suited to reducing predicted occupational shortages owing to the difficulty of forecasting them. The few available models perform best "for occupations that are not susceptible to rapid technological change or shifts in consumer preferences that influence labour demand by industry. However, it is often the occupations that do in fact undergo such structural changes that develop a shortage" (Picot, 2013, p. 10[3]). Long-term forecasting models, such as the federal government's Canadian Occupational Projections System (COPS) analysis, work best at a broad skill level (i.e., by level of education attainment). The COPS model suggests that there is no looming broad skills shortage in Canada, at least until 2020, but that there may be a surplus of low-skilled workers. It suggests that future jobs will increasingly require post-secondary education. This would suggest that the bias in immigration policy in favour of high-skilled immigrants is appropriate.

Net fiscal impact

Most studies suggest that immigration's overall net fiscal impact, taking into account taxes net of transfers, the costs of health care, education and some other government expenditures, is small in Canada, as in most other countries [(OECD, 2013[35]); (Picot, 2013[3]); (Kerr and Kerr, 2011[36])]. OECD (2013[35]) estimates a small overall negative effect in Canada (Table 2.5). In contrast to Canada, pension systems make a negative contribution to the net fiscal impact in most countries because they are largely tax financed. These estimates exclude an allocation for collective public expenditures, which worsen immigration's net fiscal impact by 0.6% of GDP on average in OECD countries with available data.

Immigrants as a group make net direct fiscal contributions (defined here as income tax paid less government transfers received), albeit smaller than the Canadian average for cohorts up to 24 years since landing (Figure 2.16). Economic-class principal-applicant immigrants make far greater net direct fiscal contributions than both other immigrants and the Canadian average. As more time is spent in Canada, immigrants' net direct fiscal contributions converge to the Canadian average, although the downward convergence for high-skilled immigrants in recent years is exaggerated by the IT-sector collapse in the early 2000s, where many of them worked. Immigrants overall have higher per capita public health-care costs, mainly because their elderly share is higher than that of the rest of the Canadian population, but the difference is marginal when immigrants and their children are grouped together (Figure 2.17).

In light of the small effects of immigration on the overall dependency ratio and the modest differences in net direct fiscal contributions between immigrants and the native-born, increasing immigration levels is unlikely to be an effective means of attenuating the coming deterioration in government finances caused by population ageing. Other policy levers, notably encouraging people to work longer before retiring, would be far more effective. However, increasing the share of well-educated and young immigrants would make immigration's fiscal impact more favourable.

Table 2.5. Estimated net fiscal impact of immigrants, 2007-09 average

Percentage of GDP

	Baseline	Baseline excluding pensions	Baseline plus per-capita allocation of collective revenue and expenditure items (excluding defence and debt services)	Baseline plus per-capita allocation of collective revenue and expenditure items (excluding defence)
Australia	0.00	0.82	..	..
Austria	0.12	0.89	-0.37	-0.80
Belgium	0.76	0.96	0.06	-0.43
Canada	**-0.06**	**-0.06**	**..**	**..**
Czech Republic	-0.01	0.07	-0.28	-0.31
Denmark	0.11	0.23	-0.31	-0.39
Estonia	0.49	1.15	..	..
Finland	0.16	0.02	-0.08	-0.13
France	-0.52	0.30	-0.52	-0.84
Germany	-1.13	0.21	-1.93	-2.32
Greece	0.98	0.86	..	..
Hungary	0.08	0.12	-0.11	-0.18
Iceland	0.90	0.96	..	..
Ireland	-0.23	-0.39	-1.23	-1.41
Italy	0.98	0.91	0.97	0.61
Luxembourg	2.02	2.20	0.37	0.24
Netherlands	0.40	0.74	-0.01	-0.14
Norway	0.42	0.50	0.60	0.49
Poland	-0.32	0.01	-0.42	-0.45
Portugal	0.52	0.56	0.27	0.13
Slovak Republic	-0.06	0.04	-0.16	-0.18
Slovenia	0.76	1.00	..	..
Spain	0.54	0.21	0.07	-0.05
Sweden	0.20	0.62	-0.37	-0.57
Switzerland	1.95	2.00	1.42	1.16
United Kingdom	0.46	1.02	-0.01	-0.26
United States	0.03	-0.51	-0.64	-1.00
Average	0.35	0.57		
Average (2)	0.30	0.49	-0.12	-0.31

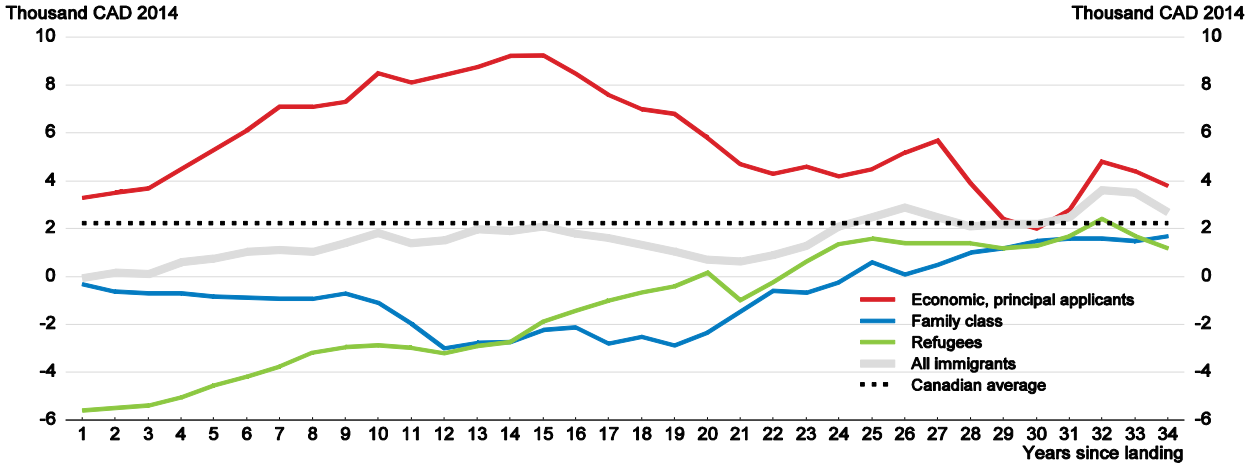
Note: Average (2) includes only countries for which the per capita allocation of collectively accrued items was available.
Source: OECD (2013), *International Migration Outlook 2013*, OECD Publishing, Paris.

An issue identified by the Productivity Commission (2016[37]) for Australia that undoubtedly also applies to Canada is the high net fiscal cost of allowing parents of residents to immigrate (as opposed to entering on Super visas, which allow them to live in Canada without access to public health insurance and social transfers). These immigrants tend to have low integration in the labour market owing to their age and in many cases poor English- or French-language proficiency. They are also at a stage in their lives when they make considerable claims on aged care, health-care and social security systems, the costs of which fall on the taxpayer. Unfortunately, no information is publicly available on these costs. The Productivity Commission estimated the cumulated lifetime fiscal costs (in net present value terms) of a parent visa holder in 2015-16 to be AUD 335 000-

410 000 per adult, which corresponds to AUD 2.6-3.2 billion for the 8 700 immigrant parents in Australia. Similar costings should be undertaken in Canada.

Figure 2.16. Average income tax paid in 2014 net of transfers received by years since landing

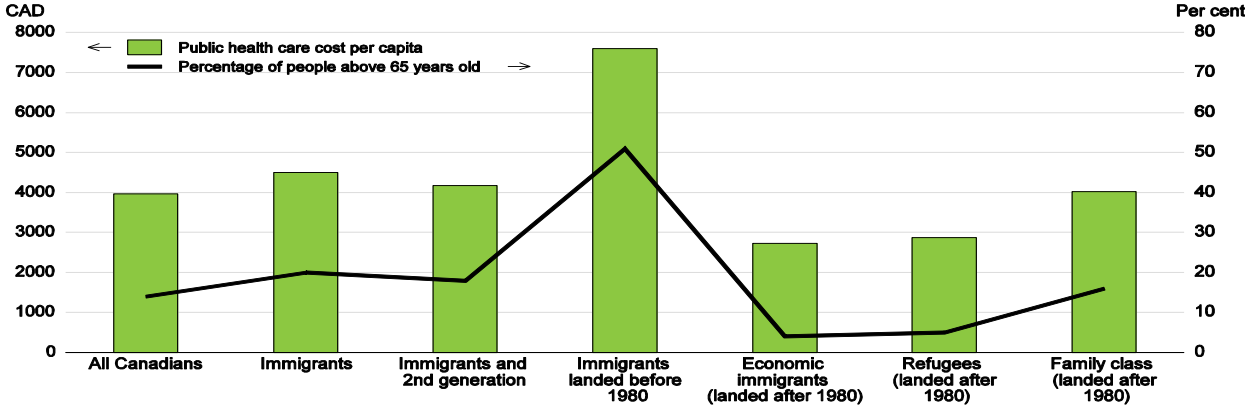
Thousand CAD 2014, 2014 tax year



Source: H. Zhang (2017), "Economic and Fiscal Impacts of Immigration: the Canadian Evidence", IRCC, Research and Evaluation Branch, October, calculations based on data from *Longitudinal Immigration database 2014*, and Statistics Canada's T1 Family File (2014).

StatLink http://dx.doi.org/10.1787/888933779979

Figure 2.17. Estimated 2011 public health cost per capita[1]



1. The estimate assumes that health cost per capita depends on three factors: age structure, gender and location of health care services.

Source: H. Zhang (2017), "Economic and Fiscal Impacts of Immigration: the Canadian Evidence", IRCC, Research and Evaluation Branch, October, estimates based on data from Canadian Institute for Health Information (2016) and National Household Survey (2011).

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Labour-market integration of immigrants has deteriorated

Their labour market outcomes have worsened relative to the native-born

Employment and unemployment outcomes for immigrants deteriorated between the 1970s and the early 2000s. Relative to employment and unemployment rates for the

native-born, rates for immigrants worsened until the early 1990s and then rebounded to some extent by 2001-05 (Table 2.6). These outcomes for individual immigrants improve the longer they have been in Canada, with greater gains for males than for females. Overall relative employment and unemployment rates deteriorated during the global financial crisis, as typically occurs during economic downturns, but subsequently recovered to around the same level in 2016 as a decade earlier (Figure 2.18, Panels A and C). Employment rates remain lower and unemployment rates higher for recent immigrants (Panels B and D) than for long established immigrants, but the gap has narrowed. These patterns are broadly similar across all levels of education. This evolution suggests that changes in immigration policies to give greater weight to factors that determine successful labour-market integration have borne fruit (see below).

Table 2.6. Immigrant labour market outcomes relative to those of the native born, by landing cohort and years since landing

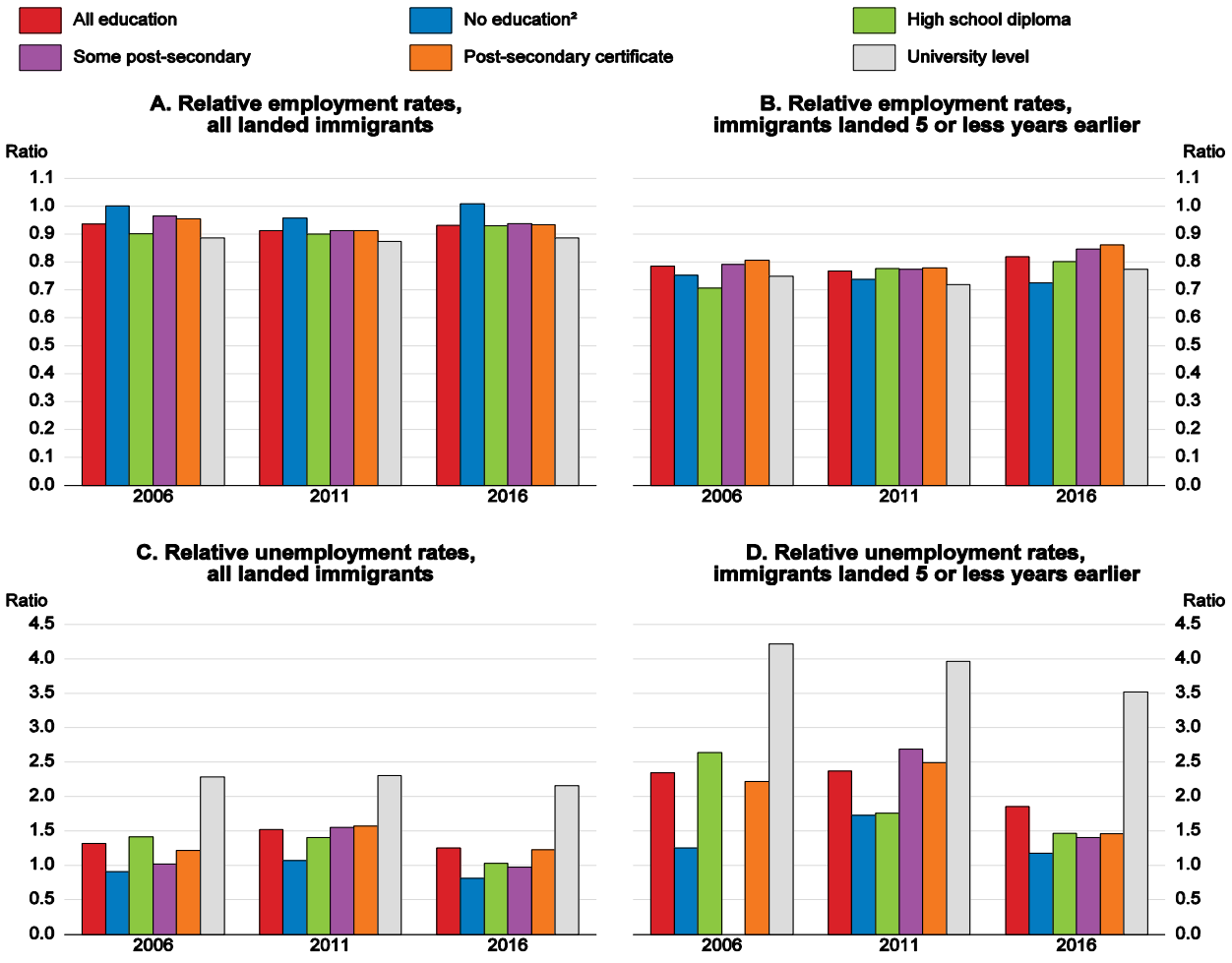
	Years in Canada				
	≤ 5	6-10	11-15	16-20	≥ 20
a) Employment rate relative to that of the Canadian-born					
Women					
1976-80	1.09	1.11	1.08	1.05	0.94
1981-85	0.96	0.99	0.98	1.03	0.93
1986-90	0.88	0.90	0.99	1.01	
1991-95	0.73	0.90	0.95		
1996-2000	0.77	0.91			
2001-05	0.79				
Men					
1976-80	1.03	1.06	1.06	1.05	0.99
1981-85	0.97	1.02	1.03	1.05	0.99
1986-90	0.91	0.98	1.04	1.05	
1991-95	0.87	1.00	1.03		
1996-2000	0.93	1.03			
2001-05	0.97				
b) Unemployment rate relative to that of the Canadian-born					
Women					
1976-80	1.15	1.05	1.10	1.08	0.82
1981-85	1.40	1.40	1.30	1.08	0.90
1986-90	1.87	1.68	1.24	1.17	
1991-95	2.37	1.54	1.45		
1996-2000	2.42	1.66			
2001-05	2.62				
Men					
1976-80	0.84	0.85	0.92	0.82	0.67
1981-85	1.27	1.14	0.96	0.77	0.75
1986-90	1.73	1.20	0.89	0.88	
1991-95	1.68	1.06	0.95		
1996-2000	1.55	1.05			
2001-05	1.60				

Source: G. Picot and A. Sweetman (2011), "Skillnaden I sysselsättningsgapet mellan Kanada och Sverige", in P.Hojem and M. Ãdahl (eds.), *Kanadamodellen: Hur invandring leder till job*, FORES, Stockholm.

Immigrant earnings have fallen relative to native-born earnings

Immigrant entry earnings (i.e., the average of the first full two years in Canada) fell for males in recent decades but increased slightly for females (Figure 2.19). Such earnings are highly cyclical. They dropped sharply in the recessions of the early 1980s, 1990s and 2000s, although the fall in the latter period was more related to the IT bust than to the recession, which was mild (Picot and Hou, 2009[38]). Focusing on periods at a similar stage of the business cycle, entry earnings fell by 9-10% between the 1981 and 1988 cohorts of male immigrants but rose by 14-19% for female immigrants and have since been stable for both (Table 2.7). As earnings for the comparator group comprising the Canadian-born and immigrants landed for 10 years or more (9 years or more for the 1988 cohort and 2 years or more for the 1981 cohort) rose throughout, entry earnings relative to those of the comparator group declined sharply between the 1981 and 2010 cohorts for both male (23-25%) and female (22-24%) immigrants.

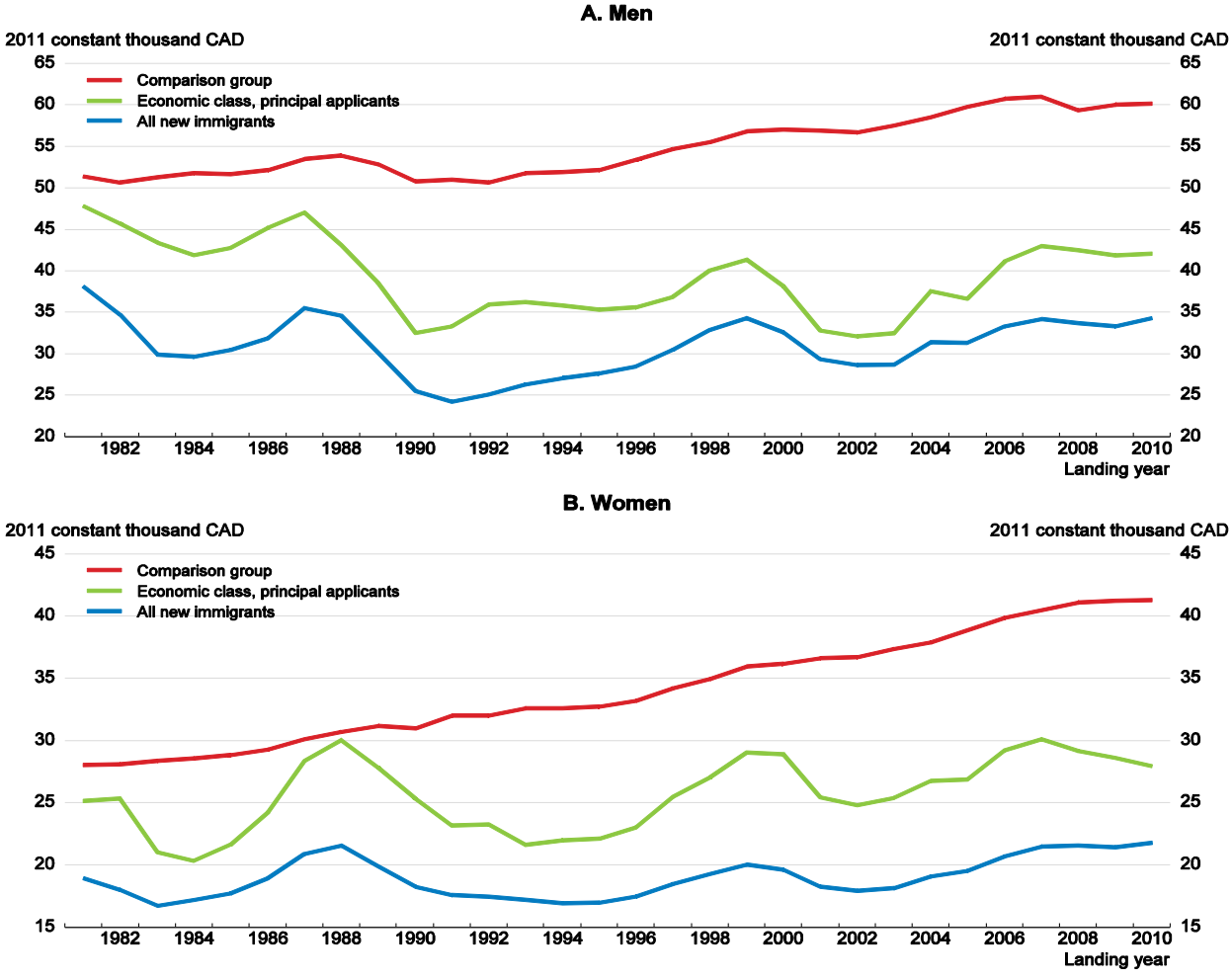
Figure 2.18. Immigrant relative labour market outcomes, by educational attainment[1]



1. Employment/unemployment rates of immigrants aged 25-54 relative to those of the native born with the same educational level.
2. Highest level obtained is some high school.
Source: Statistics Canada, Table 282-0106.

StatLink http://dx.doi.org/10.1787/888933780853

Figure 2.19. New immigrant annual entry earnings



Source: F. Hou and G. Picot (2016), "Changing Immigrant Characteristics and Entry Earnings", *Analytical Studies Branch Research Paper Series*, Statistics Canada,, Cat. No. 11F0019M - No. 374, based on Statistics Canada, *Longitudinal Immigration database*.

StatLink http://dx.doi.org/10.1787/888933780872

The decline in immigrant entry earnings relative to the native born is greater and the relative level of earnings lower when controlling for relevant characteristics such as education, age and place of residence. Controlling for these factors, Picot and Sweetman (2012[39]) find that male entry earnings (average earnings during the first five years in Canada) fell from 85% of those of the Canadian-born in the late 1970s to around 60% in the early 2000s (Figure 2.20); similar trends are observed for female immigrants. By comparison, male unadjusted earnings fell from 90% of those of the Canadian born to 72% over the same period. Whereas adjusted immigrant earnings approached those of the native born with similar characteristics after 20 years for the cohort entering Canada in the late 1970s, the starting point for cohorts since the early 1990s has been so low that their earnings are unlikely to catch up to those of the native born with similar characteristics during their working lives.

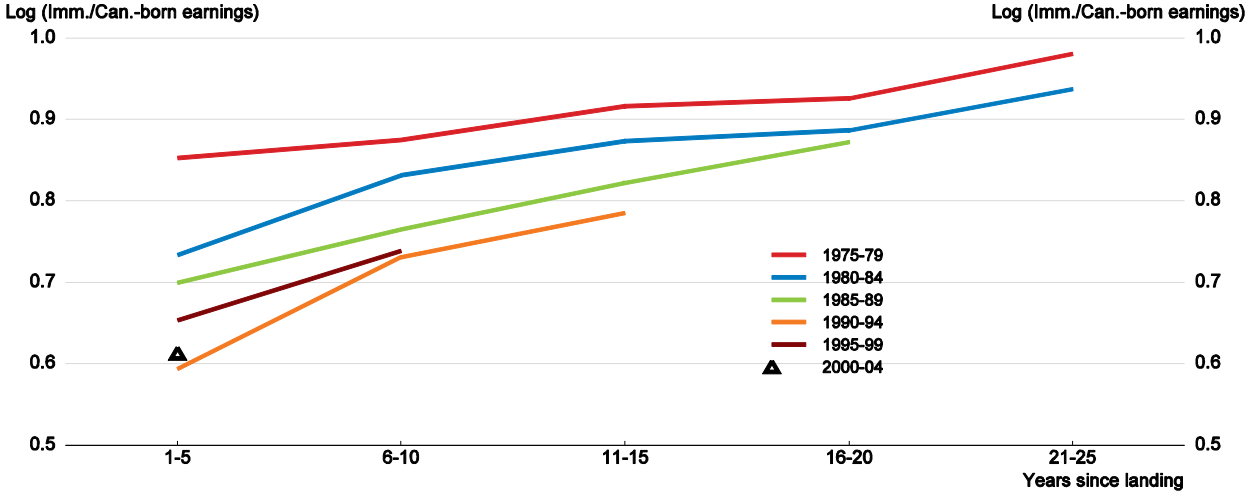
Table 2.7. Annual absolute and relative new immigrant entry earnings

	Landing cohort				
	1981	1988	1999	2006	2010
	2011 constant dollars				
Entry earnings					
All new immigrants					
Male	38 200	34 600	34 300	33 400	34 300
Female	18 900	21 500	20 100	20 700	21 800
Principal applicants in the economic class					
Male	47 800	43 100	41 400	41 100	42 100
Female	25 200	30 000	29 000	29 200	27 900
	Ratio				
Entry earnings relative to those of the comparison group					
All new immigrants					
Male	0.74	0.64	0.60	0.55	0.57
Female	0.68	0.70	0.60	0.52	0.53
Principal applicants in the economic class					
Male	0.93	0.80	0.73	0.68	0.70
Female	0.90	0.98	0.81	0.73	0.68

Note: New immigrants include those aged 20 to 54 at landing and who had positive earnings in at least one of the first two full years in Canada. Entry earnings are defined as the average annual earnings during the first two full years in Canada, rounded to the nearest CAD 100. For cohort years 1988, 1999, 2006 and 2010, the comparison group includes the Canadian-born plus immigrants who have been in Canada for 10 years or more (9 years or more for the 1988 cohort). For the 1981 cohort, the comparison group includes the Canadian-born plus immigrants in Canada for two years or more. Hence, entry earnings as a percentage of the earnings of the comparison group are somewhat overestimated in 1981 compared with other years.
Source: F. Hou and G. Picot (2016), "Changing Immigrant Characteristics and Entry Earnings", Statistics Canada Catalogue No. 11F0019M – No. 374, using the Statistics Canada *Longitudinal Immigration Database*.

Figure 2.20. Predicted male immigrant earnings[1] relative to those of comparable Canadian-born

Full-time, full-year male workers,[2] by years since landing, 1975-2004



1. Predicted values based on a model.
2. Aged 16 to 64.
Source: G. Picot and A. Sweetman (2012), "Making It in Canada - Immigration Outcomes and Policies", *IRPP Study*, No. 29, April, Figure B1.

StatLink http://dx.doi.org/10.1787/888933780036

For university educated immigrants, earnings fell to a similar extent relative to those of the comparable native-born over the past quarter century whether or not qualifications were in STEM fields (Picot and Hou, 2018[40]). Controlling for official language background and visible minority status, the earnings shortfall between immigrants and the native-born for the STEM educated increased from 10% in 1985 to 23% in 2010 while for the non-STEM educated the shortfall rose from 15% to 27%. However, STEM educated immigrants working in a STEM job did much better: the adjusted earnings shortfall only increased from 4% in 1985 to 10% in 2010; and their adjusted earnings relative to those of STEM educated immigrants working in non-STEM jobs rose from 8% higher in 1985 to 18% higher in 2010. For STEM-educated immigrants, the choice seems to be between working in a STEM job or in a very poor quality job. The earnings penalty for STEM educated immigrants who do not work in a STEM job contrasts with the experience of the native-born in similar circumstances, who are not subject to such downgrading – their skills appear to be more transferable.

The main causes of the decline in immigrant earnings are a change in source countries and declining English and French language skills

To be able to implement policies to increase immigrant earnings, and thereby their economic contribution to economic well-being, it is necessary to understand why their earnings deteriorated in the first place. The major factor explaining the decline in entry earnings for male immigrants during the 1970s and 1980s is the decline in the share of immigrants coming from the traditional source countries in Western Europe and the United States and the increase in the share coming from Asia, Africa and the Caribbean (Hou and Picot, 2016[41]). The next most important factor is deterioration in English or French language skills, which contributed 37-43% of the decline. The other major factor contributing to the decline is changes in immigrant-class composition, with a decline in the share of principal applicants in the economic class and an increase in the refugee share also contributed. The other factors controlled for by Hou and Picot - age at landing, education attainment at landing, geographic distribution and regional unemployment rate – are found to have boosted entry earnings.

English and French language skills appear to have a direct effect on labour market outcomes as well as influencing the rate of return to formal education (Picot and Sweetman, 2012). Immigrants with strong official language skills get a higher return on their education credentials than immigrants with weak language skills, who get no return at all [(Bonikowska, Green and Riddell, 2008[42]); (Ferrer, Green and Riddell, 2006[43]); (Warman, Sweetman and Goldmann, 2015[44])]. Returns are particularly high for those with higher levels of education (Goldmann, Sweetman and Warman, 2011[45]). When English or French literacy skills are accounted for, there is no statistical difference between rates of return to education for immigrants and the Canadian-born (Ferrer, Green and Riddell, 2006[46]).

A related factor explaining the decline is the fall in the returns to pre-immigration labour-market experience, mainly in the 1980s and 1990s (Picot and Sweetman, 2012[39]). Up until the 1970s such experience was rewarded, as it is for the Canadian-born. However, the return on foreign work experience had fallen to zero by the time of the 1990-94 cohort for all immigrants except males from traditional source countries (Aydemir and Skuterud, 2005[47]). Aydemir and Skuterud conclude that, among recent immigrants, the decline in the return to foreign experience accounts for roughly one-third of the decline in entry-level earnings.

For the time being there is little evidence as to the reasons for this decline in the value of foreign work experience in Canada. It does not appear to be attributable to foreign work experience generating lower cognitive skills, because, even when they are controlled for, returns are lower to both foreign-acquired education and experience for immigrants than to education and experience obtained in Canada by either immigrants or Canadian-born workers (Bonikowska, Green and Riddell, 2008[42]). Another possibility is that employers have difficulty judging the value of work experience (and credentials) acquired in a very different labour market (educational) context (Liebig and Huddleston, 2014[48]). Yet another possibility is that employers have less incentive to evaluate foreign experience (and years of schooling) owing to rising supply of highly educated workers in Canada, but there is little evidence concerning this hypothesis.

Another factor explaining the decline in immigrant entry earnings may be the decline experienced by all new cohorts of labour-market entrants, with the effect having been most pronounced in the early 1980s and for men (Picot and Sweetman, 2012[39]). This decline coincided with an increase in labour supply associated with baby-boom generation demographics and the recession. If this was the cause, it was temporary.

Job heterogeneity also appears to contribute to the shortfall in earnings for immigrants relative to the native-born controlling for age and education attainment. Skuterud and Su (2012[49]) find that up to one half of this shortfall can be accounted for by the under-representation of immigrants in high-quality jobs. This gap appears to reflect relatively low transitions into high-quality jobs and high transitions out of them. Immigrants have difficulty obtaining high-quality jobs directly out of unemployment and in being able to use low-quality jobs as stepping stones to high-quality jobs. Moreover, the immigrant gap in job quality does not close with time since landing.

A factor that is frequently cited as a cause of the decline in entry earnings is increasing difficulty having foreign credentials recognised or in upgrading them to equivalent Canadian credentials. However, there have been only modest changes in the returns to foreign credentials (Ferrer and Riddell, 2008[50]), abstracting from the IT collapse in the early 2000s, which caused the returns to higher education to fall for many immigrants (Picot and Hou, 2009[38]). Immigrants receive a lower rate of return on pre-immigration education, but this has always been so (Picot and Sweetman, 2012[39]). There are indeed credentials-recognition difficulties in regulated professions, which are the pre-immigration occupations of 15% of economic-class immigrants.

Earnings for university educated new immigrants relative to earnings of the university educated native-born declined much more in Canada than in the United States over 1980-2005 (Bonikowska, Hou and Picot, 2011[51]). Whereas the university education wage premium for new immigrants was similar in both countries in 1980, it was considerably higher in the United States by 2000. Plausible explanations, which need to be further researched, into the weaker performance in Canada include:

- Worse job matching in Canada than in the United States – 42% of recent immigrants are in jobs that require lower qualifications than they have in Canada, a gap of 19 percentage points over the native-born, compared with 29% and a gap of four percentage points in the United States.
- The more rapid increase in the supply of highly educated immigrants in Canada - over the 1990s the share of new adult immigrants who held a university degree rose from 25% to 47% in Canada, but only from 30% to 34% in the United States.

- The more pronounced decline in language ability in Canada than in the United States associated with the greater shift towards immigration from non-traditional source regions in Canada.
- Selection effects, with more able immigrants selecting the United States over Canada owing to higher US returns to skills (Clarke, Ferrer, Skuterud, 2018) and higher participation of employers in skilled immigrant selection in the United States.
- Possible declines in the quality of degrees held by entering immigrants which may have been more pronounced in Canada than the United States given the greater shift to non-traditional source regions in Canada.
- Differences in the occupational mix among highly educated immigrants in the two countries.

The gap in low-income rates between immigrants and the native born has grown

The deterioration in labour-market outcomes for immigrants in recent decades has resulted in a growing share of them falling into relative poverty at a time when the opposite was happening for the Canadian born. Low-income rates (i.e., the share of the population with disposable incomes below Statistics Canada's low-income cut-off) for immigrants increased from 17% in 1980 to 22% by 2005, while rates for the native born declined from 17% to 13% (Picot and Sweetman, 2012[39]). In line with developments in immigrant earnings, the increase in the low-income rate was particularly pronounced for recent arrivals and was concentrated among immigrants from the newer source regions; there was little increase in the low-income rate among immigrants from the traditional source countries (Picot, Lu and Hou, 2009[52]).

Picot and Lu (2017[53]) find that chronic (i.e., lasting for at least five consecutive years) low-income rates among immigrants declined over 2000-12, but less so than for the native born and immigrants landed 21 years or more before, resulting in an increase in relative chronic low-income rates. The highest chronic low-income rates were for immigrants aged 65 or over, especially in relative terms. Immigrants from Asia (excluding the Philippines) have much higher chronic low-income rates than do those from North-West Europe, the Philippines, Australia, New Zealand and the United States. There is now little difference in chronic low-income rates between recent and earlier immigrants, reflecting improvements in selection. Chronic low-income rates for immigrants, but not the Canadian-born, are most concentrated in Canada's three main cities (Vancouver, Toronto and Montreal).

Immigrants' children have less favourable labour-market outcomes as adults than the comparably educated native-born

While 1.5- and second-generation Canadians (i.e., landed at less than 10 years of age or Canadian-born with at least one foreign-born parent, respectively) on average earn more than their counterparts with Canadian-born parents, that is more than entirely explained by their higher educational attainment and greater tendency to live in large urban areas with high wage premia (Aydemir and Sweetman, 2008[11]). This result reflects outcomes for all main visible-minority/source-region categories – non-visible minorities do not suffer an earnings disadvantage controlling for educational attainment. The adjusted

earnings gaps are especially large for children of immigrants of African, Southeast Asian, West Asian/Arab or Latin American origin. These gaps are growing.

In 2011 employment rates for 1.5- and second-generation Canadians were lower than for their counterparts with Canadian-born parents, despite these immigrants having higher educational attainment. This is a reversal of the situation in 2001 when this group had higher employment rates. Increases in employment rates with rising educational attainment are smaller for this group than for their counterparts with Canadian-born parents. Controlling for relevant characteristics, employment rates for second-generation immigrants of West Asian/Arab and Latin American origin with university attainment are, respectively, 26 and 18 percentage points lower than rates for their counterparts with native-born parents. The extent of under-employment (i.e., working fewer hours than desired) and over-qualification (i.e., highly educated people in low-skilled jobs) is also more prominent among 1.5- and second-generation Canadians than their counterparts with Canadian-born parents.

Unemployment rates remained lower for 1.5- and second-generation male Canadians in 2011 than for their counterparts with Canadian-born parents, reflecting higher education attainment, but the gap was smaller than in 2001. For females such unemployment rates were higher in 2011 than for their counterparts with Canadian-born parents, the opposite of the 2001 situation.

More research is needed to determine the causes of the labour-market underperformance of 1.5- and second-generation Canadians relative to their peers with native-born parents controlling for education attainment and place of residence.

Improving immigrants' labour-market integration

Selecting immigrants with better integration prospects

An early policy response to counter the deterioration in immigrants' labour-market performance was to increase the share of economic-class immigrants from 40% in 1993 to more than 60% by the late 2000s (see Figure 2.1 above). There have also been changes in selection policy for economic-class immigrants to favour those with characteristics associated with stronger earnings outcomes, notably educational attainment, age, language ability and occupation. A major change occurred in 2002, when the points-based system was overhauled. Prior to the Immigration and Refugee Protection Act (2002) (IRPA), this system was aimed at selecting immigrants in occupations experiencing shortages. As discussed above, such shortages are difficult to anticipate and may not last long enough for immigrants to remain employed in jobs well matched to their skills. The result was that too much weight was given to short-term as opposed to longer-term labour-market outcomes. IRPA modified the points system for the Federal Skilled Worker programme to be almost entirely based on human capital factors, and the occupation list for immigration was suppressed. Following employer opposition, the federal government adopted a hybrid approach in 2008 that entailed pairing the points-based system to assess human capital with occupations lists, and prioritised arranged employment. The aim of these changes was to support long-term economic needs by attracting immigrants in high-skilled occupations while also addressing short-term labour-market demands.

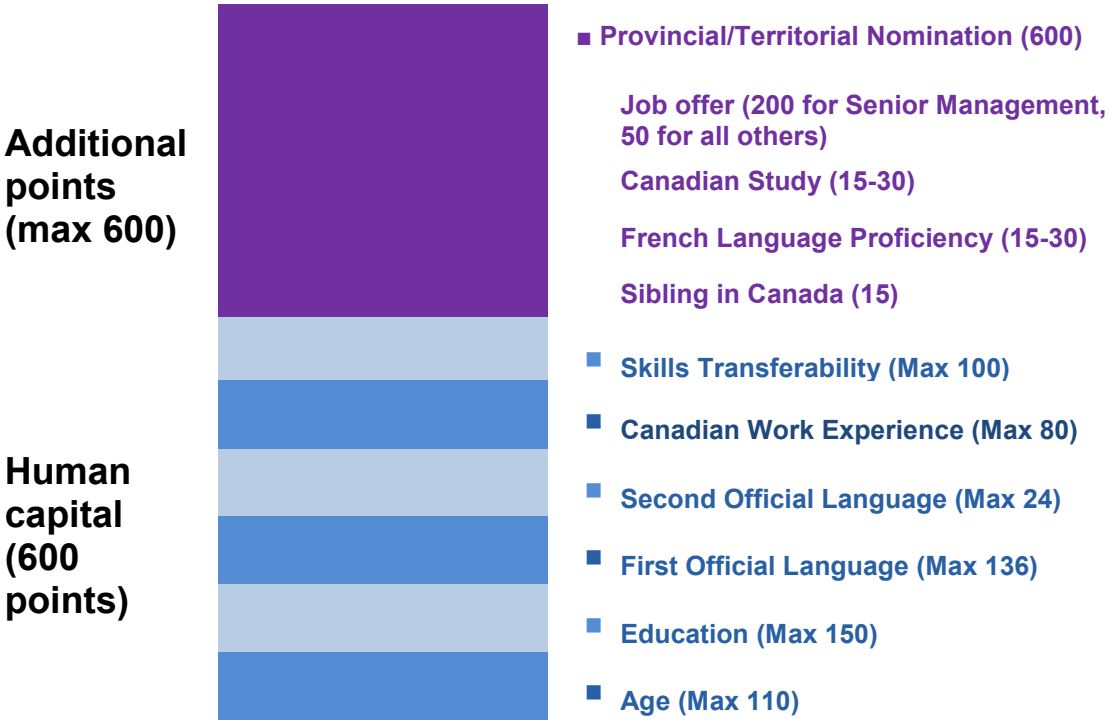
The points system was markedly tightened in 2013. Greater emphasis was placed on standardised language testing and pre-migration credentials recognition (based on the Australian system). Other factors given greater weight were work experience in an

eligible occupation and arranged employment or enrolment in a PhD programme in Canada. One of the consequences of these changes was a sharp increase in the share of Canadian Experience Class (CEC) immigrants, who have higher earnings than other immigrants (see Figure 2.3 above).

A major enhancement to the selection of economic-class immigrants occurred in 2015, when Express Entry became operational. This system, which is based on similar systems in New Zealand (since 2003) and Australia (since 2012), facilitates the selection of applicants for permanent residence with the greatest chance of economic success. Express Entry is an electronic application-management system for three federal economic immigration programmes: the Federal Skilled Worker (FSW) Program, the Federal Skilled Trades (FST) Program and the Canadian Experience Class (CEC). Québec has a comparable Express Entry system. To be eligible for Express Entry, candidates must meet the requirements of at least one of these programmes. Once in the Express Entry pool, candidates are assigned a Comprehensive Ranking System (CRS) score based on the information in their profile. Points are assigned for their human capital and additional policy factors. Only those candidates with the highest scores are invited to apply for permanent residence. This feature should result in applicants for permanent residence with higher levels of human capital, as previously all applications were processed on a first-in, first-out basis.

The reconfiguration of the points system through the CRS should also yield applicants with more favourable long-term labour market prospects. It was jointly developed with Statistics Canada based on immigrants' economic outcomes. Each human capital factor in the CRS is assigned a points scale weighted to reflect evidence on outcomes. For applicants without a provincial/territorial nomination, 70% of the maximum 875 maximum points awarded are for human capital factors (Table 2.8).

Table 2.8. Points available in the Comprehensive Ranking System



Source: Immigration, Refugees and Citizenship Canada (2017), "Canada's Immigration System and the Points-based Approach for Human Capital", August.

Educational attainment, first official language ability and age (younger immigrants have higher potential Canadian work experience, which is more highly rewarded than foreign work experience) are the most important factors. Skills transferability is based on interactions between first official language proficiency and educational attainment, Canadian work experience and educational attainment, and foreign work experience and first official language proficiency. For principal applicants with a spouse or common-law partner, up to 40 of the potential 500 points for the human-capital factors other than skills transferability are based on the spouse's or common-law partner's educational attainment, first official language ability and Canadian work experience. The rest of potential points are for additional policy considerations, including a provincial/territorial nomination, for which the full 600 points are awarded, and for candidates without such a nomination, a job offer, Canadian post-secondary education credentials, French language proficiency and having a sibling in Canada.

Current CRS scoring arrangements include significant changes made in November 2016 to enhance long-term economic outcomes. The most important was to reduce the number of points for a job offer from 600 to 200 for senior executive positions and 50 for all other skilled occupations. This change was made to strike a better balance between labour-market responsiveness and immigrant outcomes and better reflect the empirical value of employment. Since this change, there have been more applicants with higher levels of skills and education being invited to apply for permanent residence and a better mix of occupations, with the top five occupations of invited applicants in the highest skill category (National Occupational Classification A) and more invitations to candidates in STEM occupations. After having reached a peak of 78% of candidates invited to apply for permanent residence following the introduction of Express Entry, candidates with Canada as their country of residence fell to 50% in the first half of 2017. It is anticipated that the decline in the proportion of applicants already resident in Canada will continue in the near term, as more candidates qualifying for the Federal Skilled Worker Program from outside Canada are invited to apply. Despite the impacts of Express Entry on the skill levels and composition of economic immigrants to Canada, this trend may be unfavourable for immigrants' earnings as immigrants with prior skilled Canadian work experience have traditionally had higher earnings than other immigrants (see below).

The increased weight given to advanced official language proficiency, both directly and through interactions with educational attainment and foreign work experience, is very important for enhancing immigrant economic outcomes. Many studies attest to the importance of strong official language skills to be able to translate educational credentials and foreign work experience into earnings. For example, Warman, Sweetman and Goldmann (2015[44]) find that increased English language skills are associated with higher earnings. Moreover, the returns to foreign post-secondary educational credentials are statistically significant only for those who have high levels of English language ability and/or work in their pre-immigration occupation. Looking at foreign qualifications in the form of labour-market experience, Warman et al. also find that only immigrants who work in their pre-immigration occupation and have high English language proficiency receive a positive rate of return on their pre-immigration potential labour-market experience (which is inversely related to age at landing).

These changes should also help to increase immigrants' information-processing skills as they are mediated in the labour market (and the OECD's PIAAC assessment) by official

language competence. Increasing these skills is important because they are rewarded in the labour market with a return that is no lower for immigrants than for the native born (Bonikowska, Green and Riddell, 2008[42]). Such skills are lower in Canada than in Australia and New Zealand, which run similar, selective immigration policies (Table 2.9). The difference in performance between Canada, on the one hand, and Australia and New Zealand on the other, mainly reflects lower scores for immigrants who learned the language of the PIAAC assessment as a first or second language as a child. Canada has a much higher proportion of immigrants from India and the Philippines, countries from which many immigrants who would be classified in PIAAC as native English speakers, than Australia and New Zealand, which have much higher shares of immigrants from the United Kingdom and South Africa (and each other), where English is more likely to be the "mother tongue", a more demanding definition than that used in PIAAC. Canada's foreign-language immigrants also had lower literacy skills than Australia's and New Zealand's, although the gap was smaller. A more favourable aspect of the PIAAC results for immigrants in Canada is that second-generation Canadians from a foreign-language background have essentially the same scores as native-born native-language speakers, a far better result than in Australia, New Zealand and most other OECD countries. This performance reflects well on Canada's education system, in which socio-economic background has a relatively small effect on PISA outcomes.

Table 2.9. Mean PIAAC literacy proficiency by immigrant and language background and selected score differences

		Foreign born				Native born		Foreign born		
	Native born	Total	Recent immigrants (in host country 5 or fewer years)	Established immigrants (in host country more than 5 years)	Difference between native and foreign born	Native born and native language	Native born and foreign language	Foreign born and native language	Foreign born and foreign language	Difference between native born/native language and foreign born/foreign language
Canada	279.5	255.9	248.8	257.9	23.6	279.7	278.1	268.8	249.8	29.8
Australia	284.0	271.3	m	m	12.7	284.4	274.6	287.7	255.0	29.4
New Zealand	282.9	275.1	269.5	277.4	7.8	284.0	258.4	289.6	261.6	22.4
OECD average	270.6	247.0	233.7	248.4	23.6	270.9	257.9	264.2	240.4	30.5
Canada-Australia		-15.3				-4.7	3.4	-18.9	-5.2	
Canada-New Zealand		-19.2	-20.7	-19.5		-4.3	19.7	-20.8	-11.8	
Share of native-language immigrants										
Canada								25.9		
Australia								41.8		
New Zealand								41.3		
Canada with AUS share		257.8								
Canada with NZL share		257.7								

Note: m for missing - information about years since immigration is not available for Australia. Native language refers to whether the first or second language learned as a child is the same as the language of assessment, and not whether the language has official status. Foreign language refers to whether the first or second language learned as a child is not the same as the language of assessment. Thus, in some cases, foreign language might refer to minority languages in which the assessment was not administered.
Source: OECD, *Survey of Adult Skills (PIAAC) database* (2012, 2015).

While prior Canadian skilled work experience (National Occupations Classifications O (managerial), A (professional) and B (technical occupations and skilled trades)) has been given greater weight in selection in light of evidence that immigrants with it earn much more than immigrants without it (Sweetman and Warman, 2014[54]), the share of economic immigrants with such experience has traditionally been modest - 16.9% of male and 15.0% of female economic immigrants had prior skilled Canadian work experience in 2005-06 (Hou and Bonikowska, 2016[55]). Yet prior Canadian skilled work experience contributes to much higher immigrant earnings. Indeed, this is the main source of Canadian Experience Class (CEC) principal applicants' earnings advantage over other immigrants: former International Students earn no more than other immigrants on a weekly basis and only slightly more on an hourly basis. The skilled TFW route to permanent immigration is particularly beneficial for immigrants from non-Western backgrounds and to those in the upper earnings quintiles. Sweetman and Warman (2014[54]) also find that former TFWs receive a positive return for years of potential foreign work experience, in contrast to other recently landed immigrants whose return is either zero or negative. For females the results are more mixed and more modest, but still positive for the two main CEC categories. As noted above, the proportion of applicants residing in Canada invited through Express Entry was 50% in 2017.

Hou and Bonikowska (2016[55]) also find that immigrants with prior Canadian skilled work experience have a very large initial earnings advantage over those directly selected from abroad, regardless of whether the comparison is made starting from the year of immigration or the year of arrival (i.e., this advantage is not simply due to former TFWs having worked longer in Canada). As less than one-quarter of these immigrants' earnings advantage is attributable to their higher education level, stronger English skills and higher share coming from traditional source countries, these authors conclude that most of the earnings advantage is probably related to institutional labour market selection in terms of employers' role in selecting foreign workers and subsequent on-the-job screening, and self-selection among skilled immigrants (those with unsatisfactory experiences as TFWs are more likely to have left the country). By contrast, former international students without prior Canadian high-skilled work experience have only a small earnings advantage over immigrants selected directly from abroad, with this advantage being entirely attributable to having spent longer in Canada. Consistent with previous US, Australian and Canadian studies, receiving-country education does not generate a clear earnings advantage unless validated in the labour market by securing a high-skilled job after graduation. Immigrants with only prior Canadian low-skilled work experience had the worst outcomes, indicating that the types of jobs that potential immigrants are selected into shape their long-term labour market outcomes.

In view of these results, giving even greater weight in selection to prior skilled Canadian work experience could yield economic immigrants with more favourable earnings prospects. At the same time, points awarded for a skilled job offer should be subject also to having skilled Canadian work experience, which is not currently the case, as a job offer without it doesn't make much difference to entry earnings. Similarly, points awarded for Canadian post-secondary education credentials, which was introduced in November 2016, should be conditioned on having skilled Canadian work experience because without it such education does not offer a clear earnings advantage *(ibid)*. Canadian work experience, not Canadian credentials alone, also helps with finding a job. Oreopoulos (2011[56]) finds that having a Canadian bachelor's degree makes no difference to the likelihood of obtaining a job interview if the candidate also has four to six years of Canadian work experience.

In light of the findings discussed above that immigrants with a PhD in a STEM field working in a STEM job contribute disproportionately to innovation (Blit et al., 2018), there is a case from an economic point of view for increasing the weight given in CRS scoring to a relevant job offer for applicants with a PhD in a STEM field. The main advantage of giving weight to a relevant job offer is that better firm-worker matches are obtained, as employers are likely to be well informed about the productivity of the foreign workers they would like to hire, many of whom will have worked for the employer as a TFW.

Subject to enhancing norms for provinces' foreign qualifications recognition, another change in selection policies that would enhance outcomes of those concerned is to take into account the gap between these foreign credentials and what is required for local registration, as already occurs in certain regulated trades through credentials assessment, as immigrants whose pre-immigration occupation is regulated in Canada receive a substantial earnings benefit if they get a job in their pre-immigration occupation (Warman, Sweetman and Goldmann, 2015[44]; OECD, 2016[57]).

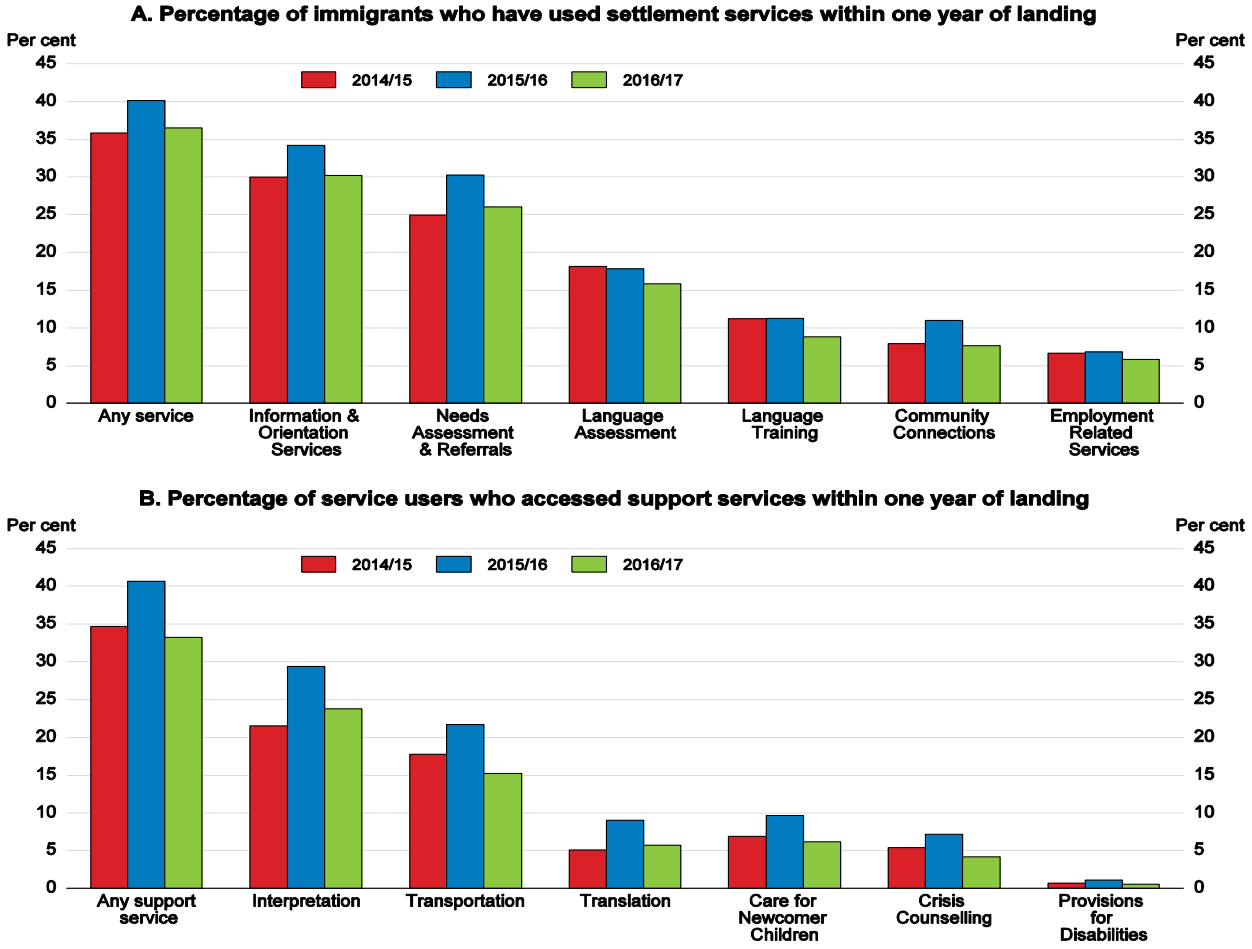
While Express Entry is intended to be a hybrid system that is both migrant supply and employer demand driven, employers have made less use of it to date for recruitment than may have been expected. Processing delays, administrative complexity and the reduced number of points awarded for a job offer since November 2016 (except for the 20% of PNP principal applicants channelled through Express Entry) may have discouraged employer use. Some of these barriers have been reduced. Application processing time has been at or below six months in most cases since the introduction of Express Entry, and job-offer requirements have been eased by introducing a Labour Market Impact Assessment exemption in certain cases and reducing the job-offer duration requirement from indeterminate to a minimum of one year. While current job-offer points continue to significantly improve the likelihood of receiving an invitation to apply, further increasing the weight given to candidates with Canadian skilled work experience and a relevant job offer, as recommended above, could also increase employers' interest. Another change that would make the system more attractive to employers is to prioritise the processing of applications with a relevant job offer, as in Australia, and skilled Canadian work experience. Such an arrangement has sharply increased the share of economic immigrants with a relevant job offer in Australia, and has contributed to improved labour market outcomes for immigrants (van de Ven and Voitchovsky, 2015[58]). Further consultations with employers should be held to identify remaining barriers to use pf Express Entry by employers that could be lowered.

The PNPs, on the other hand, continue to be labour market demand driven. However, they tend not to place great weight on the factors associated with long-term labour market success. This focus can lead to problems for the rest of Canada when demand for the specific skills recruited through a PNP dries up, as occurred in Alberta following the fall in oil prices in 2014, and the immigrants concerned move elsewhere in search of work but may lack the skills needed to find good jobs. Channelling more PNP candidates through Express Entry would help to ease this problem by assuring that more of them also have the high levels of human capital needed to adapt easily to future labour market shocks. With the recent addition of an Express Entry Stream to the Alberta International Nominee Program, all provinces and territories with a provincial nominee programme now participate in Express Entry; this is a welcome move.

Enhancing the impact of settlement programmes

Canadian governments fund a full array of settlement programmes to help immigrants to build their human and social capital so they can integrate smoothly into Canadian society. The federal government is the largest provider of programme funding (CAD 945 million in FY2015-16). Settlement services supported by this funding include pre-arrival services, which aim to provide selected permanent residents with accurate, relevant information and supports so that they can make informed decisions about their new life in Canada and begin the (re) settlement process while overseas, including planning and preparing to work in Canada. Such services include Needs Assessment and Referrals, Information and Orientation, Community Connections and Employment Related Services. These services are also available to eligible newcomers and immigrants in Canada (Figure 2.21, Panel A). Other key settlement services are Language Assessment and Language Training. Immigration, Refugees and Citizenship Canada (IRCC) also funds a variety of indirect and support services (Panel B), which facilitate programme participation and foster community planning and partnership.

Figure 2.21. Use of IRCC settlement services[1]



1. The estimates use IRCC administrative data as of April 2017 for immigrants landed from 2014/15 to 2016/17 and thus exclude pre-arrival use of settlement services.
Source: H. Zhang, J. Zhong and R. Lee (2017), "Research Insights in Settlement Services: Uptake, Mobility of Clients and Service Outcomes", IRCC, Research and Evaluation Branch, October.

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More than 35% of immigrants who landed in the last three years have used at least one IRCC-funded settlement service within one year of landing (Figure 2.21, Panel A), and, of these users, more than one third accessed support services (Panel B). Some services are used much more than others. It is not clear whether these utilisation patterns reflect differences in needs, availability or other barriers to take-up. One issue that IRCC has identified is that services may not be offered near to where immigrants live. It plans to reorganise service delivery in Vancouver so that it is closer to where immigrants live. Familial and financial constraints, which may oblige immigrants to take on "survival jobs", also may be contributing to low use of language training and employment-related services relative to orientation and needs assessments, which can be completed more quickly. IRCC should assess more broadly the extent to which utilisation patterns reflect needs and, insofar as they do not, redirect resources. It would also be useful to ensure that all new immigrants are well informed about the availability of settlement services and receive advice on what services would be most beneficial to them. Sponsoring the development of an Application to use as a platform to streamline integration services information, as in Finland, could help in this regard.

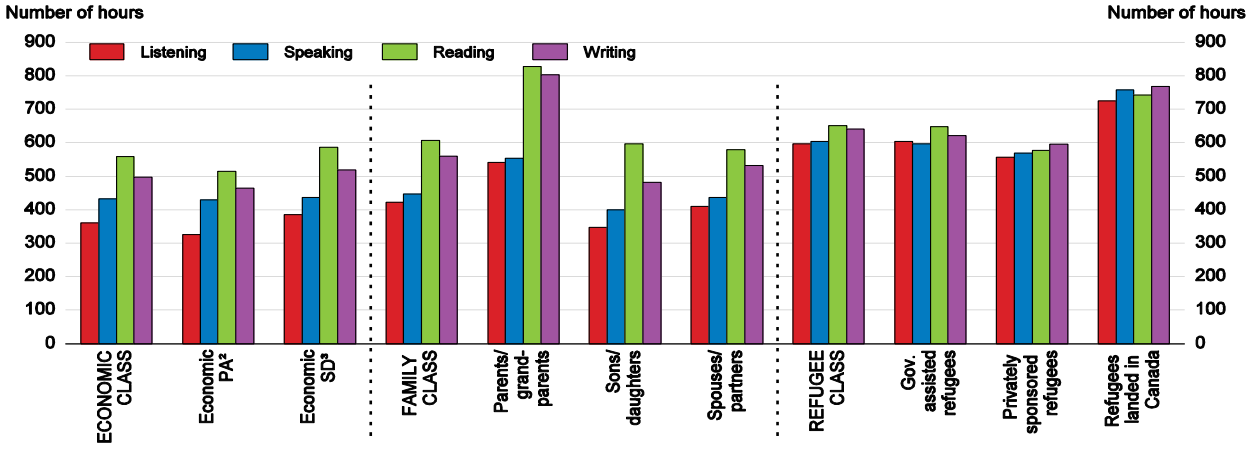
The largest funding source for language training is the federal government's Language Instruction for Newcomers to Canada (LINC) programme. It is free of charge to users and open to permanent residents within their province or territory who are not citizens and older than the minimum school-leaving age. Training is delivered by a range of organisations across Canada (outside Québec), primarily non-profit and educational institutions. Clients can choose to take full- or part-time courses, in a classroom or online, during the day, the evening or the weekend. Classes are available from basic to advanced levels and cover aspects of living in Canada, Canadian culture, civics, job-search skills and cross-cultural communication. Language training is also available through provincially funded programmes and adult skills training programmes geared to labour-market inclusion.

Under Canada's Settlement Program, childminding services are offered to facilitate access to direct services, including the enrolment of newcomer women in language training. IRCC has made significant investments in childcare support for newcomers and continues to monitor and adjust these supports as the average newcomer profile changes. Nevertheless, it has been a challenge for immigrant mothers to get to the front of the queues for language training and childcare services at the same time. Recognising that childcare spaces are a prerequisite for accessing language training and other settlement services, in 2016-17 IRCC reinforced flexibility in this area to facilitate access to settlement services by Syrian refugees. Temporary adjustments enabled more spaces to be created to accommodate adults with many young children. As a complement, provinces and territories are implementing the 2017 Multilateral Early Learning and Child Care Framework, with some of them highlighting in their three-year investment plans measures to address the childcare needs of immigrant families.

Resources for language training did not expand by enough to cope with the surge in Syrian refugees in 2015-16. Language-training funding was redirected from other immigrants, who were supported only up to a lower level than in the past. The levels on the Canadian Language Benchmark (CLB) up to which support was offered – five for non-federal programmes, three for LINC on a 12-level scale – are not adequate to support strong labour-market integration. In the future any increase in the share of immigrants with weak official language skills should be accompanied by enough extra funding to avoid additional rationing of language training for other immigrants.

Of the IRCC-funded language-training clients who landed between January 2014 and March 2016, 57% gained at least one CLB in one or more of the four language components, with 18% achieving an increase in all four components (listening, speaking, reading and writing). Economic-class immigrants required the least number of training hours on average to improve by one CLB, while parents/grandparents (family class) and refugees required the most (Figure 2.22). For older persons, the classroom context may not be the most suitable for teaching. Where other cheaper services are available to fulfil some clients' objectives, such as community connection services for parent/grandparent immigrants instead of expensive language training services, consideration should be given to expanding these services and redirecting the resources saved to other clients.

Figure 2.22. Average time needed to improve one Canadian Language Benchmark[1]



1. Calculation based on IRCC's administrative data language service users who landed between January 1, 2014 and March 31, 2016 and data as of April 2016.
2. Principal applicants.
3. Spouses/Domestic common law partners.
Source: H. Zhang, J. Zhong and R. Lee (2017), "Research Insights in Settlement Services: Uptake, Mobility of Clients and Service Outcomes", IRCC, Research and Evaluation Branch, October.

StatLink http://dx.doi.org/10.1787/888933780074

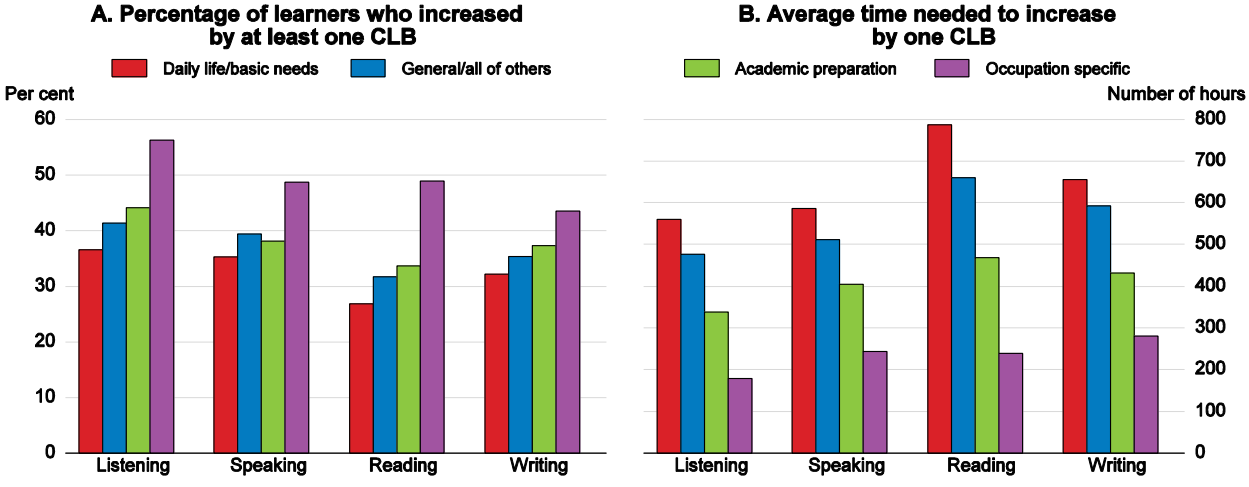
Clients who utilised occupation-specific language training are the most likely to improve by at least one CLB and need the least number of training hours on average to do so, followed by those who use academic-preparation language training (Figure 2.23). The daily life/basic needs and general/all others categories of language training had the smallest proportion of clients advancing by at least one CLB and needed the most training hours to do so. While selection clearly influences these results, IRCC should nevertheless consider increasing resources for the more efficient courses to reduce waiting times. Consideration should also be given to how the less efficient courses can be restructured to improve outcomes, for example by making them more relevant to clients' needs. Greater use of online courses could be helpful in this regard as they are easier than traditional courses to tailor to individual needs. More generally, language training needs to be more client specific, including the way it is delivered (e.g., classroom, evening classes, by Internet), and more coordinated across all levels of government.

The case for focusing more resources on occupation-specific language training is particularly strong, considering the large potential earnings gains. Warman et al. (2015) observe higher earnings for immigrants who report educational training preparatory to an

occupation licensed in Canada, especially for those with advanced English-language skills. The earnings gain is large if their pre- and post-immigration occupations are matched. Expanding access to occupation-specific classes, which are often held in the evening, may be particularly beneficial for refugees, who cannot afford to delay working for years while they learn English for daily needs.

Bridge programmes, which combine advanced language training specific to an immigrant's field and courses needed to bring their credentials up to Canadian standards, have been highly successful in facilitating post-secondary credentials recognition. The programmes have been jointly developed with the regulated professions and trades. They are very important in the health-care sector, which has many immigrant physicians but a high failure rate (60%) in the licencing test. Further expansion of bridge programmes would help more immigrants to work in their fields of expertise, enabling them to be more productive. Such an expansion could profitably be complemented by the enhancement of norms for qualifications recognition and harmonisation at the provincial level to reduce barriers to inter-provincial mobility of immigrants in licenced occupations.

Figure 2.23. Cost-effectiveness of language training by type[1]



1. Calculation based on IRCC's administrative data of language service users who landed between January 1, 2014 and March 31, 2016 and data as of April 2016. The calculation excludes language service clients who do not have any Canadian Language Benchmark (CLB) recorded in the four language components.
Source: H. Zhang, J. Zhong and R. Lee (2017), "Research Insights in Settlement Services: Uptake, Mobility of Clients and Service Outcomes", IRCC, Research and Evaluation Branch, October.

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Mentoring programmes are a promising way of helping immigrants overcome their under-representation in high-wage jobs discussed above (Skuterud and Su, 2012[49]). Such programmes, which help currently employed skilled immigrant workers meet people in their profession, potentially integrating them in job-search networks, provide profession-specific language skills as well as literacy and soft skills (including teamwork and oral communication) specific to Canadian workplaces, plus information on workplace culture and employer expectations. The programmes operated by the Toronto Region Immigrant Employment Council (TRIEC) have been particularly successful: three-quarters of immigrant professionals using their programmes find a job in their field within a year; this success has been such that this model has been exported to other Canadian cities and

Australia. Mentoring programmes also make bridge programmes more effective. A reflection is needed on how the main constraint to expanding these programmes - finding people who can take the time to mentor – can be attenuated.

The Targeted Employment Strategy for Newcomers announced in the 2017 budget is aimed at facilitating foreign-credentials recognition and helping immigrants to gain Canadian work experience in their profession. The Strategy includes: improved pre-arrival supports to begin recognition; a loan programme to assist with costs; and targeted employment-assistance measures to test innovative approaches to help newcomers acquire Canadian professional experience. Several pilots are underway to gather evidence on the most effective and efficient means to work with employers to support immigrants in obtaining their first Canadian work experience commensurate with their professional training and background.

A useful innovation to reduce unwarranted barriers to immigrants registering in licenced professions has been the creation of several Offices of the Fairness Commissioner (OFCs) in various provinces, starting with Ontario in 2006. There, the OFC ensures that registration practices in 40 regulated professions are transparent, objective, impartial and fair for anyone applying to practice their profession there. The Ontario OFC requires the bodies that regulate the professions to review their own registration processes, submit reports about them and undergo compliance audits. With these audits, the office ensures that the regulatory bodies are meeting their legislated obligations. The Ontario OFC has guided changes that removed unnecessary hurdles for applicants through streamlined processes, better communication and/or improved support. For example, internationally trained lawyers do not have to do compulsory articling anymore. The Ontario OFC has also encouraged programmes that help internationally trained professionals bridge the gap between the education and experience they already have and what is needed to be licenced in Ontario. The Office also published a guide so that regulatory bodies can reconsider the substance of the requirements to get into their professions. Similar bodies have been created in Manitoba, Québec and Nova Scotia. Denmark, Australia and New York State are currently liaising with Ontario's OFC to establish similar offices in the future.

Reduce discrimination

Discrimination may be a cause of lower earnings for immigrants. Even after controlling for all non-ethnic factors that explain earnings, immigrants, especially the university educated, earn less than the native-born. For example, Bonikowska et al. (2008) find that while university-educated immigrants' lower literacy skills help to explain their earnings shortfall in Canada, there would still be a 50% male earnings gap if skill levels were increased to the levels of the native born. Some studies find evidence of discrimination against non-Caucasian job-seekers in Canada. For example, Oreopoulos and Dechief (2012[59]) find evidence of discrimination against job applicants with "foreign" names in the probability of being called back for a job interview even if the applicants have similar education and skill profiles as those with English names. More studies, perhaps based on data with larger sample sizes and more variables, are needed to determine the extent and nature of discrimination and how best to combat it.

Potential victims of discrimination can seek justice under elaborate anti-discrimination laws. The many types of discrimination are clearly defined, and people are protected in all areas of public life. However, one aspect where improvements need to be made according to the Migrant Integration Policy Index is in the mechanisms to enforce the

law, which do not strongly support victims' access to justice. Canada also makes a strong commitment to equality through its human rights bodies and equity programmes. The authorities regularly conduct public campaigns and social dialogue on discrimination and racism. Federal employment equity programmes have been in place and monitored since 1986. The Federal Internship for Newcomers Program in federal departments, agencies and private organisations aims to facilitate immigrants' labour-market integration; even so, first- and second-generation Canadians are under-represented in the public service. To be a federal contractor a firm's visible minority share of its workforce must be at least as high as its share in the population. There remains scope to broaden such obligations to areas covered in a number of other countries, including Australia, France, the United Kingdom and the United States. For example, a measure along the lines of Australia's 2013 Multicultural Access and Equity Policy, which requires all government departments to deliver equitable access to services regardless of clients' cultural or linguistic background, could enhance outcomes.

Facilitating labour-market integration of refugees

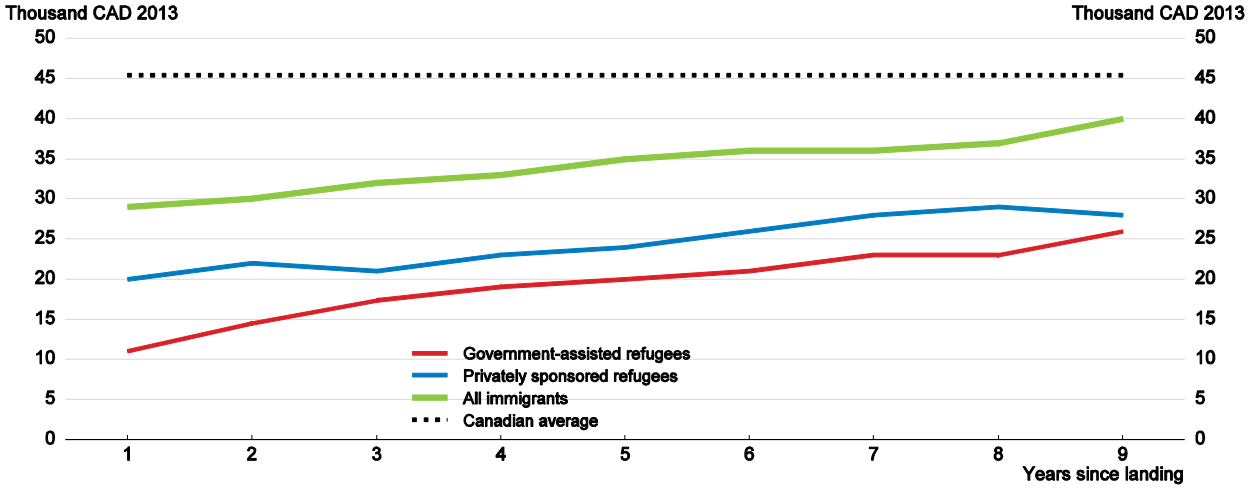
The resettlement, settlement and integration of refugees poses challenges as they often experience multiple barriers to integration, such as a lack of social networks, interrupted education, limited literacy in either of Canada's official languages, or health issues. Being able to speak English or French is necessary for refugees to fully participate in the nation's economic, social and cultural life. IRCC plans to intensify regular collaboration with provincial and territorial partners and service providers to monitor needs and make adjustments to language programming as required.

The significant intake of refugees from Syria in recent years has posed a financial burden on provinces and territories, which are responsible for providing claimants with access to social assistance, education, temporary health services, emergency housing and legal aid while their claim is pending. The federal government directly helps with temporary coverage for health-care services (through the Interim Federal Health Program). In exceptional circumstances the federal government may provide additional support upon request from a province or territory.

Government-assisted refugees (referred to Canada for resettlement by the United Nations Refugee Agency or another referral organisation, with resettlement supported by the government) have lower earnings than privately sponsored refugees (for whom a group of individuals supports their material, social and emotional needs for one year after arrival), both of which have lower earnings than other immigrants and Canadians on average (Figure 2.24). It is not clear whether these contrasting results reflect selection or treatment effects. After adjusting economic outcomes of refugees for differences in source country, age at immigration, official language knowledge, regional economic conditions and years since landing, Picot, Zhang and Hou (2018[60]) find that employed privately sponsored refugees earned 15-20% more than their government-sponsored counterparts during the first year, falling to 4-5% more by the fifth year and no more by the 10th year. These results point to the advantage reflecting treatment effects. A blended model with government selection and private management is being trialled to see if it yields better results. If so, it should be expanded.

Figure 2.24. Average employment earnings for refugees and immigrants by years since landing

Thousand CAD 2013, 2013 tax year



Source: IRCC (2017), "Government-Assisted Refugees - Findings from the Longitudinal Immigration Database (IMDB)", *IMDB 2013 Research Series*.

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Recommendations to make the most of immigration
(Key recommendations are in bolded text)

Immigrant selection

- **Increase the weight given to skilled Canadian work experience in selection. Condition points for post-secondary Canadian education and a relevant job offer on such experience.**
- **Process applications for immigrant candidates with skilled Canadian experience and a relevant job offer before others, and reduce administrative complexity.**
- **Channel more Provincial Nominee Program candidates through the federal government's Express Entry System, which selects candidates with high levels of human capital.**
- **Enhance norms for provinces' foreign qualifications recognition, and take into account the gap between applicants' credentials and requirements in regulated professions when awarding points.**
- Give more weight to a relevant job offer for applicants with a PhD in a STEM field to enhance the quality of firm-worker matches, and therefore STEM employment and patenting rates.

Settlement facilitation

- **Assess the extent to which utilisation patterns of settlement services provided by Immigration, Refugees and Citizenship Canada (IRCC) reflect needs and, insofar as they do not, redirect resources.**
- Ensure that funding for official language training keeps pace with needs.
- **Increase resources for the more effective language training programmes, such as occupation-specific training, to reduce queuing,** and examine how to improve outcomes for the less effective programmes.
- Where cheaper alternative services other than formal language training are available for some clients who make slow progress, expand them and redirect resources saved to other clients.
- **Expand bridge programmes**, which combine advanced language training specific to an immigrant's field and courses needed **to help bring** their **credentials up to the required level** in regulated occupations**.**
- **Expand mentoring programmes**, which help employed immigrants to develop their professional networks and improve their profession-specific language skills, **to help immigrants into high-quality jobs.**
- Expand the blended model of government selection and private management of refugees if trials underway show that it improves labour-market outcomes.

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