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http://www.oecd.org/eco/surveys

Basic Statistics of Switzerland, 2018

Numbers in parentheses refer to the OECD average

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	8.5		Population density per km²	215.5	(37.8)
Under 15 (%)	14.9	(17.8)	Life expectancy (years, 2017)	83.6	(80.1)
Over 65 (%)	18.6	(17.1)	Men (2017)	81.7	(77.5)
Foreign born (%)	29.6		Women (2017)	85.6	(82.9)
Latest 5-year average growth (%)	1.0	(0.6)	Latest general election	October 2019	
ECONOMY					
Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	705.8		Primary sector	0.7	(2.4)
In current prices (billion CHF)	689.9		Industry including construction	25.8	(27.5)
Latest 5-year average real growth (%)	2.0	(2.3)	Services	73.5	(70.1)
Per capita (000 USD PPP)	68.1	(46.4)			
GENERAL GOVERNMENT					
Per cent of GDP					
Expenditure	33.7	(41.1)	Gross financial debt (2017)	42.9	(112.3)
Revenue	35.1	(38.2)	Net financial debt (2017)	-10.2	(69.6)
EXTERNAL ACCOUNTS					
Exchange rate (CHF per USD)	0.98		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	1.19		Chemicals and related products, n.e.s.	34.4	
In per cent of GDP			Commodities and transactions, n.e.s.	21.4	
Exports of goods and services	66.2	(56.0)	Miscellaneous manufactured articles	19.7	
Imports of goods and services	53.9	(51.9)	Main imports (% of total merchandise imports)		
Current account balance	10.5	(0.3)	Commodities and transactions, n.e.s.	22.8	
Net international investment position	127.2		Machinery and transport equipment	19.5	
			Miscellaneous manufactured articles	19.5	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over, %)	80.1	(68.4)	Unemployment rate, Labour Force Survey (aged 15 and over, %)	4.7	(5.3)
Men	84.5	(76.0)	Youth (aged 15-24, %)	7.9	(11.1)
Women	75.7	(60.9)	Long-term unemployed (1 year and over, %)	1.8	(1.5)
Participation rate for 15-64 year-olds (%)	84.2	(72.4)	Tertiary educational attainment (aged 25-64, %,	43.7	(36.9)
Average hours worked per year	1 459	(1 734)	Gross domestic expenditure on R&D (% of GDP, 2015, OECD: 2016)	3.4	(2.5)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2017)	2.8	(4.1)	CO2 emissions from fuel combustion per capita (tonnes, 2016)	4.5	(9.0)
Renewables (%, 2017)	22.4	(10.2)	Water abstractions per capita (1 000 m³, 2012)	0.3	
Exposure to air pollution (more than 10 g/m³ of PM 2.5, % of population, 2017)	54.0	(58.7)	Municipal waste per capita (tonnes, 2017)	0.7	(0.5)
SOCIETY					
Income inequality (Gini coefficient, 2015, OECD: 2016)	0.296	(0.310)	Education outcomes (PISA score, 2015)		
Relative poverty rate (%, 2015, OECD: 2016)	9.1	(11.6)	Reading	492	(492)
Median household disposable income (000 USD PPP, 2015, OECD: 2016)	36.5	(23.6)	Mathematics	521	(490)
Public and private spending (% of GDP)			Science	506	(493)
Health care	12.2	(8.8)	Share of women in parliament (%, 2018)	32.5	(29.7)
Pensions (2015)	11.8	(8.5)	Net official development assistance (% of GNI, 2017)	0.5	(0.4)
Education (public, 2017)	4.5	(4.5)			

1. The year is indicated in parenthesis if it deviates from the year in the main title of this table.
2. 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 80% of member countries.

Source: Calculations based on data extracted from databases of the following organisations: OECD, International Energy Agency, International Labour Organisation, International Monetary Fund, World Bank.

Executive Summary

The economy supports strong well-being outcomes

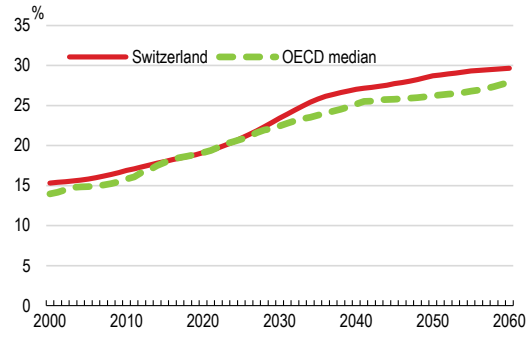
Switzerland has the third-highest GDP per capita in the OECD, thanks to high employment rates and productivity levels. These support, and are supported by, good health outcomes and a well performing education system.

Broad measures of living standards, such as subjective well-being and personal security, are amongst the highest in the OECD. Switzerland's carbon intensity is low, reflecting low energy intensity and almost carbon-free electricity. However, transport accounts for 40% of energy-related greenhouse gas emissions and contributes to air pollution, which exceeds international guidelines.

Adapting to demographic change is becoming pressing. Retiring baby boomers and increasing life expectancy will push the share of the population aged 65 years or more to 30% in coming decades (Figure 1). This trend, along with the digital transformation, will bring new opportunities for individuals and the economy. To realise these benefits and avoid ageing becoming a burden on firms and employees, a range of public policies including pensions, employment and health care policies, will need to adapt.

Figure 1. The population is becoming older

Population share aged 65 or over



Source: OECD, *OECD Economics Department Long-term Model*

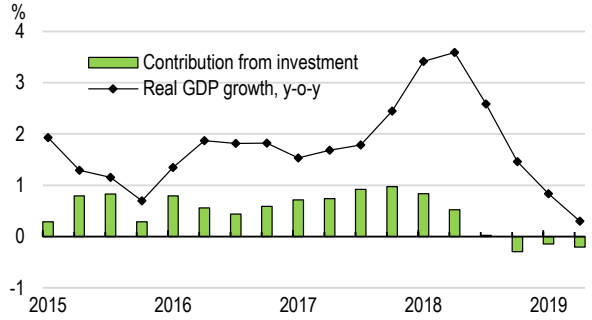
StatLink https://doi.org/10.1787/888934020958

Output growth is projected to be moderate and risks are building

The economy has slowed sharply after a buoyant 2018. This partly reflects the unwinding of the boost from international sporting events, as Switzerland hosts major international associations. Rising trade tensions and a slowing in Europe are also weighing on activity. Monetary policy has been very accommodative while fiscal policy has been neutral.

Investment has been weak, as have exports and imports (Figure 2). However, consumption is solid and unemployment is low. Shortages are growing in some sectors, such as technical fields. Real wages are still flat. With low cost pressures, consumer price inflation is positive but low.

Figure 2. Growth has slowed from a rapid pace



Source: OECD, *OECD Economic Outlook* database

StatLink https://doi.org/10.1787/888934020977

Growth will strengthen in 2020 thanks to one-off factors (Table 1). Abstracting from international sporting events, growth will be close to trend. A recovery in wage growth and healthy labour market will support consumption. But risks to the outlook from global tensions remain prominent.

Table 1. The economy is set to pick up in 2020

(Annual growth rates, %, unless specified)	2018	2019	2020
Gross domestic product (GDP)	2.8	0.8	1.4
Private consumption	1.0	1.1	1.4
Government consumption	0.3	1.1	1.1
Gross fixed capital formation	1.1	0.4	1.5
Exports of goods and services	2.9	-0.4	2.7
Imports of goods and services	-0.3	-0.6	3.3
Unemployment rate (% of labour force)	4.7	4.5	4.5
Consumer price index	0.9	0.5	0.4

Source: OECD, *OECD Economic Outlook database,* October 2019.

The policy rate has been negative – at -0.75% – since 2015 and the central bank's foreign reserves remain high. Low interest rates are contributing to risks from housing market exposures and interest rate-related risks in the financial sector are high.

Making greater use of fiscal space would help monetary policy to normalise. Fiscal surpluses exceeded 1% of GDP in 2017-18. There is space to increase spending within the debt-brake rule. Revenue has been stronger than budgeted and expenditure has been persistently below the ceiling. The debt-brake rule should treat spending overruns and savings symmetrically. When inflation is firmly on an upward trend, monetary policy should begin to tighten, taking into account risks of exchange rate appreciation.

Tighter macroprudential regulation would curtail financial stability risks. Stronger lending standards for investor mortgages, which have become riskier than owner-occupier loans, will be introduced in 2020. Action should be reinforced by creating a formal framework for lending standards enforced on a comply-or-explain basis.

Switzerland's financial sector is also exposed to climate-related risks. Information about exposures would help investors to make more informed decisions. The sector's financing decisions can contribute to climate change mitigation. Improving climate-related disclosure for banks, pension funds and insurers could increase investment in sustainable assets and reduce risks associated with carbon-intensive asset exposures.

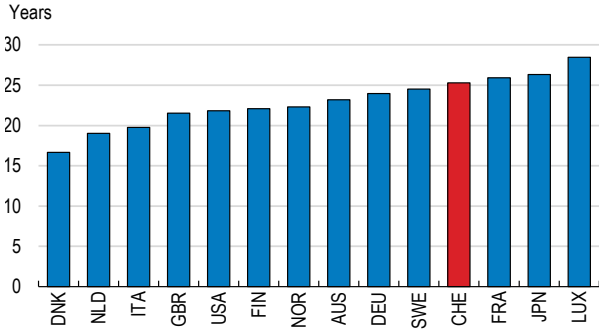
Stronger action now would better prepare for population ageing

Policies have not kept up with rising life expectancy. In particular, the statutory retirement age has remained at 65 years for men since its introduction in 1948 despite Swiss life expectancy at 65 having gained eight years. Women's retirement age is 64. Current settings imply that a relatively long time will be spent in retirement (Figure 3).

The pension system currently provides adequate incomes in retirement. For most employees the system offers high replacement rates, including through extra-mandatory schemes. However, replacement rates from the mandatory pension system will fall in coming decades. This risks increasing income inequality or adding to fiscal pressure through other social assistance. In the second pillar the rate at which accumulated assets in the mandatory part of the system are converted to a pension is set by law. The rate is too high, lowering the benefits available for younger generations.

Figure 3. Retirement is set to be relatively long

For a man born in 1996



Source: OECD (2017), *Pensions at a Glance 2017: OECD and G20 indicators;* United Nations, (2019), *World Population Prospects: The 2019 Revision.*

StatLink https://doi.org/10.1787/888934020996

Public spending on old-age pensions and health care will increase as the population ages. The burden is smaller than for many OECD countries but will largely fall on cantons and municipalities. Despite recent reforms the public first pillar scheme still faces sustainability challenges. Given fiscal rules, rising ageing-related costs threaten to crowd out other public spending.

Raising the statutory retirement age would mitigate the economic cost of ageing. It would increase individuals' retirement savings, reduce public pension financing needs, add to government revenues and raise economic growth. Women's retirement age should be raised to men's. The age should then be gradually lifted to 67 and linked to life expectancy thereafter.

Barriers to working longer should be addressed. Employment rates of older workers up to 65 years are comparatively high. Still, seniority wages together with higher rates of social security contributions act as disincentives to hiring and retaining them. The annual conference on old-age workers, which gathers social partners and other stakeholders, should be used to find ways of introducing greater flexibility into the wage-setting system. This could include training opportunities. Additional pension benefits from working beyond age 65 are being considered and welcome.

Shifting the tax mix towards more growth-friendly sources would help prepare the system for ageing. Plans to raise the VAT rate and lower personal income taxes for second-earners go in the right direction. Greater use of VAT, recurrent tax on immovable property and environmentally related taxes can help fund cuts in personal income tax for low-income earners.

Containing health care costs is rightly a government priority. Average health spending per person is the second-highest in the OECD. Planned reforms will tackle hospital costs, specialist fees and pharmaceuticals prices. The roll-out of electronic patient dossiers has the potential to enhance co-ordination, efficiency and outcomes. Incentives should be offered to practitioners to secure greater participation and reap the full benefits of the reform.

Long-term care needs increase with old age. Over one-fifth of those aged 65 or more received long-term care in 2017. But the system is fragmented and out-of-pocket expenses for home-based care can be unaffordable even with moderate needs. This creates incentives to move to a nursing home even with low care needs, which is neither cost-effective nor welfare-improving.

Switzerland can reap greater benefits from technological change

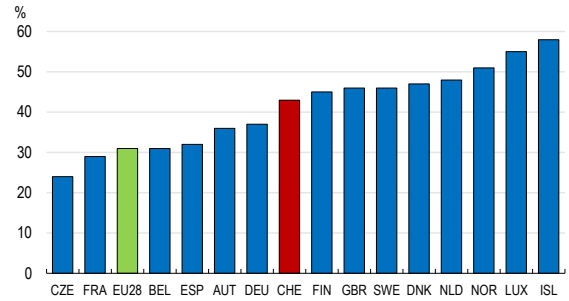
With its well educated workforce, excellent infrastructure, and high levels of R&D, Switzerland is well placed to benefit from new technologies. Digital technologies, for instance, can boost productivity. Take-up is around the OECD average, with many firms slower to adopt digital technologies than in leading countries.

Skills shortages in IT-related fields are hampering expansion of firms and the absorption of new technologies. IT competencies have not kept pace with leaders (Figure 4). Easing procedures for immigration from outside of Europe would assuage skill shortages. Promoting scientific and technical courses, particularly among women, would add to supply in the medium term.

Promoting a more dynamic business environment can spur adoption of digital technologies. Barriers to entry, including obstacles to inter-cantonal trade, dampen competitive pressures. Government involvement in sectors such as telecommunications is significant and sector regulators have weaker powers than elsewhere. Restrictions on services trade remain substantial. Stronger privacy protection and encouraging better management of digital security risks can help cultivate trust.

Figure 4. Swiss adults' digital skills lag the top performers

Share of adults with advanced digital skills



Source: Eurostat, *Digital Skills* database.

StatLink https://doi.org/10.1787/888934021015

Re-skilling and upgrading skills is vital to ensuring that workers are not left behind in the digital transformation. This will also improve retirement incomes. Lifelong learning is well-established in Switzerland but less-educated workers and those outside the labour force are less likely to participate. Recent measures to promote training are welcome. Targeted assistance to vulnerable workers, through vouchers for example, could further raise take-up. Spending on targeted training programmes should be ramped up. Conversely, planned measures to provide cash benefits to jobseekers aged over 60 risk lowering employment rates of older workers.

Expanding digital government can increase productivity and enhance services. The planned introduction of an electronic identification will overcome a major barrier to e-government. Policy-making is also hampered by data availability. Implementing the OECD Going Digital roadmap for measuring the digital transformation, with a priority on more timely and internationally comparable data, would provide a strong foundation for policy.

New technologies such as electric vehicles and ride-sharing platforms can lower Switzerland's carbon emissions. Cars purchased in 2018 emit 14% more CO_2 than the EU average. The government aims to raise the share of electric vehicles in new purchases to 15% by 2022, from 3% in 2018. Linking the tax rate on vehicle purchases to emissions would strengthen price incentives to purchase low-emission vehicles. This structure could help more cantons link their annual taxes to cleaner cars. Mandating the provision of charging stations in new buildings would support the roll-out.

MAIN FINDINGS	KEY RECOMMENDATIONS
Macroeconomic policies to support growth and maintain low inflation	
Debt is low and the fiscal position is sound. Structural surpluses have been larger than expected at the federal level. The monetary policy rate is negative and one of the lowest OECD-wide.	Take advantage of available fiscal space as needed, including by making fuller use of the margins under the spending limits of the fiscal framework (or "debt-brake rule"). When inflation is firmly rising start to remove monetary accommodation.
Addressing challenges in the financial sector	
Risk related to the housing market have grown due to the search for yield. Mortgages for investment properties have become more risky but stronger lending standards for investor mortgages will be introduced in 2020.	Establish a formal framework for setting mortgage lending limits that takes affordability into account and is enforced on a comply-or-explain basis.
Switzerland's large international financial sector is exposed to risks and opportunities from climate change and climate change mitigation policies globally. Providing investors and policy-holders with more information would improve resource allocation.	Strengthen disclosure of climate-related risks by financial intermediaries in line with recommendations of the Task Force on Climate-related Financial Disclosures.
Preparing for faster population ageing	
The lack of change in the statutory retirement age despite rising life expectancy will contribute to a rapid rise in the ratio of retirees to employment.The capital of the public first-pillar pension scheme is expected to be exhausted in the mid-2030s.	Fix the retirement age at 65 for both sexes as planned, then raise it gradually to 67 and thereafter link it to life expectancy.
Replacement rates from the mandatory pension system are currently high. However, in the second pillar the rate at which accumulated assets are converted to a pension is set by law. The rate is too high, resulting in substantial redistribution within the second pillar from younger to older workers and retirees.	Lower the parameter used to calculate annuities ("minimum conversion rate") and make it a more flexible technical parameter set by ordinance.
All levels of government rely on labour-related taxation for revenue but this creates disincentives to work and is more likely to come under pressure from ageing.	Reduce personal income taxation (at all levels of government) by lowering tax rates at low incomes and removing the disincentive for second-earners, financed by greater use of value-added tax, recurrent tax on immovable property and environmental taxes.
Few Swiss work beyond the statutory retirement age, in part due to strong financial disincentives for employers and employees. Older jobseekers have more difficulty finding work.	Use the existing annual conference on older workers to find ways to introduce greater flexibility into the wage-setting system and reduce seniority wages. Flatten the age-related progressivity in pension contribution rates. Prohibit age discrimination and establish enforcement mechanisms. Allow workers to compensate for gaps in their pension rights through contributions after age 65.
Ageing will increase health-related expenditure, which is already high. Through mandatory health insurance and out-of-pocket expenses, rising costs also pressure household budgets.	Proceed with cost containment programmes, particularly for curative care and pharmaceuticals. Introduce financial incentives and penalties to encourage the take-up of electronic patient health dossiers by health professionals and the input of quality data.
Demand for long-term care is high and will rise as the population ages. However, affordability of home-based care varies across cantons. Eligibility rules for financial support can push patients with low needs into nursing homes.	Use innovative tools such as vouchers or individual budgets based on a level of care needs, with co-ordinators helping to navigate the system, to develop the system in a cost-effective way.
Embracing digitalisation and new technologies	
Take-up of digital technologies has not kept pace with leading countries, particularly in small and medium-sized firms. IT-related skills shortages have increased. Insufficient competitive pressures and a lack of trust may also be hampering adoption.	Facilitate high-skilled immigration from non-EU countries to meet current labour market needs. Reduce barriers to entry, including by removing restrictions on the number of competitors and simplifying occupational licensing across cantons.
Participation in lifelong learning is high. But participation falls below leading countries for workers with low educational attainment and those who are not employed.	Expand spending on training for jobseekers, including those on social benefits. Use subsidies to encourage continuing education and training for groups who are most at risk from the effects of digitalisation.
E-government services are improving. Further digitalisation can reduce administrative burden and raise productivity.	Expand the use of digital tools to enhance services and simplify procedures at all levels of government.
A lack of data hinders the development of policies related to the digital economy.	Implement the OECD Going Digital roadmap for measuring the digital transformation, with a priority on more timely and internationally comparable data.
New technologies offer the opportunity to decarbonise transport, which is a key source of Swiss carbon emissions.	Redesign the federal vehicle tax to strengthen price incentives to purchase low-emission vehicles.

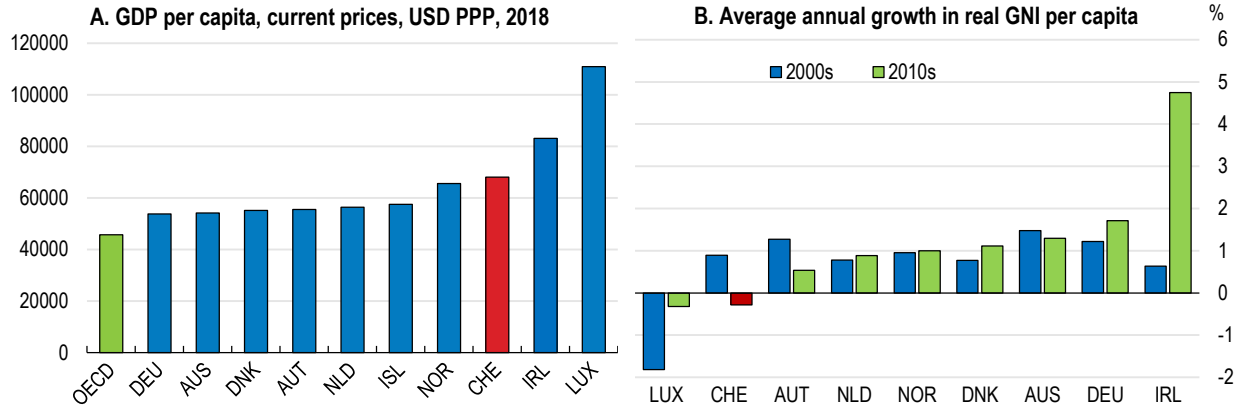
1 Key policy insights

Economic activity has softened but wellbeing is high overall

Switzerland's living standards remain high. Its population is healthier than in many countries and is well educated. This contributes to high employment rates and narrow wage differentials. As a small open economy, Switzerland has benefited from the flow of ideas, people and capital. It boasts world-class industries and attracts international talent. Zurich and Geneva routinely rank among the world's most liveable cities. The challenge is therefore to sustain these achievements.

High labour productivity together with high employment rates generate the third-highest GDP per capita in the OECD (Figure 1.1, Panel A). However, productivity growth has been low, making maintaining real incomes more difficult since the global financial crisis (Panel B). Digitalisation and new technologies hold the promise of raising productivity by spurring innovation, generating efficiencies and improving services (OECD, 2019a). Switzerland's near-universal high-speed broadband network and long tradition of continuing education mean that it is well placed to reap these benefits. But, as elsewhere, some groups risk being left behind.

Figure 1.1. GDP per capita is amongst the highest in the OECD



Note: Gross national income (GNI) measures the total domestic and foreign value added claimed by residents, comprising GDP plus net receipts of primary income from non-resident sources.
Source: OECD, *National Accounts* database; World Bank, *World Bank Development Indicators* database.

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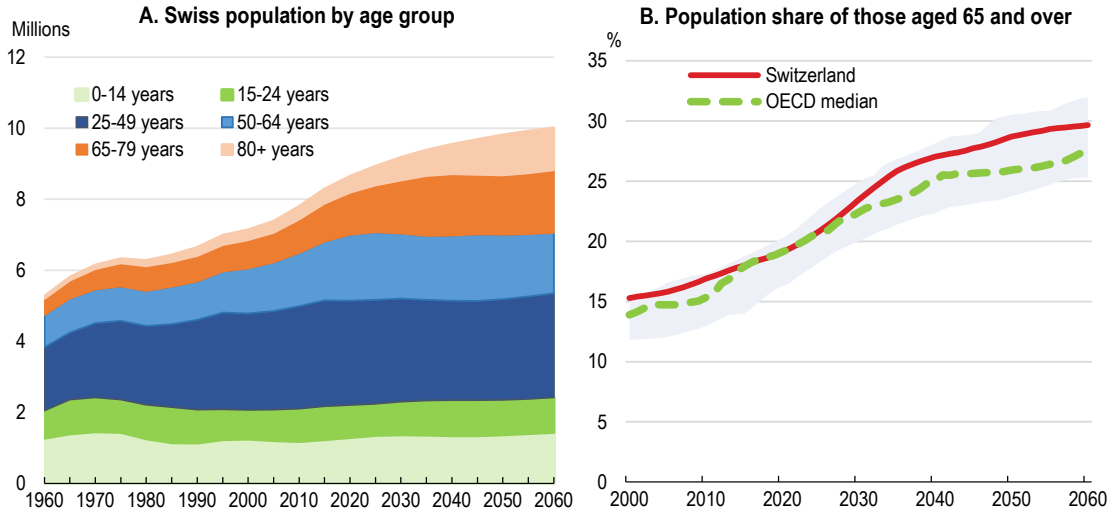
Population ageing presents new opportunities for the economy and society, but challenges as well. By the 2050s, almost 30% of the Swiss population will be at least 65 years old, which is currently the statutory retirement age for men (Figure 1.2). Retirement provision and health care and its costs have become the most important concerns of Swiss (gfs.bern, 2018). With rising longevity, the number of people aged 80 or over will more than double by 2045. On current policies, the pension benefits from the mandatory system will become less comfortable, which requires behavioural and policy adjustments. Likewise, earlier action can help Switzerland meet its climate change targets at lower cost. It is aiming to achieve net zero carbon

emissions by 2050. Forward-looking policies can reap the benefits and address the challenges associated with these forces.

Figure 1.2. The population is ageing



Note: In Panel A youth are shown in green, 25-64 year-olds in blue and seniors in orange. After 2020 data are from the "medium variant" of UN scenarios. In Panel B the shaded area denotes the 25th to 75th percentile range of available data for OECD countries.
Source: United Nations (2019), *World Population Prospects: The 2019 Revision,* Online Edition; OECD Economics Department Long-term Model.

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

- Updating the pension system and lengthening working lives are crucial to ensure that workers across the income distribution receive adequate incomes during retirement in the future.
- Ensuring access to quality health and long-term care as the population ages will require lowering costs of provision and reducing the fragmentation in the system.
- Addressing the barriers to adoption of digital technologies and improving the availability of information will enable firms, individuals and governments to reap the benefits of digitalisation.

Box 1.1. Key federal government policies to prepare for the future

The government has medium-term strategies in a number of key areas, including digitalisation and ageing.

The *Digital Switzerland Strategy* aims to use the digital transformation to promote: innovation and prosperity; equal opportunities; transparency and security; and sustainable development.

The *Swiss eGovernment Strategy 2020-2023* aims to ensure implementation of joint objectives of the Confederation, cantons and municipalities for the digitisation of government services and processes. It is expected to be adopted in 2019.

The *Human Resource Strategy 2020-2023* aims to create the necessary foundations to keep pace with developments in the labour market including changing and increasingly interdisciplinary tasks and the need for agile procedures.

The *ICT Strategy 2020-2023* sets out the strategic goals and measures for the function and organisation of federal IT and use of ITC to facilitate further digitalisation in the business sector.

The *Strategy for Vocational Education and Training 2030* aims to anticipate future changes in the labour market and society to prepare vocational education for the future.

The *Health2020 Strategy*, which was approved in 2013, aims to address the growth in the number of older people and chronic diseases.

The *Energy Strategy 2050* aims to develop energy efficiency, promote renewable energy and transition away from nuclear power.

In addition, the government is currently preparing a long-term low greenhouse gas emission development strategy – *Climate Strategy 2050* – where it will lay out its mid-century climate targets.

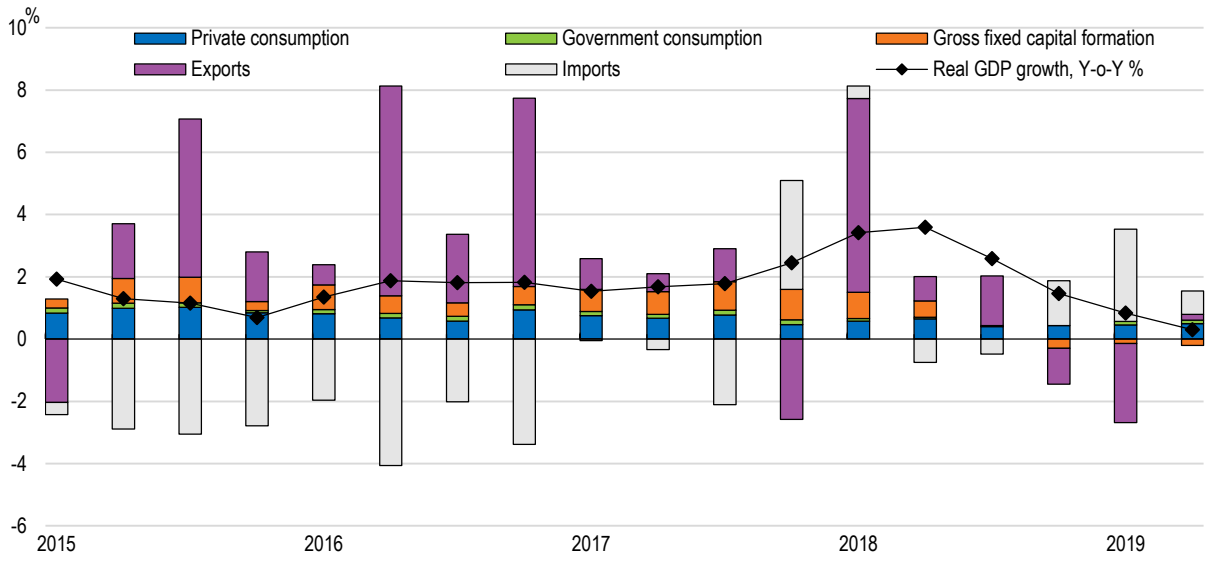
Source: National authorities.

Economic activity has slowed

After surpassing 3% year-on-year in early 2018, GDP growth slowed significantly (Figure 1.3). However, this partly reflects the unwinding of the transitory boost from international sporting events in 2018, which boosted Switzerland's income as it hosts major international sporting associations; the effect is estimated at ½ percentage point (SECO, 2018a). The slowing in global trade also played a role. Investment has also been soft, mirrored by weak imports. Survey-based indicators of business activity point to subdued conditions (Figure 1.4, Panel A). Consumer confidence has also eased from high levels in early 2018 but consumption is holding up.

Figure 1.3. Growth has slowed from a rapid pace

Contributions to year-on-year growth



Note: Inventories are not shown. Data are seasonally and working-day adjusted.
Source: OECD, *OECD Economic Outlook* database.

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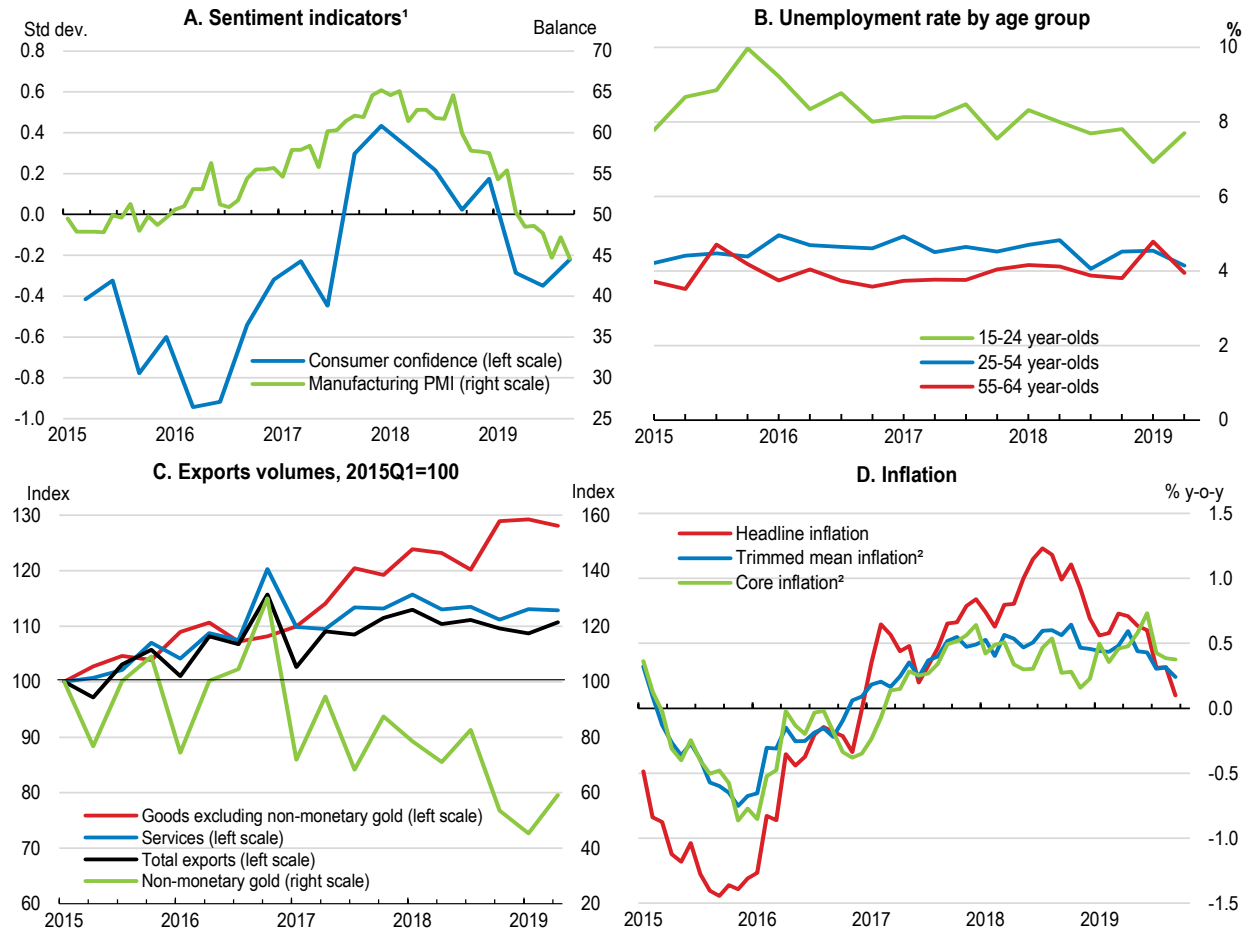
The labour market continues to perform well overall. Youth unemployment has trended down and is well below the OECD average, at 8% versus 11% (Figure 1.4, Panel B). Unemployment amongst older workers is lower but around 60% of those unemployed have been out of work for over one year. By mid-2019, the

job vacancy rate had reached 1.6%, its highest level since 2008. Skills shortages have grown, especially in technical and scientific occupations. Despite shortages and productivity gains in 2018 real wages have been flat. This may reflect the need for firms to rebuild margins after years of real wages outpacing lacklustre productivity growth. The backward-looking nature of wage setting also hampers adjustment in periods of low inflation (KOF, 2019). But in the absence of cost pressures from wages or imports and against the backdrop of slower GDP growth, measures of underlying inflation are subdued (Panel D).

Overall export growth has been disappointing in recent years, due to modest growth in services exports and a large fall in the typically very volatile exports of non-monetary gold – the latter being mirrored in imports (Figure 1.4, Panel C). Export developments have been heterogeneous across goods sectors also. OECD research highlights that Switzerland became increasingly specialised in fast-growing sectors over 1995-2015 such as pharmaceuticals, which now accounts for 32% of exports excluding special transactions and non-monetary gold (Araújo, Chalaux and Haugh, 2018) (Figure 1.5). Pharmaceuticals and also merchanting activities are relatively insensitive to exchange rate conditions and contribute significantly to the trade surplus (OECD, 2017a; Grossmann, Lein and Schmit, 2016; Yeung et al., 2016). However, other industries representing a larger share of total employment are much more affected by the strength of the currency. Exports of machinery and metal goods, financial services, transport and tourism have stagnated.

Figure 1.4. Indicators suggest that underlying growth is likely to be close to trend



1. Consumer confidence is the standard deviation from average level since 1995.
2. Core inflation excludes food and energy. Trimmed mean inflation excludes items with the most extreme price changes each month, equivalent to 30% of the CPI basket.
Source: OECD, *Monthly Economic Indicators* database, *Labour Market* database; SECO; Refinitiv.

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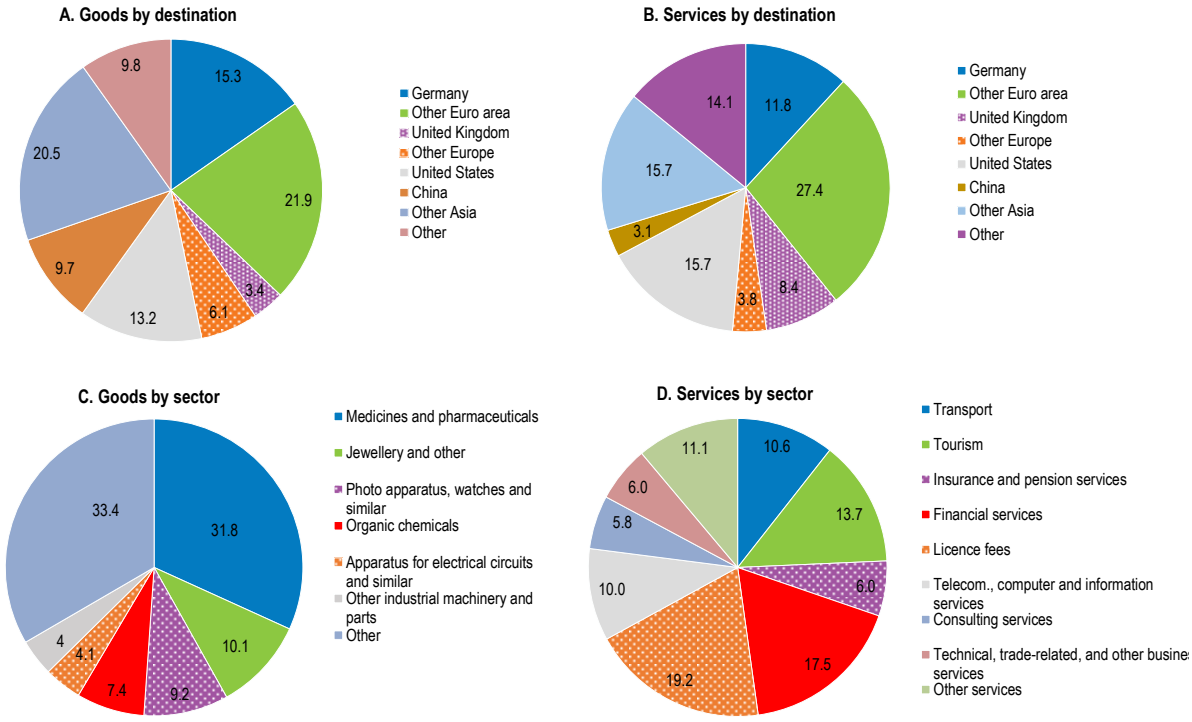
Figure 1.5. Europe remains Switzerland's main export destination



Note: Data are for 2018. In Panel C goods exports exclude "special transactions" and non-monetary gold, which account for 22% of the value of gross exports.
Source: OECD, *International Trade Statistics* database; Swiss National Bank.

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Abstracting from the effect of international sporting events, growth is likely to be close to trend in 2019 and slow slightly in 2020 (Table 1.1). In 2020, uncertainty and depressed global trade are likely to continue dragging on investment and exports, and accordingly, GDP growth (Table 1.1). However, international sporting events will add to export income. Household consumption will gradually gain momentum as skill shortages feed into wage growth. The household saving rate will remain well above that in other countries. This high rate can be ascribed inter alia to the large share of Swiss still of working age. Individuals' uncertainty about their longevity and health needs in old age as well as a desire to compensate for low investment returns may also add to savings. High household saving will continue contributing to the high current account surplus (OECD, 2017a).

Table 1.1. Macroeconomic indicators and projections

Annual percentage change, volume, unless otherwise specified

	2015	2016	2017	2018	2019	2020
	Current prices (CHF billion)					
Gross domestic product (GDP)[1]	654	1.7	1.9	2.8	0.8	1.4
Private consumption	349	1.4	1.3	1.0	1.1	1.4
Government consumption	78	1.3	1.2	0.3	1.1	1.1
Gross fixed capital formation	156	2.5	3.5	1.1	0.4	1.5
Housing	21	-1.2	0.6	-0.1	1.1	1.6
Final domestic demand	582	1.7	1.8	0.9	0.9	1.4
Stockbuilding[2]	-5	-0.8	0.0	-0.1	-0.1	0.1
Total domestic demand	578	0.6	1.7	0.8	0.9	1.5
Exports of goods and services	407	6.3	0.0	2.9	-0.4	2.7
Imports of goods and services	330	5.7	-0.5	-0.3	-0.6	3.3
Net exports[2]	76	1.1	0.3	2.0	0.1	0.0
Other indicators (growth rates, unless specified)						
GDP adjusted for major sporting events	. .	1.4	2.2	2.3	. .	. .
Potential GDP	. .	1.6	1.6	1.5	1.4	1.3
Output gap[3]	. .	-0.8	-0.5	0.7	0.1	0.2
Employment	. .	1.5	0.7	0.8	1.1	0.6
Unemployment rate[4]	. .	4.9	4.8	4.7	4.5	4.5
GDP deflator	. .	-0.6	-0.6	0.3	0.7	0.7
Consumer price index	. .	-0.4	0.5	0.9	0.5	0.4
Core consumer prices	. .	-0.3	0.3	0.5	0.5	0.5
Terms of trade	. .	-2.0	-1.8	-0.5	-1.0	-0.1
Household saving ratio, net[5]	. .	17.8	17.3	17.3	17.6	17.6
Trade balance[6]	. .	11.6	10.7	12.3	11.7	11.5
Current account balance[6]	. .	9.5	6.5	10.5	10.4	10.1
General government fiscal balance[6]	. .	0.3	1.2	1.4	1.2	1.0
Underlying general government fiscal balance[3]	. .	0.6	1.4	1.1	1.1	0.9
Underlying government primary fiscal balance[3]	. .	0.8	1.5	1.2	1.1	0.9
General government gross debt (SNA definition)[6]		42.0	42.9	41.8	40.7	40.0
General government net debt[6]		0.0	-10.2	-11.3	-12.4	-13.1
Three-month money market rate, average	. .	-0.7	-0.7	-0.7	-0.7	-0.8
Ten-year government bond yield, average	. .	-0.4	-0.1	0.0	-0.6	-0.7

1. Based on seasonally and working-day adjusted data.
2. Contribution to changes in real GDP.
3. As a percentage of potential GDP.
4. As a percentage of the labour force.
5. As a percentage of household disposable income.
6. As a percentage of GDP.
Source: OECD, OECD *Economic Outlook* database, October 2019.

Further slowing in major trading partners like Germany would depress exports and investment. An escalation of global tensions could push up the safe-haven Swiss franc and also dampen exports. However, growth may turn out healthier if past cost moderation provides a stronger-than-foreseen boost to exports. Direct effects from a Brexit-related shock should be mitigated by the government's "Mind the Gap" strategy, which includes bilateral agreements with the United Kingdom on trade, transport, insurance, and migration. Likewise, recognition of equivalence decisions in the financial sector will mitigate the direct consequences. Nevertheless, spillover effects from a disorderly Brexit could be large (Table 1.2). Shocks to international financial markets or a house price correction could also prove disruptive. Nonetheless, the probability of a severe recession – with GDP per capita falling by 2% – resulting from cyclical factors in the near-term seems low currently as there are few signs of overheating (Box 1.2).

The future of Switzerland's economic relationship with the European Union is uncertain, clouding the medium-term outlook. Negotiations on an institutional framework agreement are ongoing but have not progressed recently. The prospect of prolonged negotiations could hurt business confidence and investment. Failing to reach agreement on an institutional framework covering the market access agreements and to either update these or conclude other agreements risks eroding Switzerland's level of integration in Europe. In addition, in 2020 a popular vote is planned on an initiative that calls for an end to the Agreement on Free Movement of People. This would not only affect foreign workers in Switzerland but also the so-called "guillotine clause" which links the other bilateral agreements of 1999 with the one on the free movement of people. As EU members are a major source of foreign workers and important trading partners, the economic costs could be large. Some studies suggest that it could cost Switzerland 5-7% of GDP by 2035 (BAK Basel, 2015; Ecoplan, 2015). Such estimates, however, are sensitive to the model used. Moreover, they do not account for other potential costs such as losing attractiveness as a business location.

Table 1.2. Low-probability events that could lead to major changes in the outlook

Shock	Possible impact
Disorderly exit of the United Kingdom from the European Union	As the United Kingdom is an important trading partner and Switzerland is closely linked to UK trading partners, potential knock-on effects through trade, financial sector distress, financial markets or uncertainty could be disruptive.
International corporate debt crisis	Amid record-high levels of corporate bonds outstanding globally, a downturn could lead to debt-servicing problems for highly leveraged companies and repricing of risk with reverberations through international financial markets. Safe-haven flows could push up the exchange rate, reducing Swiss exports, hurting confidence and raising deflation risks. Internationally active banks could also be exposed.
Breakdown of multilateralism	As a small open economy, Switzerland would be severely affected by a major increase in barriers to trade and capital flows.
Major house price correction	A large correction in housing prices coinciding with an economic downturn could expose vulnerabilities in the financial system, causing a crisis in the financial sector that fed back to the real economy.

Box 1.2. Assessing the risk of a severe recession

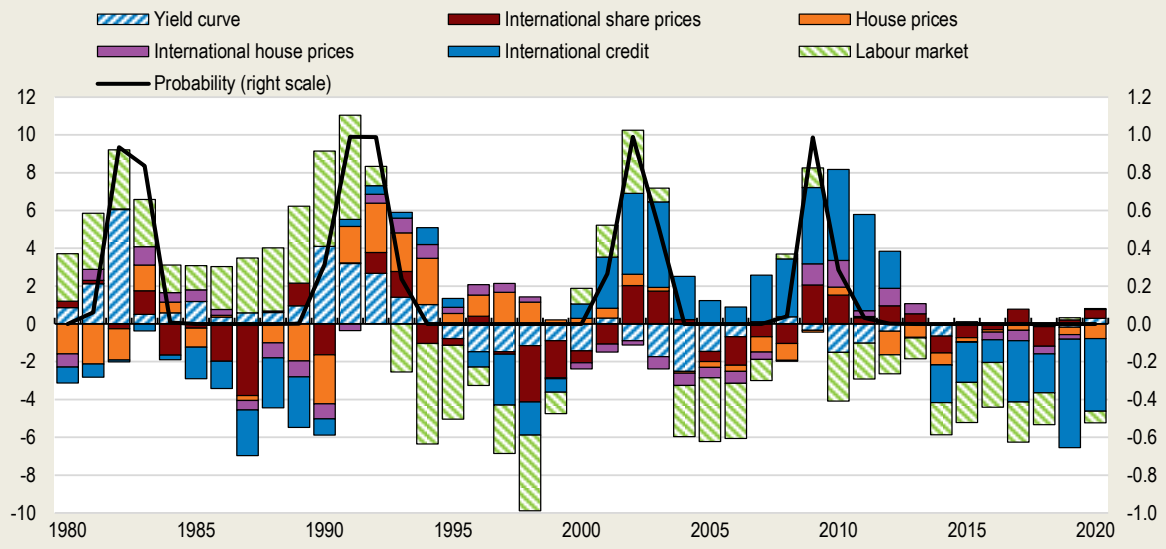
One way of assessing vulnerabilities is to model the probability of experiencing a severe recession – defined as a cumulative fall of 2% in real GDP per capita – following Turner, Chalaux and Morgavi (2018). Such models tend to suggest that downturn risks are heightened when the business and financial cycles simultaneously peak. A model of this type estimated for Switzerland includes the yield curve slope and the unemployment gap (as indicators of the business cycle) as well as growth in the house-price-to-rent ratio and international measures of house price and credit growth (as indicators of the financial cycle), which are all predictors of previous severe recessions in Switzerland (detailed in Annex 1.B).

The current predictions from these models suggest that the probability of a severe recession in 2020 is low (Figure 1.6). This signal stems from both business cycle and financial cycle variables. Although the yield curve slope has flattened, the unemployment gap is closed, not pointing to an overheating business cycle. In addition, growth in domestic house prices, international house prices and international credit remain relatively modest compared with previous severe recessions. However, two reasons for caution are that these models are still experimental and they cannot detect the potential for a shock that is unrelated to these variables.

Changing circumstances in trading partners are a key source of risk to Switzerland's open economy. The models for some key trading partners (Germany and the United Kingdom) suggest that risks are more elevated in those economies than Switzerland's. Thus these spillovers to Switzerland currently represent the main source of risk to the economy's near term prospects.

Figure 1.6. The risk of a severe recession appears to be low in the near term

Contributions to probability in the year-ahead projection made in autumn



Note: The bar chart shows a decomposition of the factors contributing to downturn risks in year-ahead forecasts published by the OECD in November/December. Explanatory variables that were not yet available to 2019Q3 were estimated using available data. The probability of a severe recession in 2020 is represented by the sum of stacked bars. The bars are computed as products of de-meaned explanatory variables and their estimated coefficients (left-hand scale) and so can take negative and positive values. The sum of the bars are then converted to a probability between 0 and 1 by the cumulative normal distribution represented by the black line (right-hand scale). The relationship between the summed bars and probability is therefore non-linear, but peaks in the summed bars clearly correspond with spikes in the downturn.
Source: OECD calculations based on D. Turner, T. Chalaux and H. Morgavi (2018), "Fan charts around GDP projections based on probit models of downturn risk", *OECD Economics Department Working Papers, No. 1521*.

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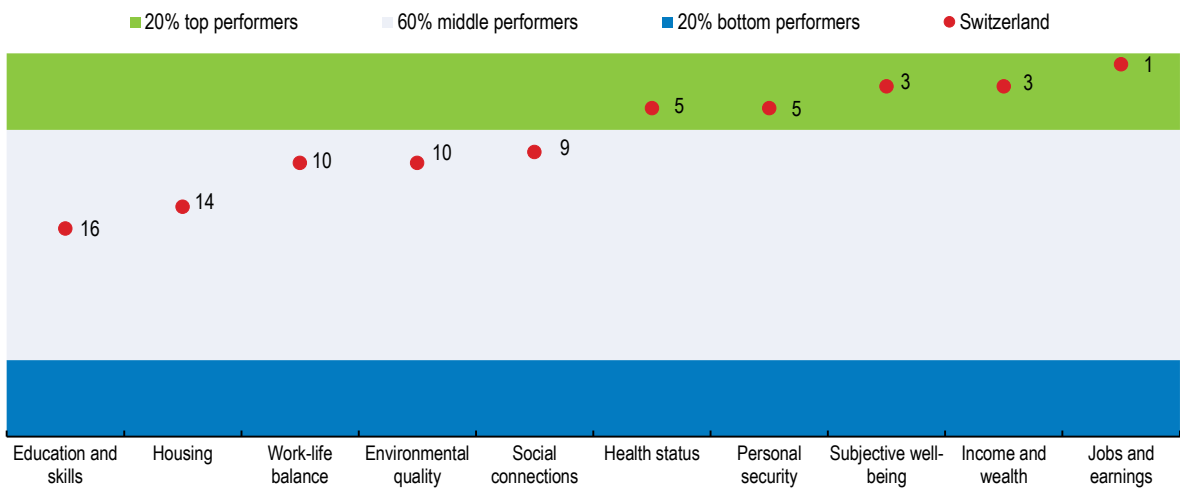
Well-being is high on a range of measures

Living standards remain among the highest OECD-wide, measured by access to the labour market, incomes, subjective well-being, personal security and health (Figure 1.7). As in other countries, labour market outcomes are better for those with more education. And health outcomes are better amongst higher income groups (OECD/EU, 2018). Nevertheless, such gaps are generally narrower than in many other countries. However, Switzerland compares less well in terms of housing and education. Housing costs are high, absorbing over one-fifth of household gross disposable income. Almost 90% of Swiss aged 25-64 have completed upper secondary education but total years of education are around the OECD average. Switzerland's progress towards the Sustainable Development Goals is similar, with good performance in many areas but some large challenges (OECD, 2019b).

Figure 1.7. Living standards are amongst the highest in the OECD

Better Life Index, country rankings from 1 (best) to 36 (worst)



Note: Each well-being dimension is measured by one to four indicators from the OECD Better Life Index set. Normalised indicators are averaged with equal weights.
Source: OECD, *OECD Better Life Index*, www.oecdbetterlifeindex.org

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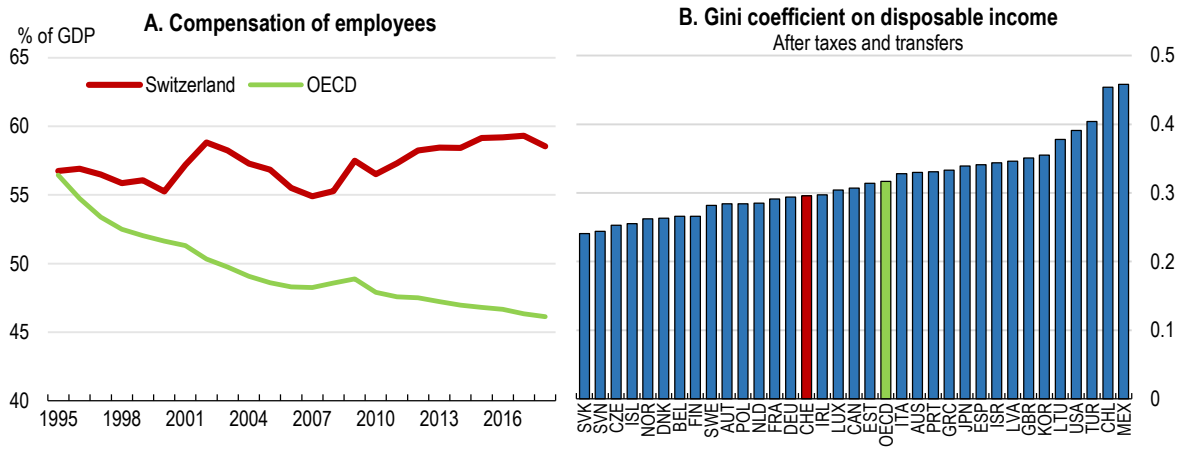
Switzerland has defied the trend of rising income inequality observed across the OECD in recent decades. Labour's share of GDP has remained close to 60% while the OECD average declined (Figure 1.8, Panel A). Employment rates are high irrespective of socio-economic status. Therefore, despite limited redistribution, income inequality after taxes and transfers is around the OECD average (Panel B). Still, the gender earnings gap for full-time employees remains sizeable, at 15%. This, with women's tendency to work part time, drives a sizeable gap in average incomes. And there is scope to improve intergenerational mobility, which is weaker than in the average OECD country (OECD, 2018a).

High employment rates and short spells of unemployment help reduce poverty. The relative income poverty rate for working-age Swiss is one of the lowest in the OECD. The 19.5% poverty rate amongst those aged over 65 far exceeds the 13.5% OECD average. Women are at greater risk of old-age poverty due to their longer lifespan and lower lifetime earnings. However, the extent of material deprivation is low, at 1.8% for the older population. One explanation is that many older Swiss have sizeable assets that are not included in income-based poverty rates; recent research suggests that the risk of poverty is no greater for older people after liquid assets are accounted for alongside income (FSO, 2018a). The public pension system is redistributive, which is also likely to play a role.

Figure 1.8. The high wage share contains inequality



Note: The Gini coefficient measures the extent to which the distribution of disposable income among households deviates from perfect equal distribution. A value of zero represents perfect equality and a value of 100 extreme inequality. Data refer to 2016 or 2017 for most countries; data for are for 2015 for Switzerland, Iceland, Japan, and Turkey. OECD is an unweighted average.
Source: OECD, *Economic Outlook* database, *Income Distribution* database.

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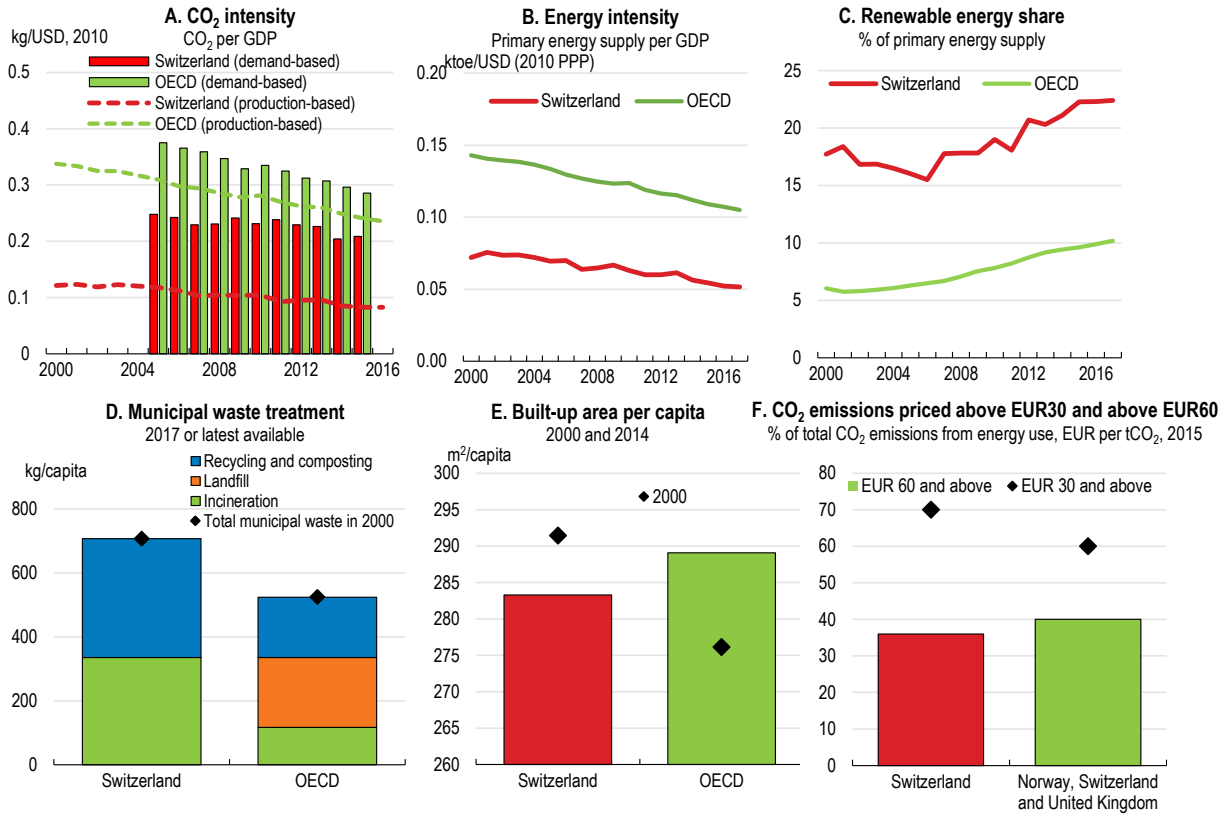
Environmental performance generally compares well

Switzerland's carbon intensity of GDP is one of the lowest in the OECD, reflecting lower energy intensity as well as almost carbon-free production of electricity, mostly nuclear and hydroelectric. However, progress in decoupling CO_2 emissions from GDP has slowed (Figure 1.9, Panels A-C). Switzerland has committed to reduce greenhouse gas emissions by 50% by 2030 compared to 1990, including by purchasing international credits that reduce emissions elsewhere. The targeted domestic reduction amounts to 30%. It would only be reached if draft revisions to the CO_2 Act are approved by Parliament and then not overturned by popular vote. Switzerland has also announced a goal of reaching net zero emissions by 2050 (including international credits). Recently the United Kingdom's Committee for Climate Change also proposed a 2050 net zero emissions target, and several other countries, including Sweden and France, have adopted or plan similar targets (Committee on Climate Change, 2019).

Switzerland sends no household waste to landfill and recycles most of it (Panel D). Despite waste disposal fees and other policy instruments, municipal waste per capita has continuously increased (OECD, 2017b). Consequently the volume of household waste remains large (Panel D). Relatedly, the carbon emission footprint of domestic consumption, including from imported goods, is much higher than the production-based measure even if it is below the OECD average (Panel A). However, Switzerland has absorbed population increases while limiting built-up surfaces (Panel E), which can help protect biodiversity and soil quality (Haščič and Mackie, 2018).

Among OECD countries, Switzerland gets closest in aligning its pricing of CO_2 emissions to international climate cost benchmarks (OECD, 2018b, 2018c, 2019c). The share of CO_2 emissions priced above EUR 60, a midpoint estimate of the carbon cost in 2020, has increased since 2015, notably in the housing sector. Nonetheless, as in many countries, industrial emission are priced below the EUR 60 benchmark. Exemptions to the CO_2 tax reduce its effectiveness. From 2020, Switzerland's emissions trading scheme is set to be linked to that of the European Union, with the agreement only awaiting ratification.

Figure 1.9. Switzerland compares favourably on most green growth indicators



Source: OECD, *Green Growth Indicators* database.

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Extraordinary monetary policy has become ordinary

Monetary policy has been expansionary since the global financial crisis. Since 2015 the reference rate for monetary policy has hovered around -0.75% – the lowest in the OECD alongside Denmark (Figure 1.10, Panel A). At its June 2019 meeting, the Swiss National Bank (SNB) announced that it would start using a new "SNB policy rate" for communicating its interest rate decisions. The SNB seeks to keep secured short-term money market rates near its policy rate focusing on the "SARON", an overnight rate. Prior to this, the SNB had announced a target range for the three-month Swiss franc Libor. At its September meeting, the SNB announced an adjustment of the basis for calculating the exemption threshold from negative interest rates and it will be updated monthly. The aim is to reduce the burden of negative interest rates on the banking sector while making the instrument more sustainable in the medium term.

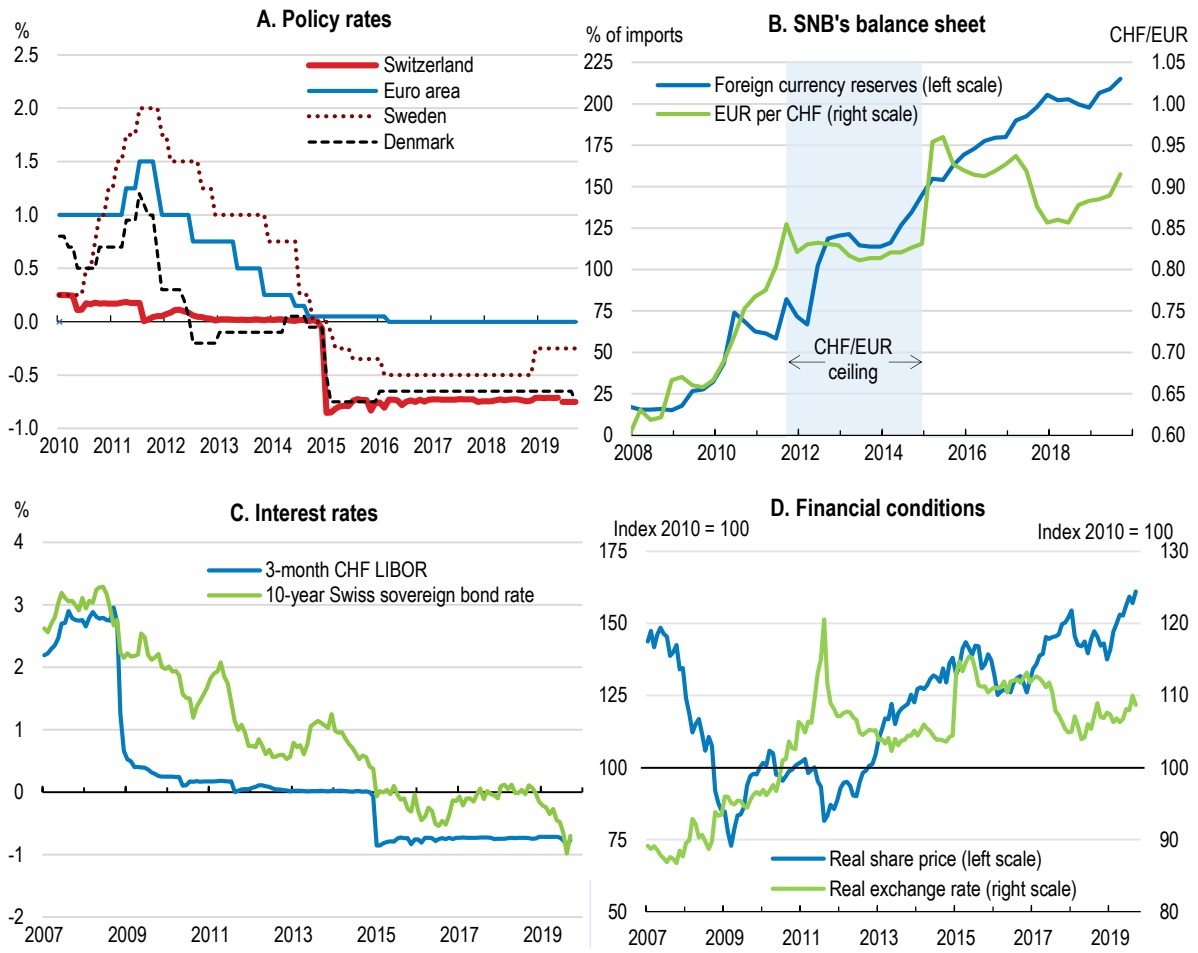
In the decade since the crisis, the SNB has purchased large amounts of foreign currency to prevent exchange rate appreciation from threatening price stability. Consequently, foreign currency reserves are estimated to have reached the equivalent of 111% of GDP or 211% of imports in September (Panel B). Assets are mostly held in foreign government bonds, although around 20% are invested in foreign equities according to prescribed rules for diversification. Investment policy principles and eligible asset classes and instruments are set out in the SNB's Investment Policy Guidelines.

During 2019 financial conditions have generally improved with long-term interest rates declining and real equity prices rebounding although the real effective exchange rate has appreciated (Figure 1.10, Panels C and D). The combination of policy instruments has enabled the SNB to meet its target of keeping inflation

below 2% and prevent deflationary pressures from taking hold (Figure 1.4, Panel D). With estimates of the output gap around zero and measures of underlying inflation still modest, monetary policy is on hold.

The SNB has signalled that it will remain active in foreign exchange markets as necessary. If downside risks to the outlook materialise, the policy rate may become more negative. Some concerns about a zero lower bound on interest rates, such as cash hoarding, have so far proved unfounded: circulation of CHF 1000 notes (USD 1000) increased by 12% during 2015 but fell by 4.1% in the year to July 2019. Negative interest rates are primarily intended to maintain an interest rate differential vis-à-vis other economies in order to limit capital inflows. In theory, reducing cash use or creating mechanisms to transmit policy rates to cash may make interest rate cuts more potent in supporting demand (Agarwal and Kimball, 2019). But such policies are untested. And even in Sweden, where cash use is low, rate cuts lost potency (Eggertsson et al., 2019).

Figure 1.10. Monetary policy is very accommodative



Note: On 13 June 2019 a new monetary policy rate was introduced, the "SNB policy rate". Prior to this, the SNB set a target range for the three-month Swiss franc LIBOR with the latter used as the policy reference rate (shown in Panel A).
Source: OECD, *OECD Economic Outlook* database, *Main Economic Indicators* database; Refinitiv; Swiss National Bank.

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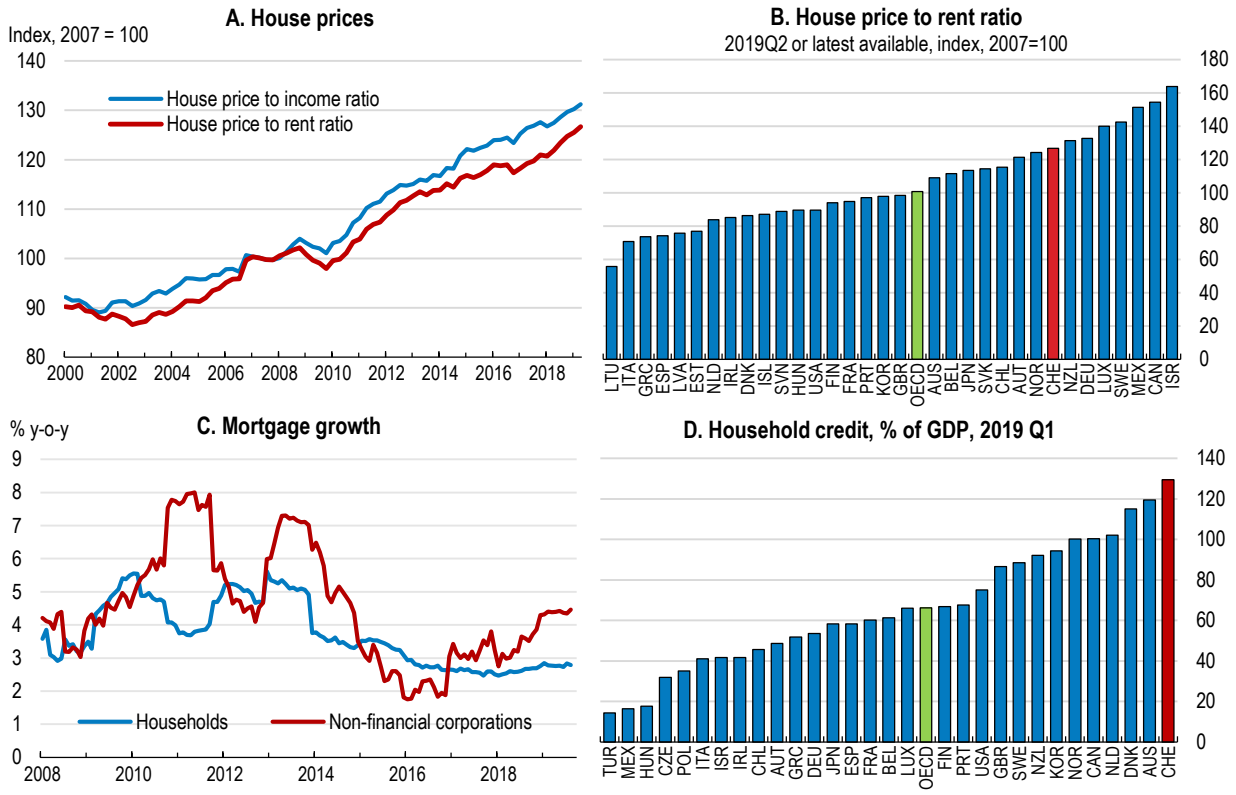
Increasing interest rates when possible would provide policy space and reduce financial stability risks somewhat. Once inflation rises towards 1%, the SNB should begin to remove stimulus. Clear communication could reduce the risk of exchange rate volatility. Nonetheless, the low-interest rate environment and large central bank balance sheet are likely to persist for many years, along with their associated risks.

Two interrelated risks from the low-interest rate environment are the downward pressure on banks' net interest margins and the build-up of housing market-related risks. Banks' margins and bank profitability narrowed further in 2018 (SNB, 2019). With more banks now charging negative interest rates on term deposits, this trend may slow, but interest on savings accounts is not negative. Low returns continue to incentivise risk-taking by banks and investors. This is clearest in the housing market where prices continue rising, outpacing rents and incomes (Figure 1.11, Panels A and B). Mortgage lending growth has picked up again, especially for businesses (Panel C). In the residential investment property segment, new loans with high loan-to-value ratios are commonly accompanied by high loan-to-income ratios, implying greater risk (SNB, 2019). Moreover, a growing share of mortgages are in areas with higher vacancy rates, raising exposures further (SNB, 2019). Households themselves are highly indebted (Panel D). Although aggregate household financial assets are high the distribution of net debt is unknown; given the low home ownership rate (40% in 2014, mostly with a mortgage), debt may be concentrated.

Risks have also expanded in the non-bank financial sector. Pension funds and life insurers are amongst investors adding to their real estate exposures to boost returns: holdings reached 22% of pension fund assets in 2018. Pension funds and life insurers have additional exposure to house prices through their own mortgage assets; their share of the mortgage market has risen to 1.5% and 4% respectively. Like in Japan, almost all life insurer liabilities are guaranteed return products, which adds to risks (BIS, 2018). The Committee on Global Financial Stability underlines that the solvency of life insurers and pension funds is particularly exposed when interest rates are very low for long. It expects most funds to adapt but some may not and their problems may reverberate through the financial sector. In Switzerland, official statistics for non-bank lenders are only available annually and with considerable lags, and completion of some surveys is voluntary (IMF, 2019a). Enhancing information sharing between various supervisors and improving data completeness and timeliness would help detect a deterioration in conditions sooner. Lending regulations should apply equally to bank and non-bank lenders.

Macroprudential policies and recurrent taxes on real estate can restrain housing market risks (IMF, 2019b; Cournède, Ziemann and Cavalleri, 2019). The Swiss Bankers Association – responsible for co-ordinating self-regulation – has adopted tighter self-regulation by reducing the maximum loan-to-value ratio for new investment property loans and requiring the loan-to-value ratio on investor mortgages to be reduced to two-thirds over 10 years (from 15). Such steps are welcome. More broadly, a proper framework setting lending limits should be enforced on a comply-or-explain basis, taking affordability into account, as recommended in the previous *Survey* (Table 1.3; OECD, 2017a). Additional macro-prudential instruments could be deployed to further reduce risks (IMF, 2019a). Limiting the tax deductibility of mortgage interest, as recommended in the 2015 *Economic Survey*, would also reduce incentives for high levels of indebtedness (OECD, 2015a). If a proposal to remove taxation of imputed rental income on owner-occupied housing proceeds, associated tax deductions should be removed and recurrent tax on real estate increased. The reform design and transition rules would need to take into account financial stability concerns and other tax settings.

Figure 1.11. Housing prices and credit continue rising



Note: In Panel C there are breaks in 2010 and 2013. The OECD average is unweighted.
Source: OECD, *Analytical House Price Indicators* database, *Resilience* database; Swiss National Bank.

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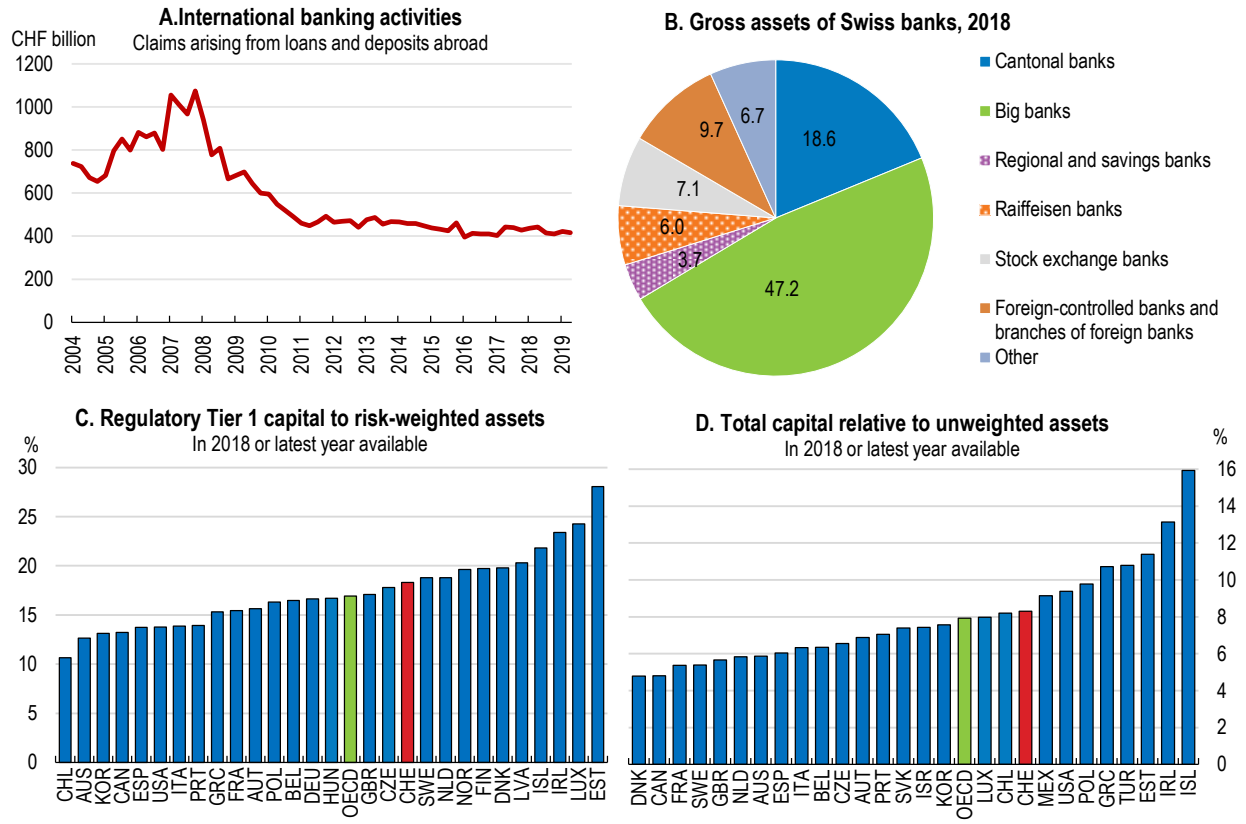
Table 1.3. Past recommendations on monetary policy and financial stability

Recommendations in previous *Surveys*	Action taken since November 2017
Monitor closely mortgage lending to firms or households for rental properties, which may not be as responsive as the owner-occupied segment to recent regulatory measures.	The SNB closely monitors mortgage and real estate market developments and regularly reassesses the need to adjust the countercyclical capital buffer.
Eliminate remaining explicit cantonal government guarantees to their public banks.	No action taken.
Establish a formal framework for setting mortgage lending limits that takes affordability into account and is enforced on a comply-or-explain basis.	From 2020 the maximum loan-to-value ratio for new investment property loans will be lowered to 75% and the loan-to-value ratio on investor mortgages must be reduced to two-thirds over 10 years. New loans with a loan-to-value ratio above 75% will be subject to a risk-weight of 100% to the entire loan.
Consider periodic rotation of the outside auditors responsible for particular financial institutions, and widen the range of authorised external auditors.	No action taken. The financial market supervisor, FINMA, believes that periodic rotation of audit firms would not be beneficial given the limited number of large audit firms. FINMA does exercise its right to mandate independent experts ("audit agents") that are not in charge of the ordinary audit to investigate a special field.

The banking sector's activities have changed in the post-financial crisis regulatory and economic landscape. International banking activities have scaled back, consistent with developments elsewhere (Figure 1.12, Panel A). Five big banks, including two globally systemically important banks, dominate the sector (Panel B). The sector's aggregate capital ratios have increased and are in line with OECD averages (Panels C and D). Regulatory requirements on systemically important banks have strengthened considerably. However, the SNB has highlighted that the two largest banks must still complete the crisis resolution framework, including ensuring sufficient funding in resolution and strengthening the domestic entities on a standalone basis (SNB, 2019).

Figure 1.12. The banking sector is smaller after the crisis and better capitalised



Note: The OECD average is unweighted.
Source: Swiss National Bank; OECD, *Resilience* database.

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Stress tests suggest that most banks can absorb losses in the event of a housing market downturn and higher interest rates (SNB, 2019). Still, simulations of interest rate scenarios by the Swiss National Bank and the Committee for Global Financial Stability reveal that Swiss banks are exposed to a snapback in interest rates, particularly if accompanied by falling house prices (SNB, 2019; BIS, 2018). Residential property investors are also exposed to interest rate risk, with around one-third of new loans to investors to be repriced within 12 months (SNB, 2019). Preserving banking sector capital ratios and maintaining vigilance is crucial given the risks from high corporate debt and low interest rates globally as well as domestic housing market imbalances. However, public monitoring is hampered by the lack of timely data. Greater transparency through more timely data could help detect changing risks. Resolution planning should be extended, for instance to all banks that could become systemic under certain circumstances (IMF, 2019a). Explicit guarantees by cantons to their banks should be removed as previously recommended (OECD, 2017a). Endowing FINMA with greater resources and independence would allow it to better supervise the sector (IMF, 2019a).

The financial sector is evolving to meet new challenges

In addition to the low interest rate environment and stricter post-crisis regulation, three structural changes are underway in the financial sector: (i) fintech developments that are changing means of payment, saving, and investment; (ii) growing attention to climate change and related exposures of the financial and insurance sector; and (iii) the decline of bank secrecy and rise of international co-operation against money laundering.

Embracing innovation in the financial sector

Since 2016 the Swiss authorities have been actively seeking to lower the barriers to entry and adoption of "innovative financial technologies" to support and attract fintech start-ups. In 2018 the economy minister declared that Switzerland – the birthplace of one of the world's biggest crypto-assets by market capitalisation, Ethereum – wanted to become "the crypto nation" (Financial Times, 2018). A three-pillar approach to fintech regulation was completed in early 2019 (Box 1.3). Switzerland was one of the earliest countries to regulate so-called initial coin offerings (used for capital-raising via crypto-assets). Indeed, of 338 fintech start-ups (under 10 years old) in Switzerland as at September 2019, 119 were engaged in distributed-ledger technology services (Swisscom, 2019).

Fintech can, inter alia, expand access to capital for start-ups and SMEs and lower financial services costs. Distributed-ledger technology has potential to benefit the financial sector, in securities settlement, international payments, and trade finance, as well as other sectors by facilitating due diligence in supply chains or giving individuals control over their own data, for example (Landau and Genais, 2018; OECD, 2018d). However, vigilance around fintech activities is warranted due to unknown risks and consequences as well as potential threats to financial stability, risks of regulatory arbitrage and money laundering, and concerns about consumer and investor protection.

Fintech activities can have implications for financial stability by creating new forms of concentration risks (for example of operation of infrastructure) or adding to procyclicality (for example, through peer-to-peer lending) (FSB, 2019). Decentralised platforms may also pose regulatory and recovery resolution challenges and increase operational and legal risks (*ibid.*). Banks may respond to increased competition in some business segments by collaborating with or buying up competitors or taking greater risks. Potential risks also arise through banks' participation in trading and holding crypto-assets. Switzerland was an early mover in clarifying regulations applicable to bank holdings of crypto-assets. The authorities should ensure that relevant regulations are applied, in line with the recommendations of the Basel Committee on Banking Supervision, including that banks should inform supervisors of actual and planned exposures in a timely manner (BCBS, 2019).

Box 1.3. Key developments in Swiss regulation of fintech

In 2016 the Federal Department of Finance reviewed whether there were significant barriers to entry for providers of "innovative financial technologies" (fintech firms). Subsequently the government set out a three-pillar fintech model based on:

- Specific regulatory adjustments: e.g. extending the timeframe for holding funds in settlement accounts up to 60 days to facilitate crowdfunding, implemented in 2017.
- An innovation area: a regulatory "sandbox" in banking law was created in 2017 allowing firms to accept public deposits of up to CHF 1 million without a banking licence, while other regulatory requirements (e.g. anti-money laundering/countering the financing of terrorism) do apply. From 2019 these companies may engage in crowd lending for private consumption purposes.
- "FinTech licences": from 1 January 2019 non-bank firms may apply for a FinTech licence enabling them to access the real-time gross settlement payment system (SIC), subject to certain conditions. They are supervised by FINMA and may accept deposits from the public up to CHF 100 million. These firms may not pay interest or make investments.

In 2018 FINMA issued guidance on initial coin offerings (ICOs), distinguishing between three types of tokens:

- Payment tokens (often called crypto-currencies), for which ICOs must comply with anti-money laundering regulations but these tokens are generally not a security.
- Utility tokens which are intended to provide digital access to an application or service. These tokens are generally not treated as a security unless they function as an investment in economic terms.
- Asset tokens (also known as security tokens) which represent ownership of real physical underlying assets or company, such as earnings streams or an entitlement to dividends or interest payments. For these tokens there are securities law requirements and civil law requirements under the Swiss Code of Obligations (e.g. prospectus requirements apply).

The Swiss Bankers Association has been proactive, issuing guidance for its members in a range of areas such as cloud storage and due diligence for banks opening accounts for blockchain companies.

In 2018 the government published a report analysing the legal framework for blockchain and distributed-ledger technology and adjustments required to enable their development. Planned changes include increasing legal certainty around transfer of rights using digital registers, incorporating these technologies in financial markets law and more explicitly subjecting decentralised trading platforms to anti-money laundering legislation. A public consultation on proposed changes concluded in June 2019.

Source: National authorities; websites of FINMA, Swiss Bankers Association, Swiss National Bank and State Secretariat for International Finance.

In general, risks of regulatory arbitrage are higher while there are no international minimum standards. Examples include differences in regulatory requirements for fintech firms across countries and between banks and fintech firms, in the application of securities laws to some initial coin offerings and in tax treatment. In principle, regulations should be on a “same-activity, same-rules” basis (Schich, 2019). The application of Switzerland’s regulations should be transparent to facilitate review. To better monitor potential risks, FINMA needs more resources and reporting requirements should be increased (IMF, 2019a). A comprehensive review of the regulatory framework for distributed-ledger technology took place in 2018. Because technology evolves quickly, the regulatory framework for fintech activities should be periodically reviewed, as foreseen in France for example, with an evaluation committee including independent experts (OECD, 2019d). The authorities should address regulatory gaps, particularly when these diminish retail investor protection (IMF, 2019a).

Recognising climate-change related risks

With financial assets totalling USD 7 trillion, the financial sector is exposed to a range of climate-change related risks. However, information about financial intermediaries’ exposures to such risks is only slowly becoming available. Physical risks arise through the effects of climate change, such as floods, on asset values. Devaluation risks emerge when related investment cannot be fully recouped as economies decarbonise to reach their climate change commitments (OECD, 2017c). Given its size, investment and financing decisions made by Switzerland’s financial sector can also influence climate change trajectories. To avoid climate change-related risks, major global financial institutions have already announced policies to divest holdings of coal-fired power generation or thermal coal mining or restrict financing (Buckley, 2019).

In 2017, 79 Swiss pension funds and insurers participated in a voluntary climate-alignment test. This revealed that their investment portfolios are estimated to be consistent with a 4-6ºC global warming pathway, as is the case elsewhere (Thomä et al., 2017). This is well above the international commitment to keep global warming below 2ºC. Large Swiss banks continued providing finance to fossil fuel-related projects worth nearly USD 85 billion over 2016-18 (Rainforest Action Network et al., 2019).

Sustainable finance, defined as taking into account environmental, social and governance issues, is growing and Switzerland is well-positioned in this sector (Wardle et al., 2019). The share of “sustainable investment” is estimated to have reached 31% of pension fund and insurance fund investments in Switzerland (Swiss Sustainable Finance, 2019). However, a gap between EU standards and Switzerland’s will emerge as the European Union implements its Action Plan on Financing Sustainable Growth. The latter includes wide disclosure regulations on risks including potential impacts on returns, a taxonomy of sustainable investment and creation of low-carbon and positive-carbon benchmark indices (PwC/WWF, 2019).

The SNB and FINMA recently joined the Network for Greening the Financial System, which will facilitate knowledge-sharing among peer institutions to better understand and anticipate climate risks for financial stability and macroeconomic scenarios. While the Network’s recommendations are non-binding, acting now on these recommendations would help better prepare the regulatory framework for the future. For instance, climate-related risks should be incorporated into financial stability monitoring and supervision (NGFS, 2019). Building awareness and capacity in-house and with stakeholders would grow understanding of how climate-related factors translate into risks and opportunities.

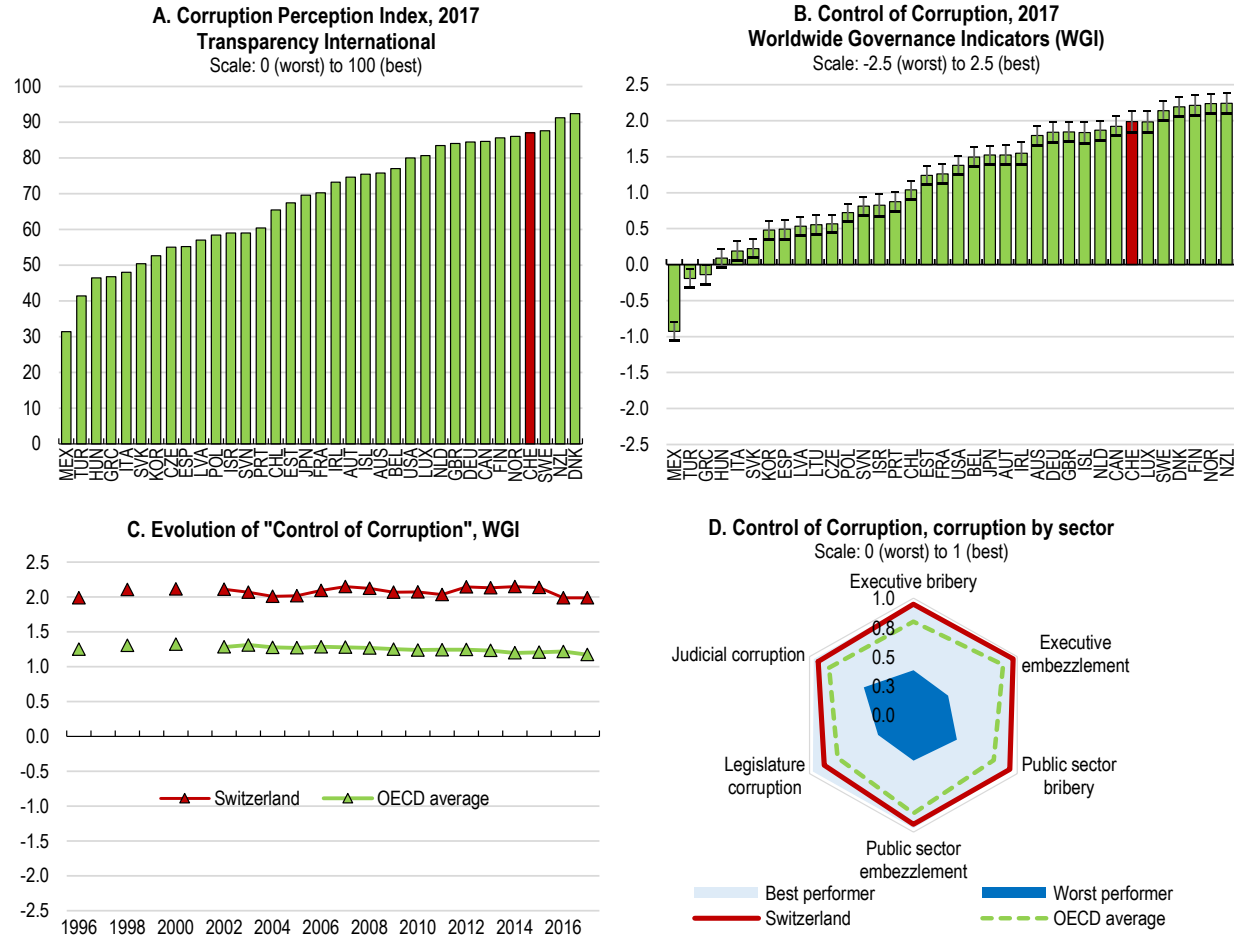
Information on climate-change related risks is crucial for ensuring that investors and policy-holders understand their exposures and that financial markets adequately perform their allocative function. Measures have so far been voluntary. Another climate-alignment test for pension funds and insurers will be held in 2020, and will be internationally coordinated. Nineteen large Swiss companies already support the Task Force on Climate-Related Financial Disclosures and its recommendations to disclose information to better guide forward-looking decisions (TCFD, 2017). However, such measures rely on voluntary participation. Strengthening the disclosure of climate-related risks in line with the Task Force’s

recommendations would contribute to international standard-setting. In many countries, authorities are stepping up climate-related disclosure requirements. For example, since April 2019 the UK supervisor requires financial intermediaries to report to it their climate-related exposures. France's Law for the Energy Transition and Green Growth requires listed companies to disclose financial risks and institutional investors to report how investment policies align with the national energy and ecological transition.

Fighting money laundering and corruption

Switzerland is perceived as one of the least corrupt OECD countries (Figure 1.13). However, the size and internationalisation of its financial sector increase the risk it is used for criminal activities such as money laundering, including of proceeds of foreign corruption and bribery (OECD, 2018e; FATF, 2016). Around one-quarter of foreign wealth management is managed in Switzerland (OECD, 2018e). Many multinational businesses that have a registered office in Switzerland are also exposed to bribery in international trade. This is particularly the case for trading companies: Switzerland accounts for one-third of global oil trade (OECD, 2018e). Switzerland's anti-money laundering measures are considered more effective than other countries in many aspects except international co-operation (Figure 1.14). Around half of the 403 ongoing criminal investigations at end-2018 related to money laundering (OAG, 2019) and Switzerland has demonstrated a higher level of enforcement of foreign bribery.

Figure 1.13. Corruption is perceived as very low



Note: Panel B shows the point estimate and the margin of error. Panel D shows sector-based subcomponents of the "Control of Corruption" indicator by the Varieties of Democracy Project.
Source: World Bank; Transparency International; Varieties of Democracy Institute; University of Gothenburg, and University of Notre Dame.

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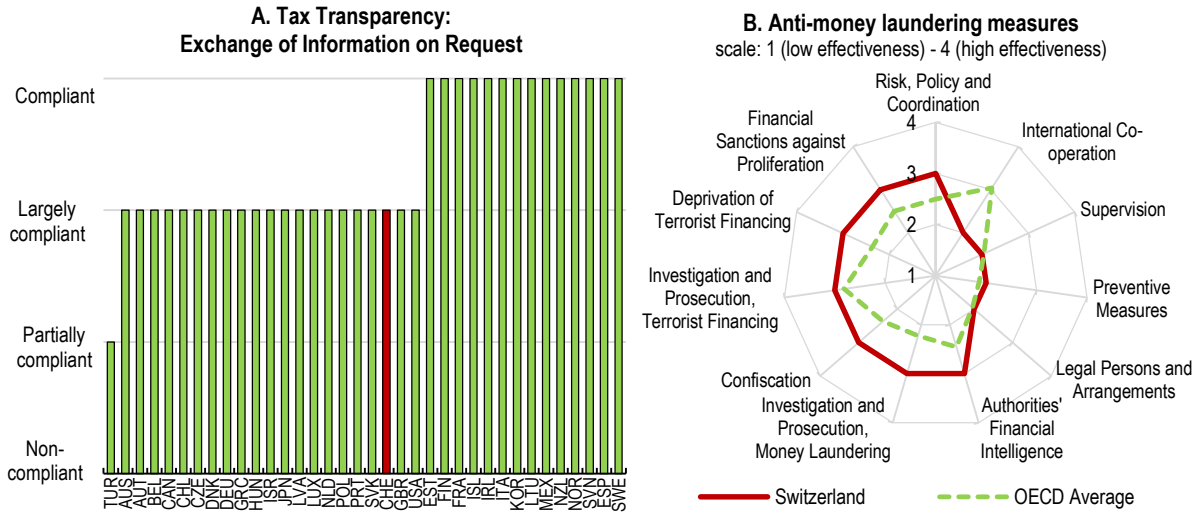
In recent years Switzerland has taken steps to address some of its weaknesses highlighted by the Financial Action Task Force and OECD Working Group on Bribery. From 2020 financial intermediaries must undertake more due diligence on new accounts and cash transactions above CHF 15 000. And more institutions will be supervised directly by the financial markets supervisor. Changes to the anti-money laundering law with Parliament include measures to strengthen due diligence and reporting obligations beyond financial intermediaries and improve international co-operation.

The framework could be reinforced by larger sanctions for non-compliance with anti-money laundering obligations, which were judged inadequate (OECD, 2018e; FATF, 2016). And the Money Laundering Reporting Office itself could be strengthened with more resources (OECD, 2018e). Legal protection should be given to whistleblowers in the private sector to rectify a deficiency repeatedly highlighted by the Working Group on Bribery (OECD, 2018e). Proposed legislation was rejected by Parliament in 2019. Action is also needed to ensure that sanctions imposed in foreign bribery cases are effective, proportionate and dissuasive. Continuing to fight money laundering and foreign bribery will contribute to uphold the reputation of Switzerland as a financial centre.

Figure 1.14. There is still scope to improve the framework to fight economic crimes



Note: Panel A summarises the overall assessment on the exchange of information in practice from peer reviews by the Global Forum on Transparency and Exchange of Information for Tax Purposes. Peer reviews assess member jurisdictions' ability to ensure the transparency of their legal entities and arrangements and to co-operate with other tax administrations in accordance with the internationally agreed standard. Switzerland's Phase 2 report was published on 26 July 2016. The figure shows first round results; a second round is ongoing. Panel B shows ratings from the FATF peer reviews of each member to assess levels of implementation of the FATF Recommendations. The ratings reflect the extent to which a country's measures are effective against 11 immediate outcomes.
Source: OECD Secretariat's own calculation based on the materials from the Global Forum on Transparency and Exchange of Information for Tax Purposes, OECD, and Financial Action Task Force (FATF).

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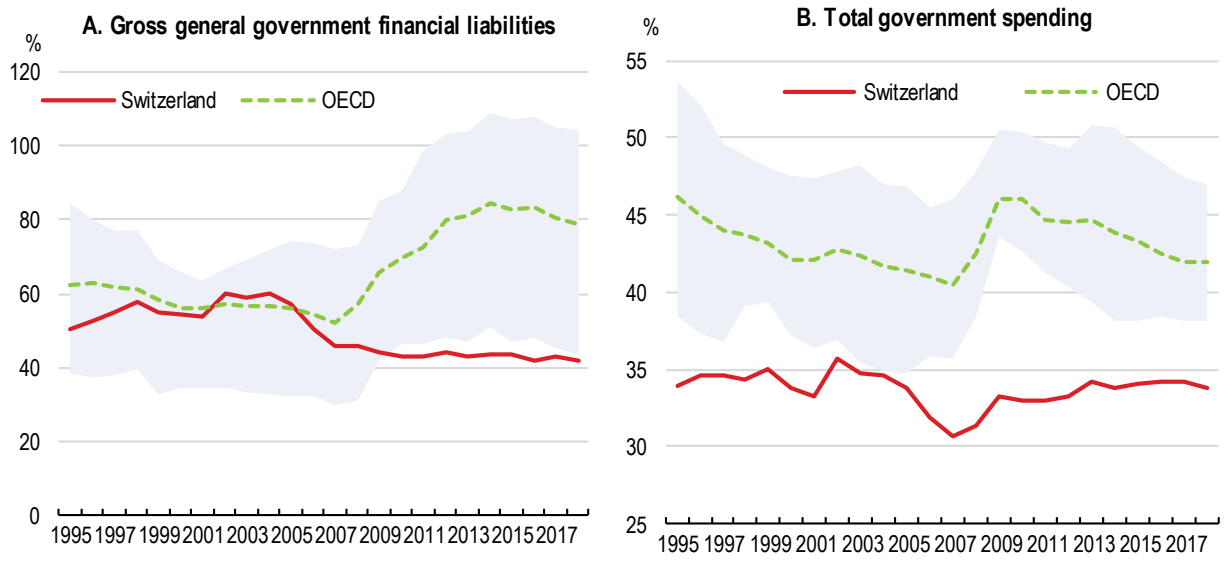
Fiscal policy is sound and debt is low

Switzerland has recorded fiscal surpluses since 2015, lowering gross financial liabilities to around 40% of GDP and lifting net financial assets to over 10% of GDP (Table 1.1, Figure 1.15, Panel A). Spending remains well below other OECD countries (Panel B). Structural and temporary factors contributed to higher-than-expected revenues in recent years: corporate profits boosted dividend income and continued negative interest rates create incentives to defer refund claims. Policy has been broadly neutral but is

expected to become expansionary in 2020 due to slower growth in revenues associated with corporate income tax reform. The fiscal impulse in 2020 goes in the right direction given the extraordinary monetary policy. With low debt levels, the government has plenty of scope to act in the event of a crisis.

Figure 1.15. Government debt and spending are comparatively low

As a percentage of GDP



Note: Data represent general government accounts (i.e. including sub-national government accounts). The shaded area denotes the 25th to 75th percentile range of available data for OECD countries. OECD is an unweighted average of data for available countries. Data for 2018 include OECD estimates.
Source: OECD, *OECD Economic Outlook* database.

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The corporate income tax reform will be effective from 1 January 2020 under the Federal Act on Tax Reform and AHV Financing. It aims to meet international commitments by removing preferential tax treatment for foreign companies. The final package comprises several additional elements, including adjustments to fiscal equalisation and supplementary funding for the public first-pillar pension fund. Most cantons have lowered their standard corporate income tax rate to maintain competitiveness, or are planning to do so. Consequently, the maximum total corporate income tax burden is expected to fall to 15% or less in 21 cantons (CDF, 2019). A majority of cantons also plan to introduce tax allowances for R&D expenditure of 120-150% (*ibid*). The package may reduce tax revenue by almost CHF 2 billion in 2020 (0.3% of GDP) (FDF, 2018a). The federal government will also transfer an additional 0.7% of its revenue to the public first-pillar pension fund, which is running deficits. In the near term, the reform will put pressure on the budget. However, it removes a source of policy uncertainty and may encourage investment by domestic firms through a lower user cost of capital and planned R&D incentives. The net revenue effect in the long-term could be positive (FDF, 2018b).

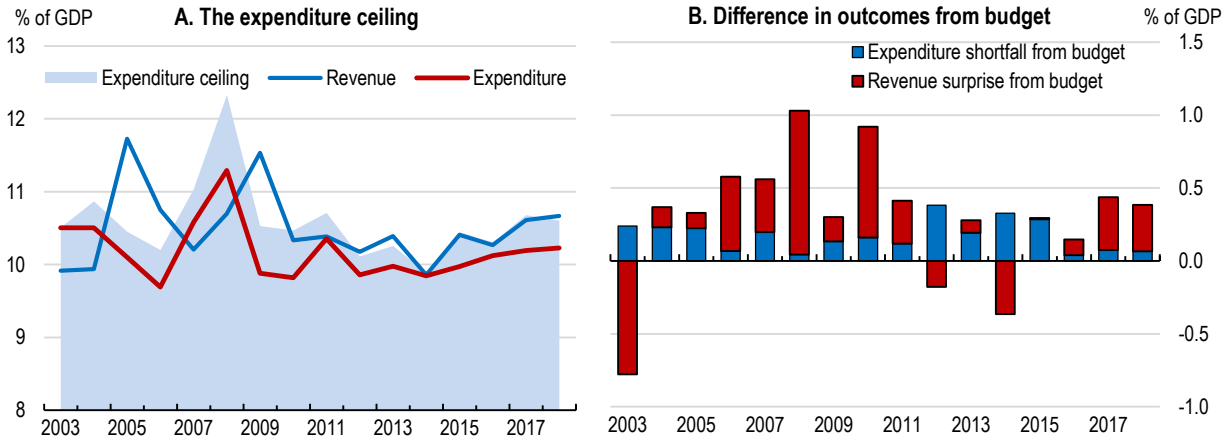
A feature of Switzerland's fiscal policy is the "debt brake" rule, and similar fiscal rules in most cantons. The federal rule sets an expenditure ceiling that takes into account projected revenues and the state of the economic cycle. These rules, introduced in the early 2000s, successfully arrested the upward trend in the national debt ratio, returning the debt-to-GDP ratio to its early-1990s level.

The federal rule's design and implementation tend to skew policy towards being tighter than intended. Firstly, revenues have usually been higher than expected, mainly due to difficulties forecasting withholding tax (Schaltegger and Salvi, 2019). Thus the initial expenditure ceiling was typically too low. Secondly, underspending relative to the budget is the norm (Figure 1.16, Panel A). The budget impact of these two factors was equivalent to around 0.4 percentage points of GDP annually in 2017-18 (Panel B). In addition, by design the cyclical adjustment is small and subject to revision as estimates of the output gap change.

Making greater use of available fiscal space would support the normalisation of monetary policy and improve economic and social outcomes. Measures proposed in this *Survey*, such as subsidies for training, can raise long-term growth and inclusiveness (Fournier and Johansson, 2016). Boosting public investment could help meet the long-term challenges associated with climate change and population ageing. Net public investment, which accounts for depreciation, averaged 0.25% of GDP over 2013-17, compared to 0.5% in the median OECD country. Earlier *Surveys* have emphasised that expanding affordable childcare and access to early childhood education can raise long-run growth by supporting women expanding their working hours (OECD, 2017a, OECD, 2013). It can also raise productivity by narrowing gender gaps and improving human capital. Moreover, spending multipliers are likely to be larger than revenue (Batini et al., 2014).

In early 2019 the government announced measures to give more flexibility in budget implementation, which are welcome. The cyclical factor should be adjusted to allow for the effect of biannual international sporting events (which added ½ per cent to GDP in 2018), as recommended by the IMF (IMF, 2019c). With gross public debt now relatively low and net public debt equivalent to around -12% of GDP, it would be prudent to make the debt brake symmetric and lessen the strain on monetary policy.

Figure 1.16. Federal fiscal policy has been tighter than intended



Note: Total revenue and expenditure are shown in Panel A. Ordinary revenue and expenditure are used in Panel B.
Source: Federal Finance Administration; OECD, *OECD Economic Outlook* database; OECD calculations.

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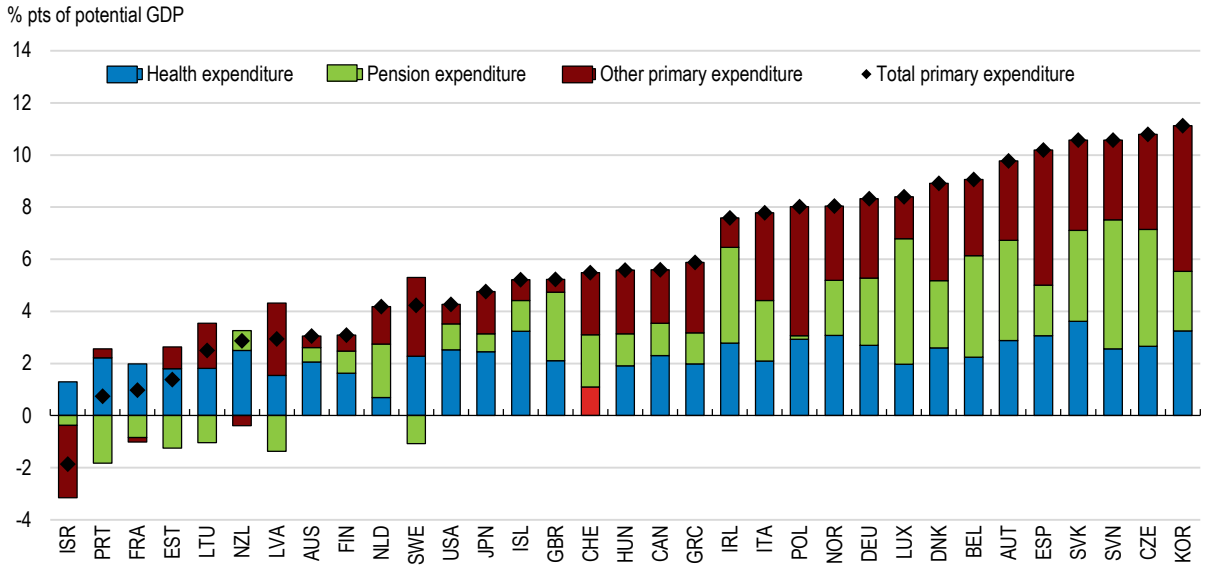
Preparing for the fiscal impacts of ageing

Public spending on pensions and health care is set to increase in the coming decades. The smaller role of government in providing pensions and financing health and long-term care will contain fiscal pressure in Switzerland relative to many other OECD countries (Figure 1.17). Nonetheless, current trends imply these spending items would expand by 3% of GDP by 2060. The main driver is the increase in the size of the older population. Assuming real spending per capita on non-ageing-related spending is maintained, the total increase in spending is 5% of GDP. Cantons and municipalities, which are primarily responsible for health and long-term care delivery, will bear around half of the burden of increased ageing-related spending (Brändle, Colombier and Philipona, 2016). However, the different pace and extent of population ageing means that the challenge varies considerably across cantons (Figure 1.18). The federal fiscal equalisation formula adjusts for socio-demographic cost drivers including an older population. Planned changes to responsibilities will need to be reflected in these arrangements. Likewise, fiscal equalisation within cantons should adequately reflect the changing burden of tasks.

Figure 1.17. Rising public expenditure will entail fiscal challenges

Change in expenditure from 2019 to 2060



Note: These scenarios are illustrative only and differ from national projections. Pension expenditure includes survivors' pensions and disability pensions but all other benefits are included in "Other primary expenditure", which is all non-interest spending except health and pension spending.
Source: Simulations using the OECD Economics Department Long-term Model.

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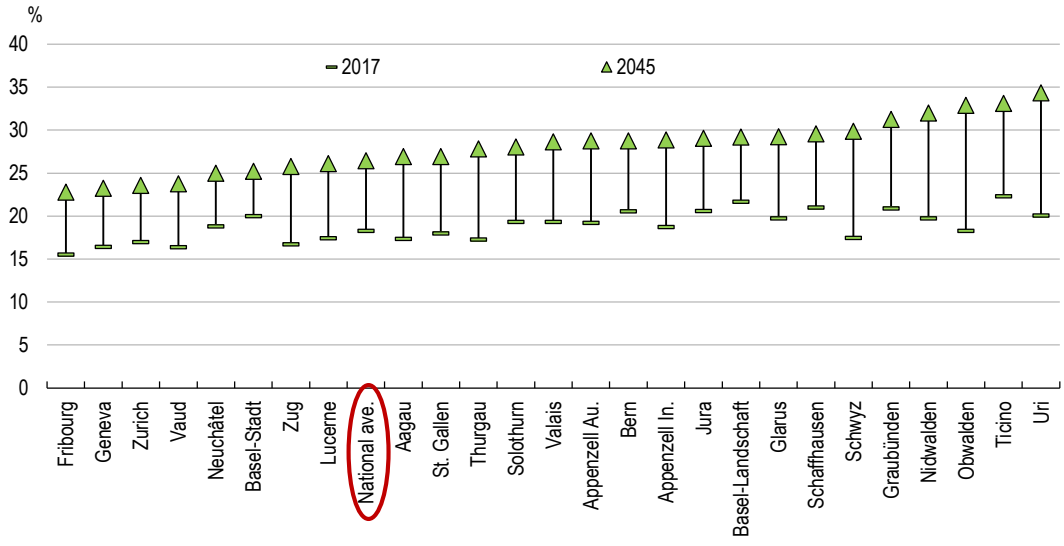
Figure 1.18. Ageing is likely to be uneven across cantons

Ratio of 65+ year-olds to total permanent resident population



Note: Scenarios for cantons are national projections and only available to 2045. The national projection for the total population is slightly higher (483 000 people in 2045) than the UN projections in the OECD long-term scenarios.
Source: Federal Statistical Office.

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Resolute action to contain ageing-related expenditure will reduce any crowding out of other expenditure, including on younger generations, and limit the need for higher taxes. Long-term scenarios based on Guillemette and Turner (2018) show that the ratio of revenue to GDP would need to rise by around 4 percentage points by 2060 to hold the debt-to-GDP ratio steady (Figure 1.19). Past *Surveys* have highlighted substantial potential for making public spending more efficient and enhance growth (Table 1.4). Containing health care spending is particularly important, as discussed below. The reforms proposed in this *Survey* to raise the effective retirement age would help accommodate ageing-related fiscal pressure by lifting GDP and revenues. Simulations based on the OECD Long-term Model illustrate the effect of a package that (i) raises the statutory retirement age to 67 years over the next 15 years and then increased it with life expectancy; and (ii) lifts spending on active labour market policies and implements labour market reforms to raise the retirement age by six months. Such reforms would provide considerable relief from fiscal pressures during coming decades by raising employment and GDP (Figure 1.19; Table 1.5).

Table 1.4. Past recommendations on public spending efficiency and taxation

Recommendations in previous *Surveys*	Actions taken since November 2017
Reduce agricultural subsidies and pursue efficiency gains in public spending to free up funds for measures that enhance growth and inclusiveness.	In December 2017 a Federal Decree was adopted, abolishing export contributions as well as accompanying measures to assist the food production sector.
Evaluate solutions to reduce the drop-out rate in the university system.	No specific action taken. Universities have begun collecting data.
Switch the system for setting generic drug prices to reimbursing a pre-determined fixed amount.	A reference price system is planned.
Encourage systematic benchmarking of hospital costs. If rates keep rising despite the recent reforms, consider new legislation to control them using cost benchmarks.	No specific action taken. Cost containment measures have been taken to curb health care spending growth.
Avoid persistent budget underspending through better co-ordinating procedures at federal and sub-national levels.	Additional flexibility is being introduced to budgeting procedures.
Widen the VAT base by removing exemptions. Unify VAT rates. Over the medium term raise VAT rates. Explore the technical feasibility of applying a VAT to banking services. If such a VAT is not introduced, consider an additional tax on financial institutions' profits and remuneration.	No specific action taken. From 1 January 2019 VAT on mail order items is more strict.
Replace progressive cantonal corporate taxes with proportional taxes and abolish capital taxes. Remove taxes on the issuance of equity securities.	Some cantons plan to replace progressive tax with proportional taxes and to reduce capital taxes.
Abolish the lump-sum tax regime for rich individuals who are not economically active in Switzerland. Subject all residents to standard personal income taxation.	No specific action taken. Taxation of new beneficiaries was revised in 2016.
Shift income taxation to individual rather than household incomes, or implement equivalent measures.	No specific action taken. The Federal Council plans to allow couples to pay the lesser amount of tax depending on whether they were taxed as a couple or two individuals.

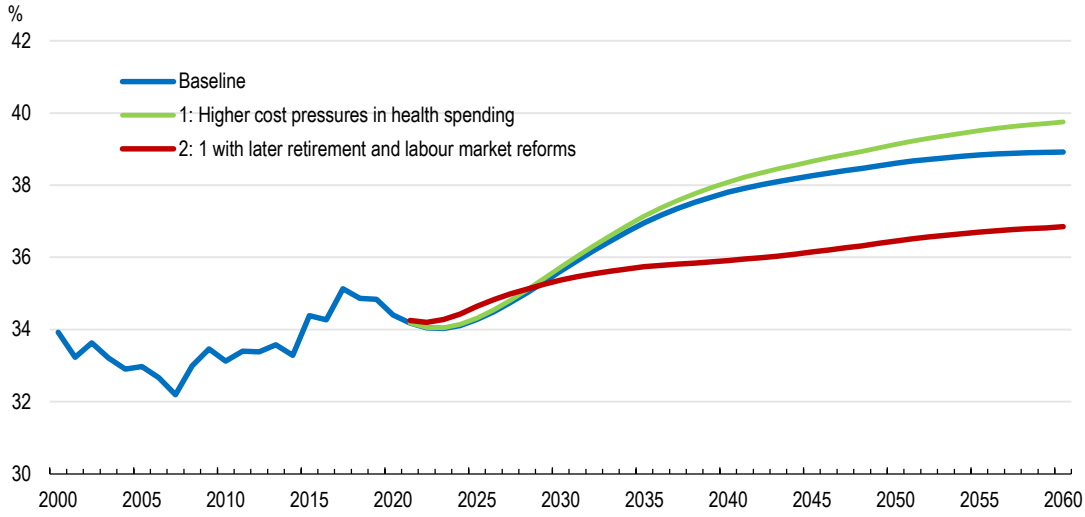
There is ample scope to lower health-related spending without sacrificing quality (OECD, 2015a). Savings can be realised by improving cost effectiveness of treatments, reducing fragmentation and duplication that results from decentralisation, and through greater emphasis on prevention. For example, hospital and pharmaceutical spending can be reduced (Table 1.4; OECD/WHO, 2011). A lack of gate-keeping and high specialist fees raise spending on ambulatory care. Cost savings would also limit the sizeable burden on households and associated recourse to social assistance and mitigate the fiscal risk that citizens demand the government shoulders more of the burden.

The government has taken steps to reduce the cost of hospitals and pharmaceuticals. Two further cost containment packages are planned. The first one includes measures to reduce hospital costs, improve the system for setting outpatient fees and create a reference price system for reimbursing generic drugs. These are in line with previous OECD recommendations. A second package is planned for end 2019. Electronic patient dossiers are being rolled out and promise to enhance co-ordination, reduce duplication and increase patient welfare. However, participation is voluntary except for hospitals and nursing homes, which is likely to limit take-up (De Pietro and Francetic, 2018). Financial incentives should be used to encourage

health care providers to participate, alongside penalties to ensure data quality, as in other countries (Oderkirk, 2017). If this is ineffective, electronic dossiers may need to be mandatory. These measures should be accompanied by steps to build trust in the system, notably ensuring data security in light of a recent data breach.

Figure 1.19. Reforms can offset fiscal pressures

General government revenue required to hold the debt-to-GDP ratio steady, per cent of GDP



Note: These scenarios are illustrative only and differ from national projections. The baseline includes higher spending, as shown in Figure 1.17. In scenario 1 health spending rises by a further 0.7% of GDP. Scenario 2 includes two additional elements: (i) the retirement age gradually rises to 67 in 2034, and by half of the expected gain in life expectancy thereafter (to reach 68 in 2058); and (ii) labour market reforms including a two-thirds increase in spending on active labour market policies and an increase in the retirement age of six months to proxy for labour market policies discussed in the text.
Source: Simulations based on the OECD Economics Department Long-term Model.

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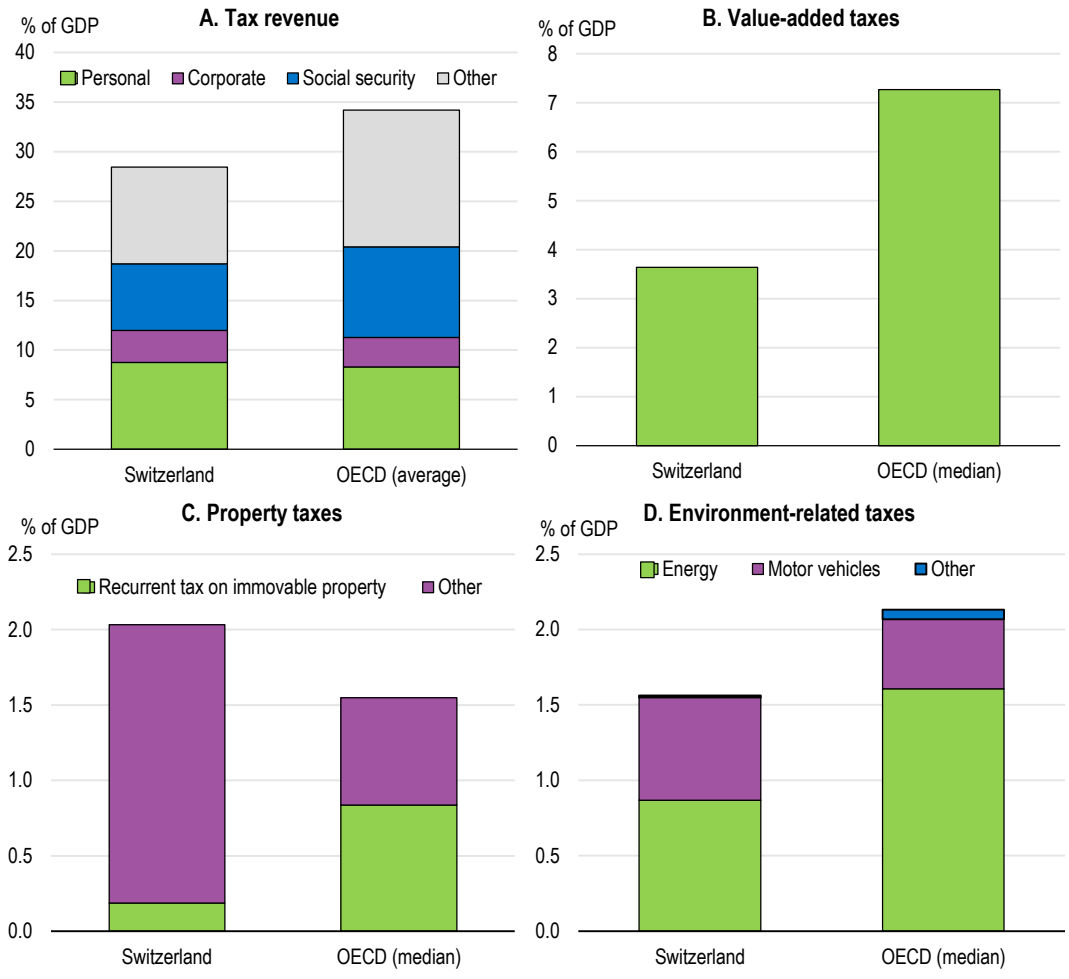
Table 1.5. Key variables underpinning the long-term scenario

		2018	2030	2060
Baseline				
GDP growth	%	2.8	1.2	1.4
Primary fiscal balance	% of GDP	1.5	-0.2	0.1
Inflation	%	0.3	1.0	1.0
Short-term interest rate	%	-0.7	1.9	2.3
Trend productivity growth	%	0.5	1.2	1.4
Trend employment-to-population ratio	%	78.4	78.4	79.3
Reform scenario				
GDP growth	%	2.8	1.7	1.5
Primary fiscal balance	% of GDP	1.5	0.1	0.1
Inflation	%	0.3	1.0	1.0
Short-term interest rate	%	-0.7	2.1	2.4
Trend productivity growth	%	0.5	1.1	1.5
Trend employment-to-population ratio	%	78.4	81.4	87.2

Source: OECD, *OECD Economic Outlook database*; simulations based on the OECD Economics Department Long-term Model.

Shifting the tax mix away from personal income taxation would boost growth and reduce the exposure of government revenues to ageing. Switzerland relies more on direct taxation and social security contributions than most other OECD countries, at two-thirds of revenues, even though it is more distortionary and inimical to growth than indirect taxation, as underlined in the 2011 *Economic Survey* (OECD, 2012a; Akgun, Cournède and Fournier, 2017) (Figure 1.20). Against this backdrop, the government will raise the value-added tax (VAT) rate by 0.7 percentage points to fund first pillar pension spending. A planned reform to the "marriage penalty" in 2021, to reduce work disincentives facing second-earners due to family taxation, is welcome. The reform should be financed via indirect taxation given the long-term benefits of additional spending on childcare and training highlighted elsewhere, as well as the spending pressures in coming decades.

Figure 1.20. Revenues are comparatively low and tilted towards direct taxation



Note: Data in Panels A to C are for 2017; data in Panel D are for 2016. In Panel C, other property taxes for the OECD median are calculated as a residual.
Source: OECD, *Revenue Statistics* database, *Environmental Policy* database.

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To finance lower personal income taxes, particularly on lower income earners, VAT exemptions and reduced rates should be wound back and its rate raised even further. Sub-national governments could make more use of recurrent taxation of immovable property. There is also scope to raise more revenue from environmentally-related taxation, which could reinforce incentives to avoid harmful activities (OECD, 2017b). For instance, Swiss new cars have the highest CO_2 emissions in all EU-European Free Trade Association countries and well-designed taxes could encourage a shift towards low emission cars, as discussed below. Broadening the CO_2 tax base, accompanied by measures to upgrade energy efficiency of buildings, is key for emission reductions.

Simulations show that a reform that hiked the VAT rate by 0.6 percentage points, raised recurrent taxation on immovable property and increased environmentally-related taxation to finance reduced personal income taxation would boost growth (Box 1.4). Such a reform package would need to account for the distributional impact, either by focussing the income tax cut on low-income earners, as suggested, or providing offsetting social security contribution credits. Evidence from other OECD countries shows that reduced VAT rates often disproportionately benefit high-income households (OECD/KIPF, 2014). A general rate increase would impact lower-income households more. Increases in taxation of immovable property can be designed to limit the effect on low-income households, particularly the elderly, by deferring tax payment or using special credits (Blöchliger, 2015).

Box 1.4. Quantifying the impact of selected policy recommendations

Table 1.6 presents estimates of the fiscal effects of some of the recommended reforms. The quantification is merely indicative and does not allow for behavioural responses. Table 1.7 quantifies the impact on growth of some of the reforms recommended in this *Survey* (quantification is not feasible for all of them). The impacts rely on estimates from cross-country panel regressions. Within the tax reform, the contribution from cutting the tax wedge is slightly larger than implied by earlier OECD work, such as Égert and Gal (2017). However, the estimates do not take into account potential growth benefits via greater decentralisation of revenue collection, which may be larger in more open economies (Dougherty and Akgun, 2019). The overall directional impact of the reform is in line with earlier work such as Johansson, et al. (2008).

Table 1.6. Illustrative fiscal impact of recommended reforms

Fiscal savings (+) and costs (-) after 10 years

	% of annual GDP
Expenditures	
Increase spending on active labour market programmes	0.5
Increase long-term care spending to cover part of uninsured care and support	0.4
Cost containment in health spending	-0.3
Effect of later retirement through higher retirement age and labour market reforms	-0.9
Total - expenditures	**-0.3**
Tax reform	
Reduce personal income taxation on low-income earners	-0.6
Increase value-added tax	0.2
Increase recurrent taxation of immovable property	0.2
Increase environmentally related taxation	0.2
Total - tax reform	**0.0**

Note: The increase in active labour market programme spending is by two-thirds of the current level to the average of the top five OECD countries. Long-term care is based on the estimated cost in 2011 and assumes some means testing (Federal Council, 2016). Health care cost containment assumes that containment measures slow growth in real costs per capita to 0.8% (below the 1.5% structural rate achieved in high-spending countries during 2010-13 in Lorenzoni et al. (2018)). Estimates do not include other substantial gains, notably increased tax revenue from higher employment. Tax reform calculations are based on Akgun, Cournède and Fournier (2017), "The effects of the tax mix on inequality and growth", *OECD Economics Department Working Papers*, No. 1447.

Table 1.7. Illustrative impact on GDP per capita from structural reforms

Difference in GDP per capita level from the baseline 10 years after the reforms, %

Reform	Description	%
Reforms to contain the cost of ageing		
Government proposal	Retirement age for women raised to 65 years (from 64) by 2026	0.6
More ambitious reform	"Government proposal" then retirement age raised gradually to 67 by 2034, and one month per year to 69 in 2058 (half of the increase in life expectancy)	1.5
Reform package	"More ambitious reform" and spending on active labour market policies per unemployed person increases to the average of the five top countries and other reforms increase the retirement age by six months.	3.0
Growth-enhancing tax reforms		
Revenue-neutral tax reform	Personal income tax revenue falls by 0.6% of GDP (the tax wedge on low-income earners declines by 1.7 percentage points, which is the typical tax wedge change across OECD countries). VAT revenue increases by 0.2% of GDP (0.6 percentage point VAT rate increase); environmental taxes and recurrent taxes on immovable property also increase by 0.2% of GDP.	1.2

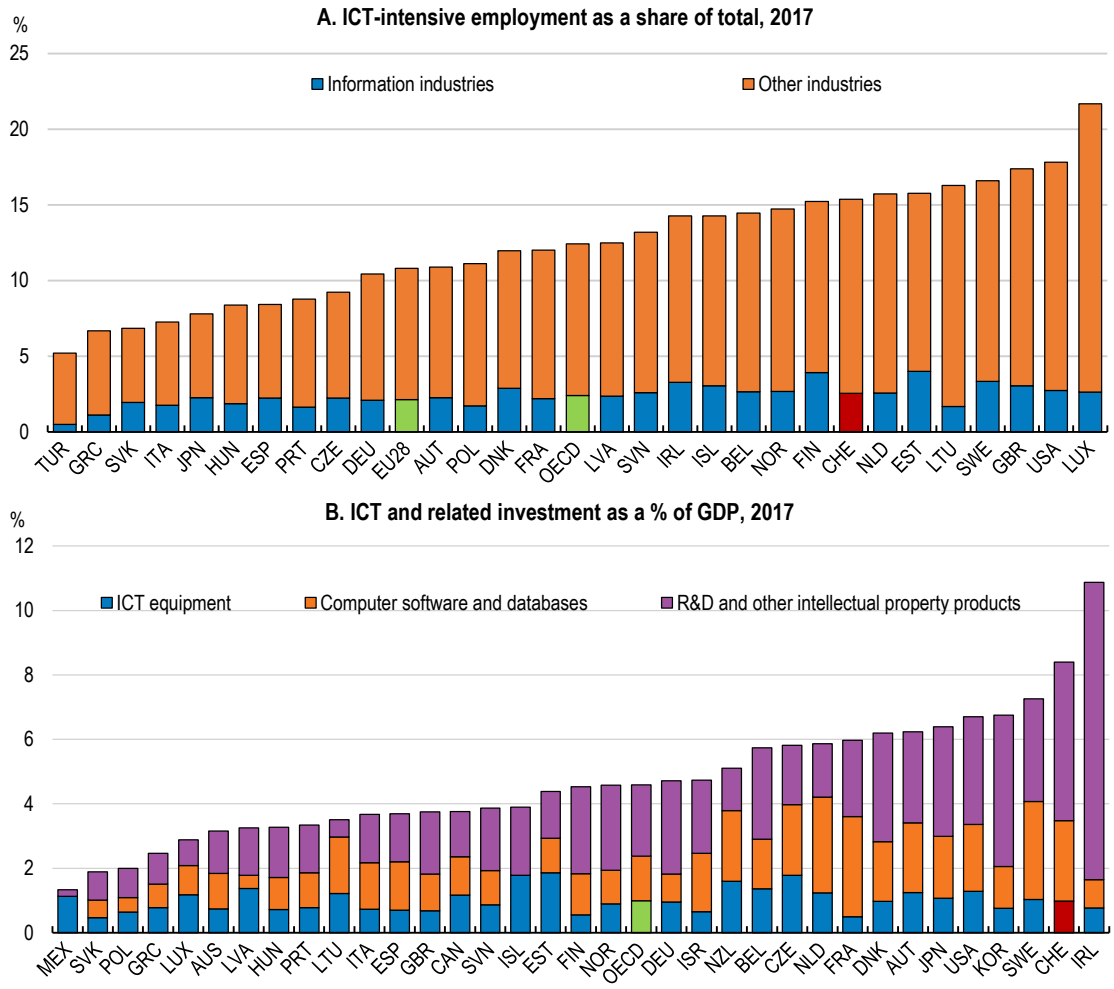
Source: Simulations based on the OECD Economics Department Long-term Model and the framework in Akgun, Cournède and Fournier (2017), "The effects of the tax mix on inequality and growth", *OECD Economics Department Working Papers*, No. 1447.

Switzerland's system of direct democracy means that implementing large-scale reforms can be difficult but helps ensure that reforms are accepted by a broad spectrum of society. No major pension reform has passed a referendum in two decades. In 2017 the median age of a Swiss adult (citizen) was already 51, which will influence reform prospects. Older people have been found to prefer spending on health and social security to education (Cattaneo and Wolter, 2009). A small fiscal council, as proposed in the previous *Survey*, or similar independent institution could produce independent economic scenarios to help assess the merits of reforms. More participative public debates could also develop understanding and reinforce the benefits of direct democracy. Because successful reforms tend to be incremental, they must also begin sooner.

Technological transformation is underway

Technological change and digitalisation are transforming lives, economies and government. Adopting new technologies can raise productivity – the main source of future income growth given population ageing and a challenge examined in the 2017 *Economic Survey* in light of Switzerland's lacklustre productivity growth (OECD, 2017a). New technologies can also enhance government services and environmental outcomes. The digital transformation is already well under way in Switzerland, as illustrated by trends in employment and investment (Figure 1.21). Highly digital-intensive sectors accounted for 36% of employment growth over 2006-16 (OECD, 2019e). The government's "Digital Switzerland" strategy recognises Switzerland's strong starting point for the digital transformation and aims to provide a framework for government policy as well as action by other actors (OFCOM, 2018). It is complemented by an action plan and set of indicators to track progress.

Figure 1.21. Employment and investment are relatively digitally-intensive



Note: ICT-intensive employment comprises ICT specialists and ICT task-intensive occupations, which have a high propensity to include ICT tasks at work, as defined in R. Grundke, P. Horvát and M. Squicciarini (forthcoming), "ICT intensive occupations: A task-based analysis", *OECD Science, Technology and Innovation Working Papers*. Outside of information industries, these include occupations such as business services managers, sales managers, physical science professionals, architects, and finance professionals.
Source: OECD (2019), *Measuring the Digital Transformation*.

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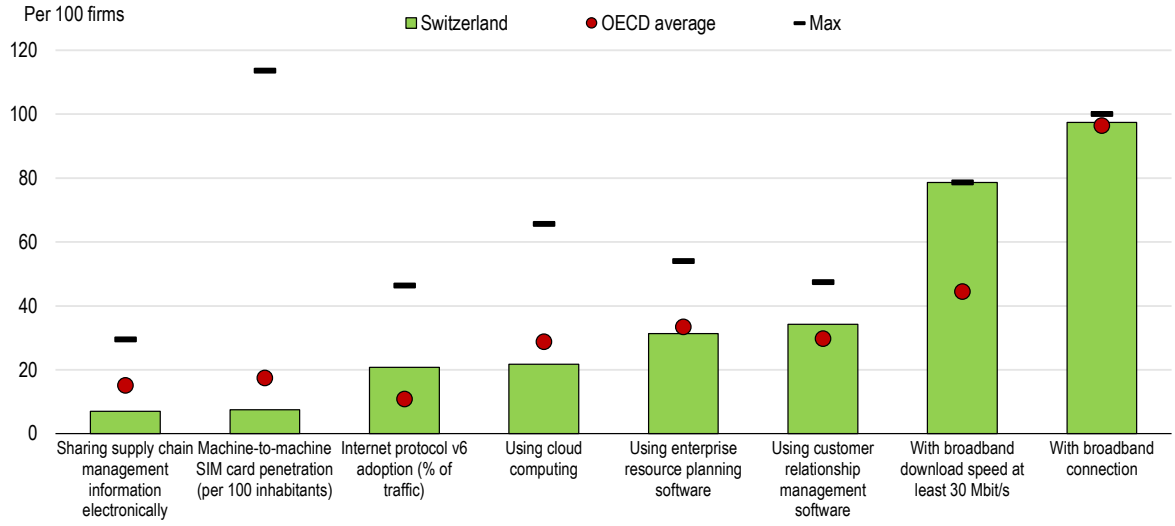
Diffusing new digital technologies in the business sector

Switzerland's almost-universal access to high-speed internet (30 Mbps) across the country supports digitalisation (OECD, 2019e). Switzerland had the highest number of fixed broadband subscribers per inhabitant in 2017. 5G technology is currently being rolled out. The penetration of fibre – which is also likely to be crucial for next-generation technologies – was only around the OECD average in 2017 (OECD, 2019a). In 2018 fibre to the home at speeds of 10 Gbps became available. Despite the potential for being a leader in digital technology adoption, Swiss firms' take-up of some digital tools has been only around average (Figure 1.22). Take-up by Swiss large firms is closer to those in the leaders in some technologies. Closer analysis reveals large gaps in adoption of these technologies across sectors vis-à-vis leading countries (Table 1.8).

Figure 1.22. Switzerland leads in infrastructure but use of some technologies is average



Note: Data are for 2017. Data for Switzerland are generally for firms with 5 employees (rather than 10).
Source: OECD, *ICT Access and Usage by Business* database; OECD (2019), *Measuring the Digital Transformation.*

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Table 1.8. Take-up of some enabling technologies is lagging the leaders across sectors

Per cent of firms, 2017

	Enterprise resource planning software		Customer relationship management software		Supply chain management software		Cloud computing	
	CHE	Gap with high performers	CHE	Gap with high performers	CHE	Gap with high performers	CHE	Gap with high performers
Real estate activities	6.9	-39.3	3.5	-47.3	-		18.2	-33.0
Accom. & food services	2.7	-10.7	26.2	4.6	0.6	-10.2	15.0	-13.6
Admin. & support services	6.9	-22.6	16.9	-24.1	1.7	-12.7	25.2	-23.8
Construction	18.4	-7.5	18.3	-7.5	3.1	-13.3	22.5	-20.4
Retail trade	28.1	-5.7	27.6	-7.2	3.7	-30.0	9.8	-29.3
Professional, scientific & technical activities	25.0	-12.3	24.7	-27.5	0.4	-15.1	27.1	-35.5
Transportation & storage	21.3	-7.4	25.8	-0.8	6.3	-19.3	25.3	-10.7
Manufacturing	54.2	-4.9	38.0	-6.6	11.3	-11.7	21.5	-23.0
Wholesale trade	65.4	-2.9	56.2	-4.6	18.8	-19.0	21.7	-19.9
Information & communication	57.6	3.0	76.0	4.6	34.8	7.5	56.4	-17.8

Note: The gap is the distance in percentage points between Switzerland and the average of Denmark, Finland, Germany and the Netherlands. Sectors are ordered by the average use across all technologies in Switzerland. Data are for firms with 5 employees or more for Switzerland and 10 of more for other countries.
Source: OECD, *ICT Access and Usage by Business* database.

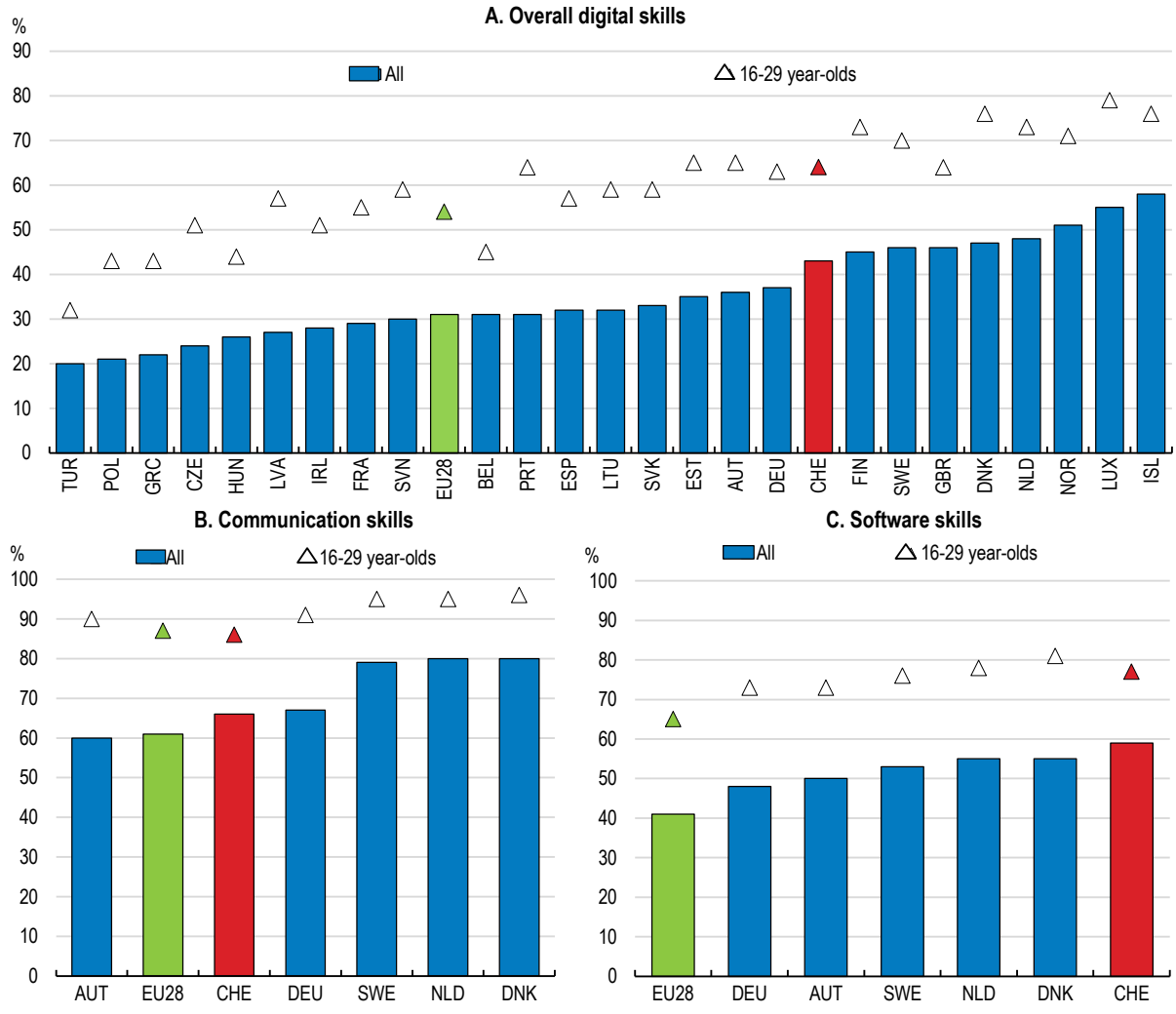
The gaps in adoption of digital technologies within Switzerland parallel the productivity paradox highlighted in the 2017 *Survey*. That is, while Switzerland famously hosts highly productive firms and world leaders in R&D and innovation, the productivity gap between top performers and other firms is widening. The share of firms undertaking R&D and innovation activities has narrowed over time, with those firms investing more (Arvanitis et al., 2017). Firm-level evidence from Switzerland also suggests that adoption of digital

technologies is associated with innovation (Arvanitis, Loukis and Diamantopoulou, 2016). There is now substantial evidence showing that adopting digital technologies improves firm performance (Goldfarb and Tucker, 2019; Sorbe et al., 2019). Their diffusion across the spectrum of firms can narrow the productivity gap, raising aggregate productivity.

Harnessing the benefits of new digital technologies depends on the skills of managers and workers, as is the case for innovations more generally (Andrews, Nicoletti and Timiliotis, 2018; OECD, 2015b). One reason is that capturing the full benefits of technology adoption requires changing workplace practices. Skill shortages can undermine the gains from adoption, particularly at less productive firms, widening their gap with more productive firms over time (Gal et al., 2019; Sorbe et al., 2019). Switzerland's skill base is high, but vacancy rates in ICT-related sectors have returned to pre-crisis levels. A smaller share of Swiss adults – and young people – possess advanced IT-related skills than in European leaders (Figure 1.23). Restrictions on movement of people also contribute to skills shortages, as indicated by Switzerland's comparatively high barriers to trade in computer services in the OECD Services Trade Restrictiveness Index.

Figure 1.23. Swiss adults' digital skills lag the top performers

Share of the population with more than basic skills, 2017



Source: Eurostat, *Digital Skills* database.

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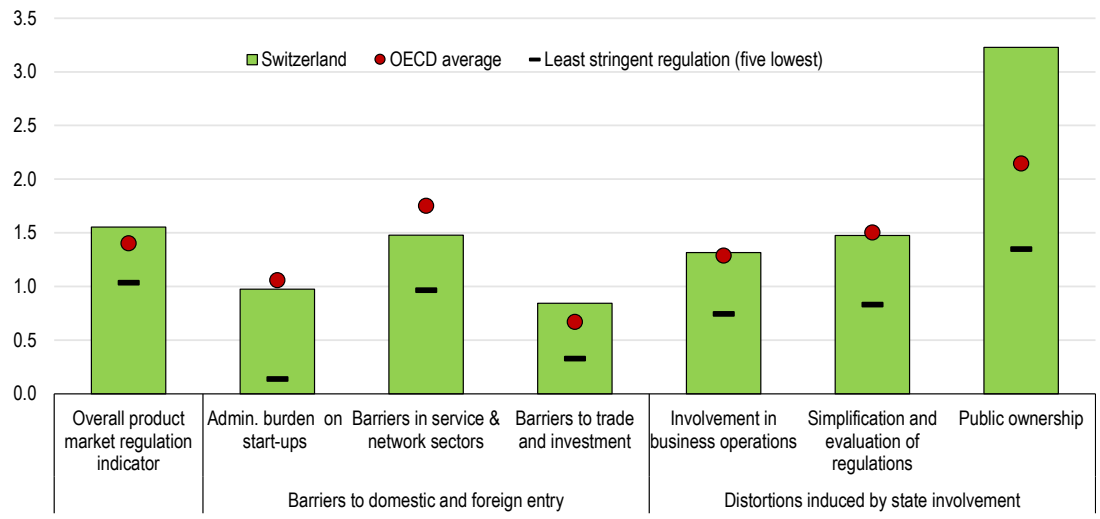
Easing immigration requirements from non-EU countries, as called for by business groups and in the previous *Survey*, would alleviate current shortages (digitalswitzerland, 2018, SECO, 2018b; OECD, 2017a). Raising the number of graduates from scientific and technical fields, particularly women who are in short supply, would help address shortages in the medium term. Continuing education in IT-related skills should be promoted through social partners and employers. Online courses, which are used less than elsewhere, can ramp up skills at relatively low cost (FSO, 2018b; OECD, 2019f).

Promoting a dynamic business environment can spur the adoption of digital technologies (Sorbe et al., 2019; Andrews, Nicoletti and Timiliotis, 2018). The 2017 *Survey* recommended lowering barriers to firm entry and increasing competitive pressures to raise productivity. The authorities have proposed reducing red tape associated with tariffs and with registering a business; these plans should be implemented (Table 1.9). There is still scope to make many regulatory settings more conducive to competition (Figure 1.24). The administrative burden on start-ups should be lowered by reducing the financial costs of starting a business and expanding the one-stop shop (*EasyGov.swiss*). "Silence is consent" licensing rules, whereby licenses are automatically issued if the competent authority has not acted in a given timeframe could ease procedures, as in 13 other OECD countries.

Figure 1.24. There is scope to ease entry and strengthen competition

Product market regulation indicators, from 0 (best practice) to 6 (most stringent), 2018



Source: OECD, *Product Market Regulation Indicators* database.

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Strengthening competitive forces would also increase incentives to adopt productivity-enhancing technologies. Competition in the domestic market is still hampered by cantonal borders (ComCo, 2019, 2017). For instance, cantons do not always automatically allow professionals licensed in other cantons to practice. Reinforcing access to markets nationwide is crucial to generate economies of scale and competitive pressures in a small country. At the same time the merger control framework remains more permissive than in EU countries and modernisation plans are stalled. Digitalisation adds to the challenges for competition policy and calls for greater vigilance (OECD, 2019g). Strengthening the competition authority and modernising merger controls could help tackle these barriers. Barriers to trade in services – indicated by the OECD Services Trade Restrictiveness Index – are higher than in most other OECD countries and should be lowered to spur competitive pressures, as well as knowledge spillovers and innovation, as recommended in the 2017 *Economic Survey.* Barriers in network sectors include restrictions

on the number of competing firms allowed to operate (Table 1.9). Lowering barriers to agricultural trade would facilitate free-trade agreements, thereby improving competition and benefiting consumers (OECD, 2017a).

Table 1.9. Past recommendations on productivity

Recommendations in previous *Surveys*	Action taken since November 2017
Lower restrictions on trade in both goods and services, notably in highly protected agricultural products.	From December 2018 to March 2019 the Federal Council ran a public consultation on the abolition of all import tariffs on industrial goods. The final proposal to Parliament is being prepared. At end 2018 ethanol imports were liberalised and the tariff eliminated. In December 2017 a Federal Decree was adopted to comply with the 2015 commitment to remove export subsidies, effective from 1 January 2019. It includes a complete revision of the "chocolate law", abolishing export contributions as well as accompanying measures to assist the food production sector.
Accelerate the pace of agricultural sector reform, including moving entirely to direct payments to farmers.	No specific action taken. From November 2018 to March 2019 the Federal Council ran a public consultation on the Swiss Agricultural Policy from 2022 onwards. The final proposal is being prepared. Aims include improving market, entrepreneurial and environmental conditions.
Complete the negotiations for free-trade agreements that are underway with Asian nations and MERCOSUR.	In 2018 free trade agreements were concluded with Ecuador and Indonesia. Negotiations with MERCOSUR for a free trade agreement were concluded in substance in August 2019. Negotiations with India, Vietnam and Malaysia are in underway.
Finalise the virtual one-stop shop for administrative affairs.	In November 2017 the one-stop shop (*EasyGov.swiss*) was launched. Services now include registering a company with various authorities. Companies can amend their Commercial Register data. The most-requested e-government services are planned to be available by end 2019.
Establish cantonal physical contact points to improve delivery of advisory services and public financing programmes.	Local economic development agencies function as contact points. The SME portal contains a list of available public aid.
Remove representatives of economic associations from the board of the competition authority.	No specific action taken.
Increase private ownership and remove barriers to entry, including restrictions on the number of competitors, in energy, telecommunications and transport.	Energy: In 2018 the Federal Council started a public consultation on a revised electricity power supply act that aims to fully liberalise the electricity market. Telecommunications: Part of the planned revision of the Telecommunications Act was rejected. It would have required that market dominating suppliers grant access to the fibre and mobile network. Rail transport: In 2018 the monopoly for long-distance services was opened up.

Competition could also be strengthened by reducing distortions induced by state involvement in the economy, particularly those associated with public ownership, which appear to be the highest in the OECD (Figure 1.24). The scope of state-owned enterprises is broad and in some sectors they benefit from more favourable financing conditions or treatment than private firms. These distortions should be reduced by privatisation or, at a minimum, other measures to ensure competitive neutrality (OECD, 2017a; 2012b). Commercial activities operated by a public entity should be incorporated to avoid conflicts of interest, abuse of dominant position and other behaviours harming competition.

Barriers to competition also persist in the communications sector itself, which has the highest barriers in the OECD according to the 2018 OECD Product Market Regulation indicators. This partly reflects the dominant position of the majority-government-owned incumbent. One consequence in the past has been overcharging, as highlighted by the price watchdog (Surveillance des Prix, 2016). A proposed reform to guarantee access to network infrastructure for third parties irrespective of technology was rejected by Parliament (Table 1.9). The scope of the telecommunications regulator is narrower than in other OECD countries such as Sweden, Finland and the United Kingdom (Casullo, Durand and Cavassini, 2019). It can respond to complaints but cannot initiate its own action. Given the importance of communications infrastructure to the digital transformation, the powers of the sector regulator should be reviewed and expanded so that it can more nimbly respond to changes in markets and competition.

A lack of trust may also be weighing on take-up of digital technologies. For instance payment security and privacy concerns appear to be more important barriers to online purchasing than in most other OECD countries (OECD, 2019a). Policy makers can cultivate trust through stronger consumer protection, encouraging better management of digital security risks by firms and individuals and creating national privacy strategies (OECD, 2019a). Draft changes to the data protection regulation are currently being discussed in Parliament; ensuring close alignment with EU laws could improve the probability that the European Union recognises the new law's adequacy and avoids additional regulatory burden for firms. The *Digital Switzerland Action Plan* also includes measures that will foster trust in the overall digital transformation such as protecting key infrastructure from cyber-attack. To further promote dialogue and confidence, the government could follow the example of the Danish government, which appointed an expert group to provide recommendations on ethical and responsible use of data by businesses and announced the intention to set up a permanent Data Ethics Council (OECD, 2019h).

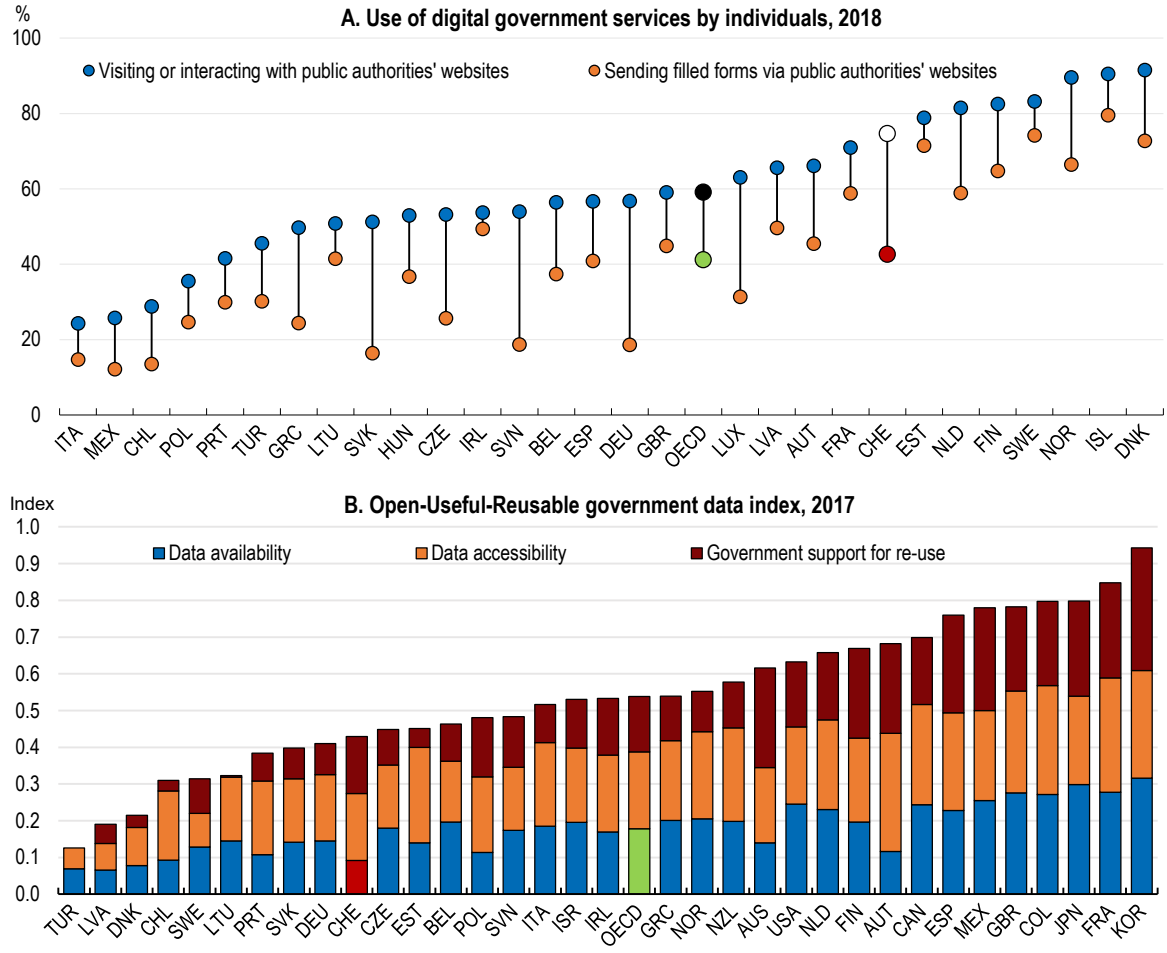
Promoting the diffusion of new technologies and knowledge more generally would help to realise the potential of technological change. As discussed in the previous *Survey*, increasing access to venture capital and incubators can ease financing constraints for young innovative firms (OECD, 2017a). Although venture capital is fairly high in Switzerland there is less late-stage funding than in leading countries. Plans to introduce R&D tax allowances in 17 cantons may also help broaden R&D activity to younger and smaller firms. Allowing loss-making firms to carry over earned tax benefits or obtain a refund is particularly important for young firms (Appelt et al., 2016). Implementation should be assessed after a couple of years. More comprehensive portals for government support would make policies more effective.

Revamping government services

Providing public services digitally can raise public sector productivity and increase the quality of services. It has also been linked to private sector adoption of digital technologies (Andrews, Nicoletti and Timiliotis, 2018). A relatively high share of Swiss interact with the government online (Figure 1.25, Panel A). However, there is a large gap for some services, such as submitting forms online. The government's *Digital Switzerland Action Plan* identifies a range of actions to improve e-government, including introducing an e-ID. This will replace the requirement of handwritten signatures in some circumstances, which is a barrier to online services (SECO, 2018b). Expanding the use of e-procurement would increase transparency and reduce opportunities for corruption. In 2015 one-fifth of federal government procurement was not posted on *simap*, the e-procurement website (Parvex, 2017).

Data are at the centre of the digital revolution. Switzerland lags behind most OECD countries in making data open, useful and reusable (Figure 1.25, Panel B). Recognising this, all data published by federal services must be made accessible free of charge and in a computer-readable format by 2020. Cantons should be encouraged to do likewise. Currently, a lack of up-to-date data hampers policy making and evaluation in a fast-changing world. Making the digital economy visible in statistics, understanding the economic impact and designing interdisciplinary approaches to data collection are among nine actions in the OECD's Going Digital roadmap for measuring the digital transformation (OECD, 2019e). The *Digital Switzerland Action Plan* includes measures to explore big data and expand data availability but a broader roadmap and richer data would facilitate policy-making during the transition. In particular, the methods and scope of data currently collected should be reviewed, with a priority on more timely and internationally comparable data.

Figure 1.25. Digital government is less advanced in some respects



Note: Data for Switzerland are from 2017.
Source: OECD (2019), *Measuring the Digital Transformation*, based on OECD (2018), *Open Government Data Report: Enhancing Policy Maturity for Sustainable Impact*, OECD Digital Government Studies, OECD Publishing, Paris; OECD, *ICT Access and Usage by Households and Individuals* database.

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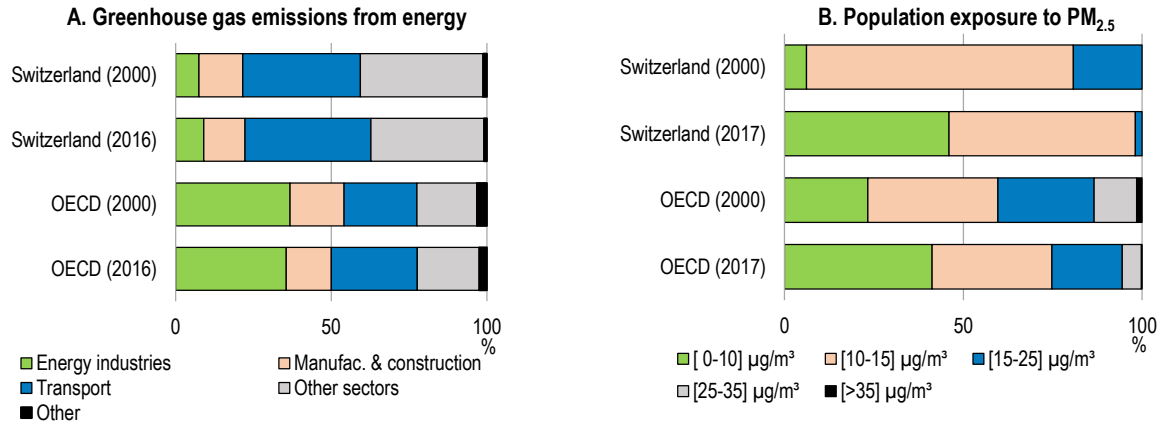
Encouraging new technologies to meet environmental aims

Energy-related greenhouse gas emissions are relatively low in Switzerland. However, transport is an important source of emissions, accounting for around 40% of energy-related greenhouse gas emissions (Figure 1.26, Panel A). Road transport also contributes substantially to air pollution. New cars are the most polluting in Europe: in 2018 average CO_2 emissions for new cars increased to 138g/km, well above the EU average of 120g/km (Federal Office of Energy, 2019). While air quality has improved, more than half of the Swiss population remains exposed to small particles above the WHO-recommended limit of 10 micrograms per m^3 (Panel B). Air pollution particularly affects children's health and their development, with persistent effects on education outcomes (WHO, 2018; Heissel, Persico and Simon, 2019).

Electric mobility has the potential to significantly lower emissions and local air pollution. However, the share of electric cars among new vehicles was only 3.2% in 2018, well below leaders such as Norway, Sweden and the Netherlands. The *Electric Mobility Roadmap 2022* targets 15% of newly registered cars to be rechargeable by 2022. Switzerland could require charging points be installed in new and renovated non-

residential buildings, as in the European Union (IEA, 2018). It could consider following Denmark, Ireland, Israel and the Netherlands (and others) by banning sales of new fossil-fuel cars by 2030. The UK's Commission for Climate Change also recommended ending such sales by 2030.

Figure 1.26. The transport sector contributes to greenhouse gas emissions and air pollution



Source: OECD, *Environment* database, *Green Growth Indicators* database.

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Price mechanisms can help shift the mix of cars to low-emission vehicles using better technologies. There is currently a federal vehicle tax of 4% on new purchases (electric vehicles are exempt) and annual taxes at the cantonal level. Several cantons offer reduced rates for cars with greater efficiency or lower emissions but there is substantial variation across cantons. In addition, there are penalties when importers exceed a target of CO_2 emissions across a batch of cars; this target will be reduced from 130g/km to 95g/km in 2020. But these have not been effective in shifting the mix of cars, as evidenced by the increase in average emissions per new car. Israel's implementation of a green tax on new cars had a major impact on the purchase of cleaner cars (Box 1.5). Vehicle taxation should be redesigned with federal tax rates depending on pollutants (including CO_2 and NOx). Reducing the differences in cantonal taxation and creating a stronger link with pollutants would provide more consistent price signals to consumers.

Box 1.5. Israel's experience with a green tax on new cars

In 2009 Israel introduced a Green Tax scheme (updated twice since) to encourage consumers to choose less polluting cars. It targets reductions in all polluting vehicle emissions by adjusting the vehicle purchase price of different car models based on the relative impact to society from five key pollutants (carbon monoxide, nitrogen oxides, hydrocarbons, particulate matter and carbon dioxide). There are 15 tax bands based on a car's "green grade". The maximum purchase tax was set at 83% for the most polluting rating, with increasing rebates for better pollution ratings.

By 2014, 83% of new cars were in the lowest pollution grades, from 19% in 2009. Average CO_2 emissions per car fell by one-fifth and other per-car emissions also fell. However, because the reform initially lowered prices for a typical car, car purchases and congestion increased. The reform demonstrated the efficiency of economic incentives in changing behaviour. It also highlighted the importance of avoiding inducing demand through lower prices, regularly reviewing tax rates and implementing complementary policies to encourage viable alternatives to driving.

Source: OECD (2016), "Israel's green tax on cars: lessons in environmental policy reform", *OECD Environment Policy Papers*, No. 5, OECD Publishing, Paris.

Technology can help increase the number of passengers in cars, thereby reducing traffic and congestion. Ride sharing through digital platforms, as recently modelled for Dublin for example (ITF, 2018a) can lower CO_2 emissions sharply and deliver substantial reductions of congestion and pollution, provided they replace individual car use. Doing so also improves connectivity, while reducing costs to users and the public purse. For example, the modelling showed that if 20% of private car trips were replaced with shared modes, emissions would fall by 23%.

Other policies can support the shift. Decreasing tax benefits associated with a company car would diminish incentives for employees to take part of their salary as a car and reduce forgone revenues. The scope of the distance-based transport tax could be expanded beyond heavy vehicles and congestion charging introduced to price congestion and road use more effectively (van Dender, 2019; ITF, 2018b; OECD, 2017c). Teleworking also reduces reduce high-carbon transport demand and can boost well-being. Only 10% of Swiss teleworked in 2018, compared to more than 30% in the Netherlands, Sweden, Finland and Luxembourg.

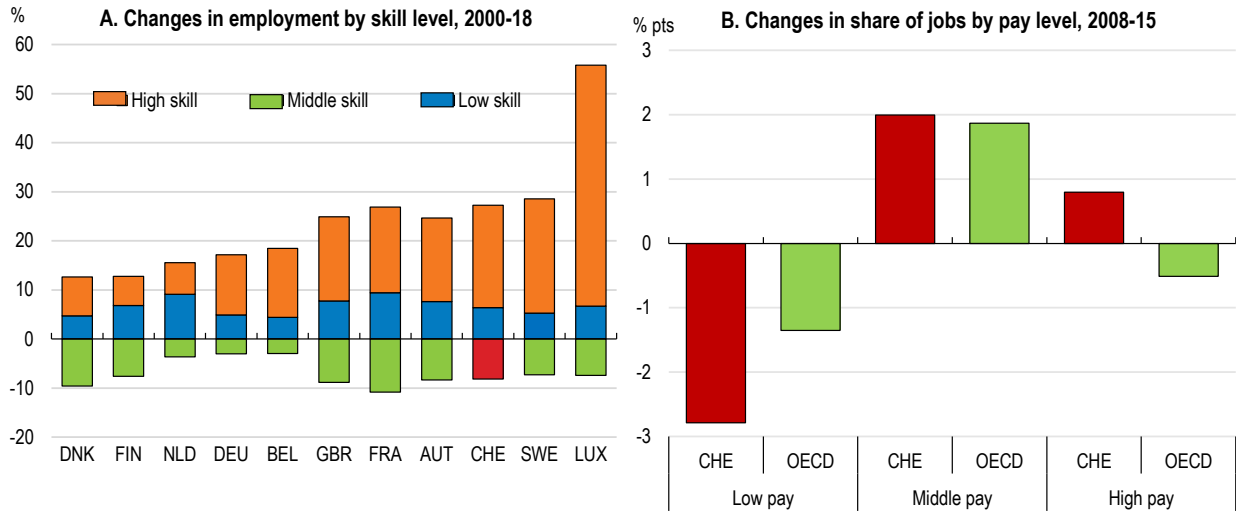
Inequality has been contained to date but it is at risk of widening

Income inequality is currently around the OECD average but the interaction of new technologies, longer lives and an older population are likely to exacerbate inequality. Longevity and technology both offer more flexibility in careers than the conventional “three stage life” of study, work and retirement (Gratton and Scott, 2016; OECD, 2019f). But not all workers are equally placed to benefit and those with low skills are especially at risk (OECD, 2019f). Disadvantages in health, education and earnings reinforce each other, which can translate into inequalities in older age (OECD, 2017d). As the ratio of retirees to workers rises, redistribution will be constrained. Accordingly, preventive action is crucial.

Enhancing workers’ adaptability

So far, the Swiss labour market has coped well with disruptions from technological change. While the share of middle-skill jobs, such as craftsmen and machine operators, has fallen, overall employment has expanded, as have middle-paying jobs (Figure 1.27). Unlike in many countries, young people have benefited from a shift from low-paying to middle-paying jobs (OECD, 2019i). Nonetheless, there is a risk that the effects of new technologies linked to machine learning are different. OECD research suggests that around half of advanced economies’ workforce risk significant change in their job due to automation, mostly due to major changes in tasks rather than job loss (Nedelkoska and Quintini, 2018). A recent survey of Swiss firms suggests that digitalisation has not yet changed net employment but reinforces the finding from other countries that unskilled workers are more likely to suffer job loss (Arvanitis et al., 2018). Amongst digital technologies, it is machine-based technologies, such as robots and 3D printing, that appear more likely to substitute for workers (Balsmeier and Wörter, 2019).

Figure 1.27. Job polarisation has not hollowed out the income distribution



Note: In Panel A countries are ordered by the change in net employment over 2000-18. High-skill occupations are: managers, professionals and technicians and associate professionals; medium-skilled occupations are clerical support workers, skilled agricultural, forestry and fishery workers, craft and related trades workers and plant and machine operators and assemblers; low-skilled occupations are service and sales workers, and elementary occupations. The armed forces and non-responses are not shown. In Panel B low-paid jobs are those paying less than two thirds of the median wage, while high-paid jobs are those paying more than 1.5 times the median wage. The OECD average is the unweighted average generally for 2006-16.
Source: Eurostat; OECD (2019), *OECD Employment Outlook 2019*.

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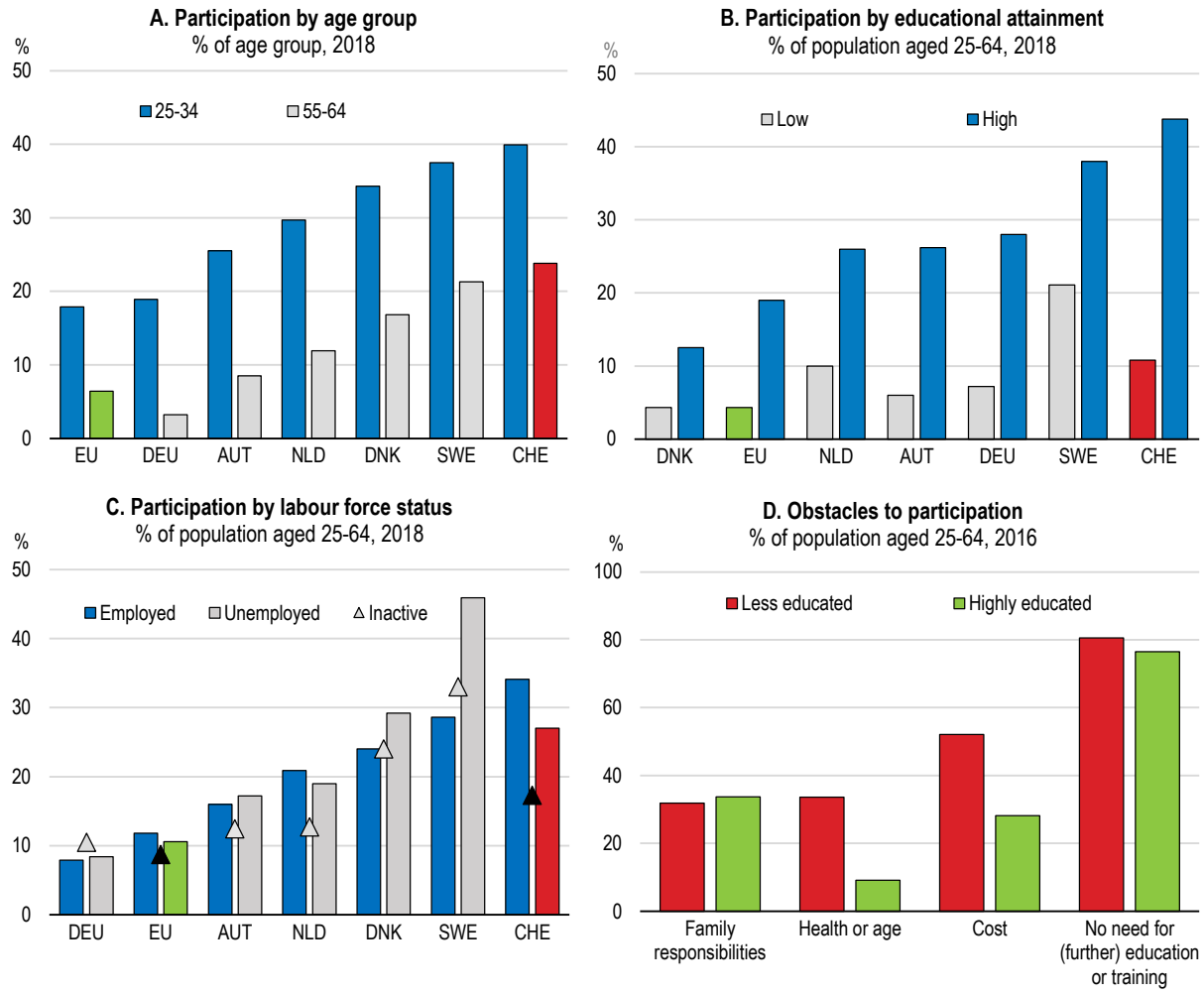
Adapting to changes associated with the digital transformation will require upgrading skills throughout working lives (OECD, 2019f). Switzerland is well placed, with its established traditions of professional training − continuing education is the norm for many Swiss (Figure 1.28). However, as discussed in the previous *Survey*, participation by some groups of workers, with less education or out of work, is much lower (OECD, 2017a). Those workers may be most at risk from digitalisation. Many do not see a need for further training but cost and “health or age” appear to be important obstacles (Panel D).

Figure 1.28. Participation in adult learning is high but can be broadened



Note: Includes formal as well as non-formal education and training. The reference period for participation is the four weeks prior to the interview. Low educational attainment refers to below upper secondary education (ISCED 0-2) and high refers to tertiary education (ISCED 5-8). In Panel D, multiple responses are allowed.
Source: Eurostat, *Education and Training* database.

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The Continuing Education and Training Act, which came into force in 2017, provides a framework for government action. In 2018 the Swiss government launched a programme subsidising employer-provided training in basic skills, including IT, which reached 1 500 participants in the first year. New measures announced in 2019 including free career guidance and skills assessment for over 40-year-olds and recognising prior experience could help expand training (Table 1.10). Subsidies or vouchers could also be considered for targeted groups, as recommended in the previous *Survey* (Table 1.11). A 2006 trial demonstrated that targeted vouchers could be effective (Schwerdt et al., 2012). Vulnerable workers could also be reached by allowing jobseekers whose unemployment benefits have expired to continue accessing training if they receive other social benefits. Policy makers should map the risks of automation and prepare a strategy to ensure that at-risk workers train in a broader set of skills to facilitate occupational change, as suggested in the latest *Skills Outlook* (OECD, 2019f).

Table 1.10. New measures to strengthen the local labour force

Measure	Target group	Annual cost (CHF)
Strengthen pre-apprenticeship training (currently available to refugees) and extend it to immigrants who have not completed secondary school.	Recognised refugees, persons provisionally admitted, adolescents and young adult immigrants who have not completed secondary education.	15 million / 13 000 per person
Pilot programme providing work induction allowances to employers hiring refugees and those admitted on a temporary basis.	Refugees and persons provisionally admitted whose placement remains difficult.	3.8 million / 12 000 per person
Free situation analysis and career guidance for workers aged 40 and over will be piloted in 2020-21 and extended to all cantons over 2021-24.	Workers aged 40 and over.	6.6 million for pilot 7.6 million thereafter
Consistent recognition of existing skills and prior learning for professional certification programmes to enable adults to acquire a vocational qualification more efficiently.	Adults aged 25 and over.	0.6 million
Additional funding to cantons to enable regional job centres to better support jobseekers who are difficult to place.	Jobseekers who are difficult to place, particularly seniors who do not have unemployment insurance benefits.	62.5 million
Access to training for jobseekers aged over 60 whose unemployment insurance has expired.	Jobseekers over 60 who have not found a new job after their unemployment benefits expired (around 2 600 people).	21 million
"Transitional" benefit for unemployed persons aged 60 or over, subject to conditions including assets excluding the main residence below CHF 100 000 for a single or CHF 200 000 for couples.	Unemployed workers who exhausted unemployment benefits at the age of 60 or over.	40 million in 2022 / 230 million in 2025

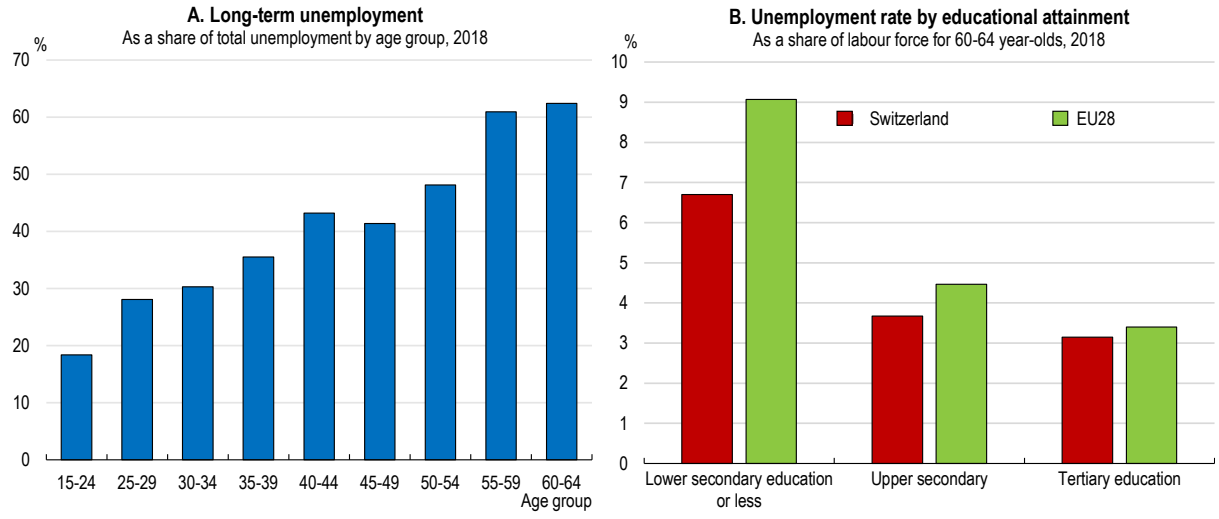
Note: Monetary amounts shown relate to the Confederation and are in 2019 prices.
Source: Swiss Confederation (2019), *Fiche d'information : mesures pour renforcer l'encouragement du potentiel de la main-d'oeuvre en Suisse [Factsheet: Measures to strengthen the promotion of the potential of the workforce in Switzerland]; Prestation transitoire pour chômeurs âgés : ouverture de la procédure de consultation [Transitional benefit for elderly unemployed: opening of the consultation procedure].*

Table 1.11. Past recommendations on education and skills

Recommendations in previous *Surveys*	Action taken since November 2017
Use subsidies to encourage participation in continuing education and training for groups with low participation rates.	In 2018 the Basic Skills in the Workplace programme was launched. It offers subsidies to companies that provide basic skills training.
Collect more detailed data on skills to facilitate adjustments to education in response to changing labour market needs.	Switzerland will participate in the next cycle of the OECD Programme for the International Assessment of Adult Competencies (PIAAC).
Improve access to tertiary education for all segments of society, including special measures for those from lower socio-economic and immigrant backgrounds.	In 2018 subject-based funding was created for preparatory courses related to specific tertiary-level professional education examinations.
Boost the supply and attractiveness of fields of study that are in high demand in the labour market. Further clarify study streams across the tertiary education system.	In 2019 a new strategic objective was introduced for two Federal Institutes of Technology: they should strengthen computer sciences and technology in research and teaching.
Increase the effectiveness of pathways between vocational and general streams by increasing the academic component of the vocational curriculum and vice-versa.	No specific action taken.
Encourage small firms to participate more in apprenticeships by promoting sharing of apprenticeship places between firms and training centres that undertake part of the training.	No specific action taken.
Strengthen linkages between the vocational education and training system and employer associations in school-based vocational training.	No specific action taken.
Increase public spending on early childhood education and care, especially for children with disadvantaged socio-economic backgrounds.	In 2018 Parliament extended a federal programme providing additional childcare places. Parliament will vote on a proposal to increase the federal income tax allowance for child expenses from CHF 10 000 to 25 000 per year.

Unemployment is lower for older workers but once unemployed, older workers are less likely to find work (Figure 1.29). Around 30% of jobseekers aged 45 or over do not find work before their unemployment benefits expire (SECO, 2019). Seniority wages together with a higher rate for employer (and employee) social security contributions (up to 2.5 times from age 34 to 55) make older workers more expensive. Proposed reforms will reduce this effect. Older workers are also less likely to participate in training (Figure 1.28, Panel A). Consequently, occupational mobility is a greater challenge and they are more at risk from unemployment due to automation (OECD, 2019f).

Figure 1.29. Finding work is more difficult for older jobseekers, especially the less educated



Note: In Panel A, long-term unemployment comprises those unemployed for 12 months or more.
Source: Eurostat, *Labour Force Statistics* database.

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The government's plans to expand access to training for older jobseekers are welcome (Table 1.10). However the profile of unemployment suggests that intervention should be earlier, at age 50 or 55. Denmark offers jobseekers aged over 50 an activation programme within three months of unemployment compared to six months normally (OECD, 2018f). The planned benefits for jobseekers over 60 to transition to retirement reduce incentives to search for work or, at younger ages, to retrain. These will be costly and should be reconsidered. If retained, the benefit should be linked to participation in relevant training, community services or job search (as in countries where unemployment benefits are not time-limited).

Other barriers to hiring older workers should also be tackled. The age-related progressivity in social security contributions should be flattened. Moreover, age discrimination should be prohibited as in all other OECD countries; if enforced and complemented with campaigns to change social norms, it could boost employment of older workers (OECD, 2014). The public sector could lead by example. In 2007 Finland finalised a new pay system for civil servants through a collective labour agreement that better links salary with job demands and individual performance (OECD, 2018g). The existing annual conference on older workers that includes a range of stakeholders should seek ways of introducing greater flexibility into the wage system and reduce seniority wages so that wage growth is more closely linked to productivity developments. It could include training for less skilled and older workers, which would increase productivity and wages over time. In addition, there should be more incentives to work beyond age 65, including by providing opportunities to compensate for gaps in pension rights through contributions after age 65.

Facilitating residential mobility can help workers adjust to changing circumstances (OECD, 2019f). In principle, the high rate of renting – almost 60% of households – increases mobility. However, Swiss tenancy laws restrict rent increases, so long-term tenants pay well below market (OECD, 2015a). This generates lock-in effects, limiting workers' ability to adjust to changing job prospects and hampering downsizing by older households. Despite the investor-led construction boom, housing shortages in city centres persist because new properties are on the outskirts: the vacancy rate in the five major cities is 0.5% (Credit Suisse, 2019). The tenancy law should be adjusted to minimise lock-in effects, accompanied by targeted housing allowances or additional social housing for low-income households (OECD, 2015a). Densifying city centres where shortages persist would help lower rents there. Linkages between eligibility for cantonal social assistance and length of residency should be reviewed in a co-ordinated way, to avoid aggravating lock-in effects such as in Basel-Stadt, where benefits for pensioners are restricted to residents for 10 of the past 15 years.

Mitigating risks of inequality amongst the elderly

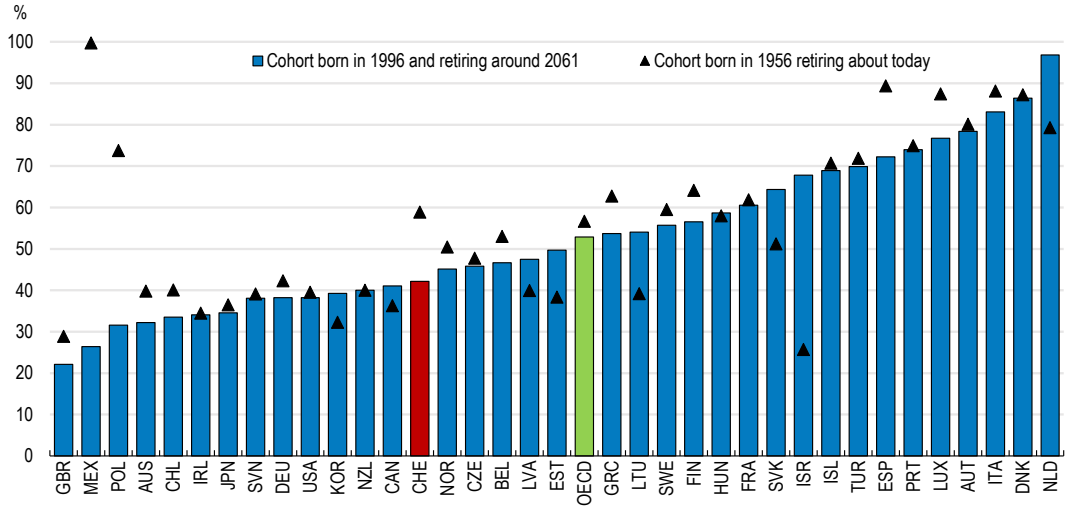
The pension system currently delivers good retirement incomes and, through a redistributive first pillar, it reduces income inequality amongst retirees. The first pillar is a public pay-as-you-go system which is the main source of income for low-income earners. It is redistributive because the maximum benefit is capped but contributions are not. "Supplementary benefits" add to the first pillar pension for poor households; they are means-tested and allow pensioners to live above the minimum subsistence level. Some cantons offer additional benefits. The second pillar is an occupational scheme and many firms choose to offer a voluntary ("extra mandatory") component.

The mandatory system is likely to become less adequate over time. The replacement rate (ratio of pension benefit to final wage at retirement) for an average-salary worker is currently around 60% for someone retiring now. Estimates based on the OECD Pension Model using current pension settings suggest the replacement rate would fall to around 40% for a person starting a career now − lower than in many other OECD countries (Figure 1.30). This would increase inequality since lower-income earners are less able to compensate through higher savings. It also risks increasing spending on supplementary benefits, assuming that eligibility rules did not tighten in response.

Promoting greater awareness of overall pension entitlements would help workers to make informed saving decisions and compensate for the falling replacement rate from the mandatory system. This could be through a single website as in Belgium and Sweden, for example. The projected falling replacement rate is largely driven by the indexation mechanism of the first pillar pension at retirement, which is based on the average of wage and consumer price inflation. Indexation based on wage growth would prevent this fall and the potentially sizeable increase in demand for supplementary benefits; the increased cost could be partly offset by indexing pensions to cost-of-living increases during retirement. However such a large reform would require a lengthy transition period.

Figure 1.30. The expected replacement rate from mandatory schemes is relatively low

Per cent of individual earnings for an average earner



Note: Theoretical gross replacement rates at retirement for a full-career male worker.
Source: OECD, *Pensions at a Glance 2017: OECD and G20 indicators*; OECD (2019), "Will future pensioners work for longer and retire on less?", *Policy Brief on Pensions*.

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The replacement rate from the mandatory part of the second pillar is likely to fall further to sustain the system. Unlike a purely defined contribution system, the rate at which accumulated capital is converted into an annual pension benefit is set by law and has been unchanged since 2004 despite rising life expectancy and lower investment returns. At 6.8% it is well above an actuarially fair rate, which is estimated at 4.5-5%, depending on expected returns and retirement age (Helvetia, 2018). In response, pension funds have lowered returns accruing to current contributors, resulting in intergenerational transfers equivalent to 0.8% of pension assets on average annually over 2014-18 (Occupational Pension Supervisory Commission, 2019). This aggregate masks a more severe threat to benefits, and potentially solvency, at some funds (most funds have an extra-mandatory scheme and use that to lower the effective conversion rate).

Setting such technical parameters in legislation has proved inappropriate. Under a pure defined-contribution system, funds would set benefits, preventing redistribution of savings. An option would be for the Federal Commission for occupational pensions to make a recommendation based on market returns and life expectancy with the rate set in an ordinance, as currently done for the minimum return. In the interim, the most important measure is to lower the minimum conversion rate, which on its own would lower benefits. In July 2019, social partners proposed lowering the conversion rate to 6%, accompanied by a range of other measures.

Lengthening the contribution period would raise replacement rates from the second pillar, as well as securing the first pillar's funding as discussed above. Raising the statutory retirement age and improving incentives to work beyond that age are key reforms. The statutory retirement age for men has not changed since 1948 despite longer lives. The retirement age for women is 64. The statutory setting has a strong effect on behaviour: the participation rate plummets from 63% for 60-64 year-olds (well above the OECD average) to 23% for 65-69 year-olds (below the OECD average). In Israel, New Zealand and Iceland, the participation rate of 65-69 year-olds ranges from 43% to 54%. Starting to contribute earlier would also add to retirement incomes. Contributions to the second pillar only begin at age 25, even though the employment rate is already 70% for the 20-24 age group. Estimates based on the OECD Pension Model suggest that

contributing from age 20 to age 68, rather than 25 to 65, could add an additional 5 percentage points to an average earner's replacement rate. An earnings threshold prevents low-income workers and those with several jobs from joining the mandatory second pillar. This should be lowered so that more workers benefit from compounding interest.

Women typically have lower pension entitlements because they work fewer hours, have interrupted careers and have lower earnings even when they do work full-time. But they benefit from survivor pensions in both pillars and have a childcare bonus as well as conditional exemptions from contributions in the first pillar. These systems create inequalities across household types and add to the cost of the system; the system should shift towards individual entitlements and protect against poverty in other ways. Addressing shortages in affordable childcare, as recommended in previous *Surveys*, would help mothers work more if they desire. Promoting greater awareness of overall pension entitlements would help workers to make informed decisions, for instance through a single website.

Another source of inequality in older age is in access to long-term care. Because the Swiss system is highly decentralised, levels of support differ across cantons. Its financing is also fragmented across payers and, with a lack of price transparency, there is potential to improve cost-effectiveness (Table 1.12; Cosandey and Kienast, 2016). Long-term care which is not medically prescribed and listed in the health insurance act must be paid by individuals. The need for greater co-ordination is well recognised (Federal Council, 2016).

Table 1.12. Financing of long-term care is fragmented

Per cent of total long-term care expenditure, 2017

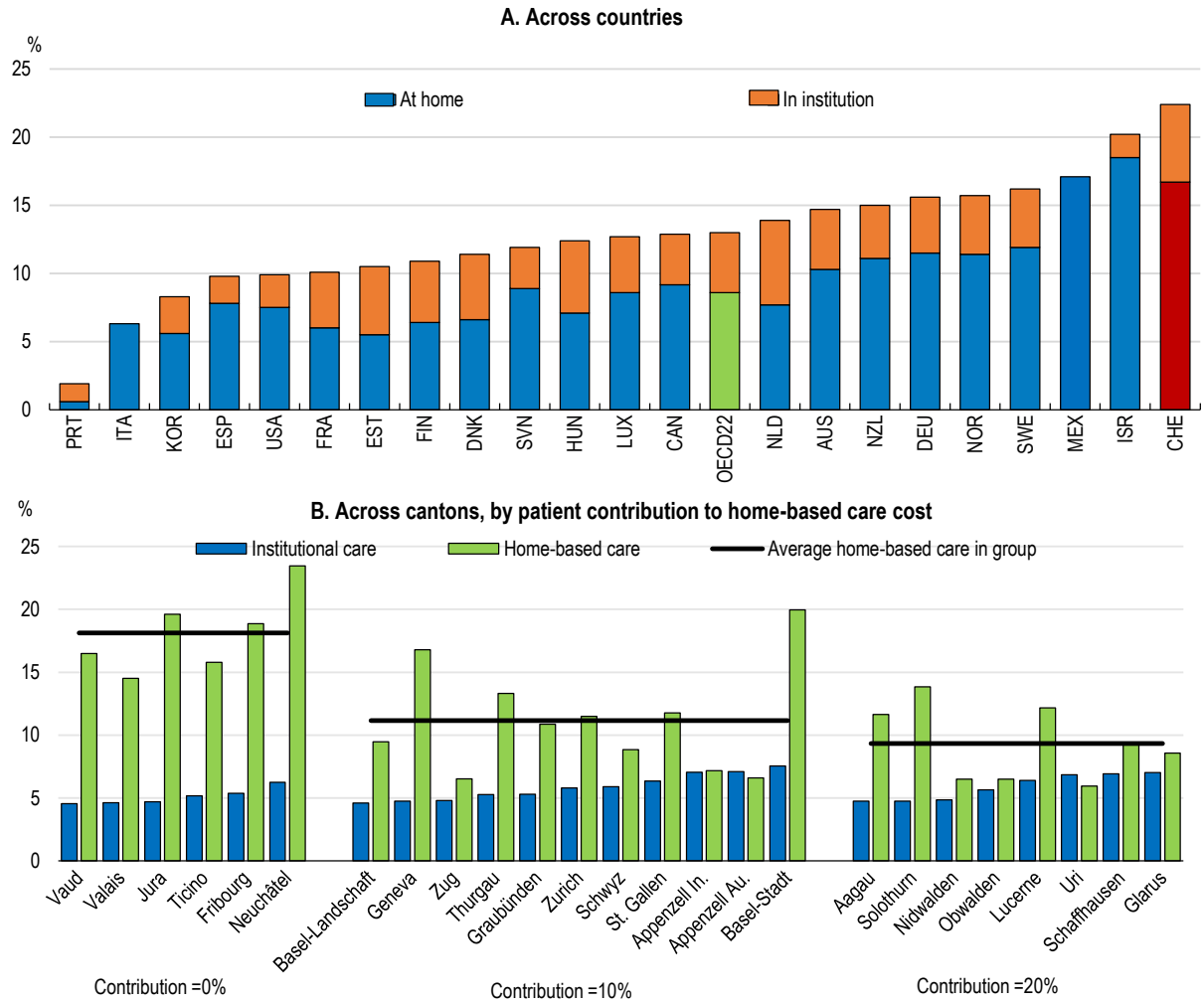
	Institutional care	Home-based care
Cantons	16.3	10.0
Municipalities	7.9	7.2
Mandatory health insurance	14.2	35.5
Social insurance (old age pension and invalidity pension)	4.0	21.8
Supplementary benefits, supplementary invalidity pensions to the old-age pension and other social aid	21.0	1.3
Households	35.5	19.9
Other, including private insurance	1.0	4.2
Memo item: Annual spending, millions of Swiss francs	13 376	2 566

Note: These data do not take into account the insurance premium subsidy paid to households by the federal and cantonal governments.
Source: Federal Statistical Office

In 2017 22% of those aged 65 or over used long-term care – the highest share in the OECD (Figure 1.31, Panel A). Most care was at home. Home-based care can be more cost effective for low care needs – and preferred by patients – while assisted living or an institution can be more efficient for patients with greater needs (Cravo Oliveira Hashiguchi, Ortega Regalado and Llena-Nozal, 2020). Home-based care seems to be more common in cantons with better financial support but cultural differences also play a role (Panel B; Dutoit, Füglister-Dousse and Pellegrini, 2016). Affordability appears to push some pensioners to nursing homes where they have more financial support (through cantonal supplementary benefits). In 2014, half of all nursing home patients received supplementary benefits and 30% of all patients needed less than an hour of care per day (Cosandey and Kienast, 2016).

Figure 1.31. Long-term care is mostly home-based but varies across cantons

Recipients as a percentage of the population aged 65 years or over, 2017



Note: Data on institutional long-term care are not available for Italy and Mexico. Institutional care in Denmark is for 2014. Panel B follows the methodology outlined in L. Dutoit, S. Füglister-Dousse and S. Pellegrini (2016), *Soins de longue durée dans les cantons: un même défi, différentes solutions: Evolutions 2006–2013*, Swiss Health Observatory, Table 9.2. The contribution is based on the legislated cost to the health insurer rather than the total cost (cantons pay a residual). Bern is not shown because the patient's contribution varies by age and income. In Glarus the contribution varies across municipalities and is below 20% in some municipalities.
Source: OECD, *Health Statistics* database; Federal Statistical Office.

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Broadening financial assistance to include some uninsured support services could help delay entry into nursing homes and improve early detection of health problems. This could make the system more efficient and would improve patient well-being, given that many patients prefer to stay at home as long as possible (OECD, 2017d). In 2011 total spending on long-term care not covered by health insurance amounted to around 15% of total long-term care costs, or 0.25% of GDP (Federal Council, 2016). One option is to use vouchers for support services, as in Nordic countries (OECD/WHO, 2011). Lucerne and Bern have piloted such projects. Another option is to shift to a system of cash benefits linked to a standardised scale of care needs (there are currently different systems for institutional and home-based care). Means testing and co-payments could help contain costs. A co-ordinator could help navigate the system. This would give patients some choice and could develop the market.

Local-level experiences should be used to improve the delivery of long-term care. For example, Zurich is piloting a decentralised model based on the Netherlands' Buurtzorg model (Box 1.6). Local innovation could be encouraged as in Sweden. Nonetheless, a regulatory framework for long-term care costs should be created or supervision stepped up; the consumer price watchdog has highlighted that the pricing of accommodation and board varies widely within and across cantons in ways that do not reflect costs (Surveillance des Prix, 2018). With the Swiss population aged 80 and over expected to double over 2015-40, steps toward a more complete system should begin now.

Box 1.6. Examples of innovations to provide more integrated long-term care

The Netherlands' *Buurtzorg* model of decentralised home care has grown rapidly. It relies on self-governing teams of nurses to look after all aspects of care for a pool of patients. The teams work with patients, their families and primary care providers and aim to enhance patients' independence. Nurses are supported by coaches. Administration is minimised and centralised. Patients, their families and staff all report high levels of satisfaction. The model was found to be more cost-effective than other providers for home care (adjusting for the case mix) but around average when curative care was included.

Sweden has sought innovative ways to improve collaboration between hospital, primary health care and social services. National grants were awarded to 19 local demonstration projects. In one approach mobile teams provide proactive early interventions at home. In Lidköpin county, hospitalisation rates decreased by 90% after the introduction of a common political board across counties and municipalities to deliver coordinated care for older people.

Source: OECD/EU (2013), *A Good Life in Old Age? Monitoring and Improving Quality in Long-term Care*, OECD Health Policy Studies; B. Gray, S.O. Sarnak and J. Burgers (2015), "Home Care by Self-Governing Nursing Teams: The Netherlands' Buurtzorg Model", Case Study, The Commonwealth Fund.

The system of mandatory private health insurance ensures universal health care coverage. The health insurance providers set standard insurance premiums per person irrespective of income. Public subsidies aim to mitigate the regressive effects of non-income related premiums. However, in many cantons premia remain a larger burden on low- and middle-income households even after subsidies are taken into account (Ecoplan, 2018). Low-income pensioners are protected in all cantons but modelling suggests that depending on where they live, insurance can cost a middle-income pensioner up to one-fifth of their income. To further reduce the regressivity of the system, cantons should work with the federal government towards a national framework that links subsidies to taxable income. A simpler system would also be cheaper to administer (OECD/WHO, 2011).

MAIN FINDINGS	RECOMMENDATIONS (key recommendations in bold)
Macroeconomic policies to support growth and maintain low inflation	
Debt is low and the fiscal position is sound. Structural surpluses have been larger than expected at the federal level. **The monetary policy rate is negative and one of the lowest OECD-wide.**	**Take advantage of available fiscal space as needed, including by making fuller use of the margins under the spending limits of the fiscal framework (or "debt-brake rule").** **When inflation is firmly rising start to remove monetary accommodation.**
Addressing challenges facing the financial sector	
Risk related to the housing market have grown due to the search for yield. Mortgages for investment properties have become more risky but stronger lending standards for investor mortgages will be introduced in 2020.	**Establish a formal framework for setting mortgage lending limits that takes affordability into account and is enforced on a comply-or-explain basis.** Remove explicit government guarantees for cantonal banks. Enhance information-sharing between various supervisors. Improve coverage and timeliness of data collection for financial institutions, particularly pension funds and life insurers. Limit the tax deductibility of mortgage interest so that, combined with maintenance outlays, it does not exceed the amount of declared imputed rent.
Switzerland's large international financial sector is exposed to risks and opportunities from climate change and climate change mitigation policies globally. Providing investors and policy-holders with more information would improve resource allocation.	**Strengthen disclosure of climate-related risks by financial intermediaries in line with recommendations of the Task Force on Climate-related Financial Disclosures.**
The size and internationalisation of the Swiss financial sector increase the risk that it is used for criminal activities such as money laundering.	Reinforce the framework with stronger sanctions for non-compliance with anti-money laundering obligations and in foreign bribery cases. Provide legal protection for whistleblowers in the private sector.
Embracing digitalisation and new technologies	
Take-up of digital technologies has not kept pace with leading countries, particularly in small and medium-sized firms. IT-related skills shortages have increased. Insufficient competitive pressures and a lack of trust may also be hampering adoption.	**Facilitate high-skilled immigration from non-EU countries to meet current labour market needs.** **Reduce barriers to entry, including by removing restrictions on the number of competitors and simplifying occupational licensing across cantons.** Modernise merger controls and strengthen sector regulators' powers. Reduce public ownership or reduce the distortions due to public ownership. Lower restrictions on trade in both goods and services. Strengthen data protection and create a national privacy strategy in consultation with the public.
Participation in lifelong learning is high. But participation falls below leading countries for workers with low educational attainment and those who are not employed.	**Expand spending on training for jobseekers, including those on social benefits.** **Use subsidies to encourage continuing education and training for groups who are most at risk from the effects of digitalisation.**
E-government services are improving. Further digitalisation can reduce administrative burden and raise productivity.	**Expand the use of digital tools to enhance services and simplify procedures at all levels of government.**
A lack of data hinders the development of policies related to the digital economy.	**Implement the OECD Going Digital roadmap for measuring the digital transformation, with a priority on more timely and internationally comparable data.**
New technologies offer the opportunity to decarbonise transport, which is a key source of Swiss carbon emissions.	**Redesign the federal vehicle tax to strengthen price incentives to purchase low-emission vehicles.** Strengthen the relationship between cantonal annual vehicle taxes and pollutants.

References

Agarwal, R. and M.S. Kimball (2019), "Enabling deep negative rates to fight recessions: A guide", *IMF Working Papers*, No. 19/84, International Monetary Fund, Washington D.C.

Akgun, O., B. Cournède and J. Fournier (2017), "The effects of the tax mix on inequality and growth", *OECD Economics Department Working Papers*, No. 1447, OECD Publishing, Paris.

Andrews, D., G. Nicoletti and C. Timiliotis (2018), "Digital technology diffusion: a matter of capabilities, incentives or both?", *OECD Economics Department Working Papers*, No. 1476, OECD Publishing, Paris.

Appelt, S. et al. (2016), "R&D tax incentives: evidence on design, incidence and impacts", *OECD Science, Technology and Industry Policy Papers*, No. 32, OECD Publishing, Paris.

Araújo, S., T. Chalaux and D. Haugh (2018), "Who's in your export market? The changing pattern of competition in world trade", *OECD Economics Department Working Papers*, No. 1526, OECD Publishing, Paris.

Arvanitis, S. et al. (2018), "Digitalisierung in der Schweizer Wirtschaft: Technologiestand und Auswirkungen auf Beschäftigung und Qualifikation der Beschäftigten" [Digitalisation in the Swiss economy: technology status and effects on employment and skills of employees], *KOF Analysen*, Vol. 2018/2, KOF Swiss Economic Institute, Zurich.

Arvanitis S. et al. (2017), "Die Entwicklung der Innovationsaktivitäten in der Schweizer Wirtschaft 1997–2014" [The development of innovation activities in the Swiss economy 1997-2014], *KOF Studien*, No. 88, KOF Swiss Economic Institute, Zurich.

Arvanitis S., E.N. Loukis and V. Diamantopoulou, (2016), "Are ICT, workplace organization, and human capital relevant for Innovation? A comparative Swiss/Greek study", *International Journal of the Economics of Business*, Vol. 23/3, pp. 319-49.

BAK Basel Economics AG (2015), *Die mittel- und langfristigen Auswirkungen eines Wegfalls der Bilateralen I auf die Schweizerische VolkswirtschaftStudie im Auftrag des Staatssekretariats für Wirtschaft* [The Medium and Long-term Effects of the Abolition of the Bilateral Agreements I on the Swiss National Economy: Study Commissioned by the State Secretariat for Economic Affairs (SECO)], Basel.

Balsmeier, B. and M. Wörter (2019), "Is this time different? How digitalization influences job creation and destruction", *Research Policy*, Vol. 48/8.

Batini, N. et al. (2014), *Fiscal Multipliers: Size, Determinants and Use in Macroeconomic Projections*, IMF Technical Notes and Manuals, International Monetary Fund, Washington DC.

BCBS (2019), *Statement on Crypto-assets*, Newsletter, 13 March, Basel Committee on Banking Supervision, Basel.

BIS (2018), "Financial Stability Implications of a Prolonged Period of Low Interest Rates", *CGFS Papers*, No. 61, Committee on the Global Financial System.

Blöchliger, H. (2015), "Reforming the tax on immovable property: taking care of the unloved", *OECD Economics Department Working Papers*, No. 1205, OECD Publishing, Paris.

Brändle, T., C. Colombier and A. Philipona (2016), *2016 Report on the Long-term Sustainability of Public Finances in Switzerland*, Federal Finance Administration, Bern.

Buckley, T. (2019), *Over 100 Global Financial Institutions Are Exiting Coal, With More to Come*, Institute for Energy Economics and Financial Analysis.

Casullo, L., A. Durand and F. Cavassini (2019), "The 2018 indicators on the governance of sector regulators - Part of the Product Market Regulation (PMR) Survey", *OECD Economics Department Working Papers,* No. 1564 OECD Publishing, Paris.

Cattaneo, M.A. and S.C. Wolter (2009), "Are the elderly a threat to educational expenditures?", *European Journal of Political Economy*, Vol. 25, pp. 225-36.

CDF (2019), "Loi fédérale relative à la réforme fiscale et au financement de l'AVS (PF 17 /RFFA). Résultat de l'enquête sur le nouvel état des lieux de la mise en œuvre dans les cantons" [Federal Law on Tax Reform and AHV Financing (FP 17 /RFFA). Results of the survey on the new status of implementation in the cantons], Conférence des Directrices et Directeurs Cantonaux des Finances, Luzern.

ComCo (2019), *Annual Report on Competition Policy Developments in Switzerland: 2018*, Report to the OECD Competition Committee.

ComCo (2017), *Contre les Restrictions de l'accès Intercantonal au Marché [Against Restrictions on Cross-cantonal Market Access]*, Competition Commission, Press release, 20 February.

Committee on Climate Change (2019), *Net Zero: The UK's Contribution to Stopping Global Warming*.

Cosandey, J. and K. Kienast (2016), *Neue Massstäbe für die Alterspflege [New Measures for Old Age Care Standards]*, Avenir Suisse, Zurich.

Cournède, B., V. Ziemann and M.-C. Cavalleri (2019), "Housing markets and macroeconomic risks", *OECD Economics Department Papers*, No. 1555, OECD Publishing, Paris.

Cravo Oliveira Hashiguchi, T., J. C. Ortega Regalado and A. Llena-Nozal (2020), "Measuring effective public social protection for long-term care in old age", *OECD Health Working Papers*, forthcoming.

Credit Suisse (2019), *Location, Location, Floor Plan: Swiss Real Estate Market 2019*, Credit Suisse AG, Zurich.

De Pietro, C. and I. Francetic (2018), "E-health in Switzerland: The laborious adoption of the federal law on electronic health records (EHR) and health information exchange (HIE) networks", *Health Policy*, Vol. 122/2, pp. 69-74.

digitalswitzerland (2018), *Top Talent in Switzerland: What Should We Prepare for in the Next Five Years?*, digitalswitzerland, Zurich.

Dougherty, S. and O. Akgun (2018), "Globalisation, decentralisation and inclusive growth", in Kim, J. and S. Dougherty (eds.), *Fiscal Decentralisation and Inclusive Growth*, OECD Publishing, Paris.

Dutoit, L., S. Füglister-Dousse and S. Pellegrini (2016), *Soins de Longue Durée dans les Cantons: Un même Défi, Différentes Solutions: Evolutions 2006–2013 [Long-term Care in the Cantons: The Same Challenge, Different Solutions: Evolutions 2006-2013]*, Swiss Health Observatory, Neuchâtel.

Ecoplan (2018), *Wirksamkeit der Prämienverbilligung – Monitoring 2017 [Effectiveness of Premium Reductions - Monitoring 2017]*, Federal Office of Public Health, Bern.

Ecoplan (2015), *Volkswirtschaftliche Auswirkungen eines Wegfalls der Bilateralen I – Analyse mit einem Mehrländergleichgewichtsmodell: Im Auftrag des Staatssekretariats für Wirtschaf* [Economic Effects of the Elimination of Bilateral Agreements I - Analysis with a Multi-country Equilibrium Model: on Behalf of the State Secretariat for Economic Affairs], Bern.

Égert, B. and P. Gal (2017), "The quantification of structural reforms in OECD countries: A new framework", *OECD Economics Department Working Papers,* No. 1354, OECD Publishing, Paris.

Eggertsson, G. et al. (2019), "Negative nominal interest rates and the bank lending channel", *NBER Working Papers*, No. 25416.

FATF (2019), *FATF Report to G20 Leaders' Summit*, Financial Action Task Force, Paris.

FATF (2016), *Anti-money Laundering and Counter-terrorist Financing Measures - Switzerland*, Fourth Round Mutual Evaluation Report, Financial Action Task Force, Paris

FDF (2018a), *Conséquences financières statiques de la décision du Parlement sur la RFFA, du message sur le PF 17 et du projet sur la RIE III soumis au vote (plans cantonaux de mise en œuvre compris) par rapport au droit en vigueur* *[Static financial consequences of the Parliament's decision on the DFR, the message on FP 17 and the RIE III draft submitted to the vote (including cantonal implementation plans) in relation to the law in force]*, Federal Finance Department, Bern.

FDF (2018b), *Estimation Dynamique des Conséquences du Projet Fiscal 17 sur les Recettes Fiscales* *[Dynamic estimates of the consequences of Fiscal Project 17 on fiscal receipts]*, Federal Finance Department, Bern.

Federal Council (2016), *Etat des Lieux et Perspectives dans le Secteur des Soins de Longue Durée* *[State of Play and Perspectives in the Long-term Care Sector]*, Swiss Confederation, Bern.

Federal Office of Energy (2019), *La consommation de carburant et les émissions de CO2 des voitures de tourisme neuves ont sensiblement augmenté en 2018* *[Fuel consumption and CO2 emissions of passenger cars rose significantly in 2018]*, Press release, 4 July.

Financial Times (2018), Switzerland embraces cryptocurrency culture (accessed 9 May, 2019).

Fournier, J. and Å. Johansson (2016), "The Effect of the Size and the Mix of Public Spending on Growth and Inequality", *OECD Economics Department Working Papers*, No. 1344, OECD Publishing, Paris.

FSO (2018a), *Does the Inclusion of Assets Resolve Apparent Contradictions between Income Poverty and Other Indicators on the Standard of Living?*, Federal Statistical Office, paper presented at the United Nations expert meeting on measuring poverty and inequality, Vienna, 29-30 November 2018.

FSO (2018b), *Compétences numériques, vie privée et formation en ligne: la Suisse en comparaison internationale* *[Digital skills, privacy and online education: Switzerland in international comparison]*, Federal Statistical Office, Neuchatel.

FSB (2019), *Decentralised Financial Technologies: Report on Financial Stability, Regulatory and Governance Implications*, Financial Stability Board.

Gal, P., et al. (2019), "Digitalisation and productivity: In search of the holy grail – Firm-level empirical evidence from EU countries", *OECD Economics Department Working Papers*, No. 1533, OECD Publishing, Paris.

gfs.bern (2018), *Credit Suisse Sorgenbarometer 2018* *[Credit Suisse Worry Barometer 2018]*, press release, 6 December 2018.

Goldfarb, A and C. Tucker (2019), "Digital economics", *Journal of Economic Literature*, Vol. 62/1.

Gratton, L. and A. Scott (2016), *The 100-year Life*, Bloomsbury Information, London.

Grossmann, S. M. Lein and C. Schmidt (2016) "Exchange rate and foreign GDP elasticities of Swiss exports across sectors and destination countries", *Applied Economics*, Vol. 48/57.

Guillemette, Y. and D. Turner (2018), "The long view: scenarios for the world economy to 2060", *OECD Economic Policy Papers*, No. 22, OECD Publishing, Paris.

Haščič, I. and Mackie, A. (2018), "Land cover change and conversions: Methodology and results for OECD and G20 countries", *OECD Green Growth Papers*, No. 2018/04, OECD Publishing, Paris.

Heissel, J., C. Persico and D. Simon (2019), "Does pollution drive achievement? The effect of traffic pollution on academic performance", *National Bureau of Economic Research Discussion Papers*, No. 25489.

Helvetia (2018), *Le Taux de Conversion* *[The Conversion Rate]*, Helvetia Prévoyance professionnelle.

IEA (2018), *Global EV Outlook 2018: Towards Cross-modal Electrification*, International Energy Agency, Paris.

IMF (2019a), *Switzerland: Financial Sector Assessment Program*, IMF Country Report No. 19/183, International Monetary Fund, Washington DC.

IMF (2019b), "Downside Risks to House Prices", in *Global Financial Stability Report*, International Monetary Fund, Washington DC.

IMF (2019c), *Switzerland: Staff Concluding Statement of the 2019 Article IV Mission*, International Monetary Fund, Washington DC.

ITF (2018a), "Shared mobility simulations for Dublin", *International Transport Forum Policy Papers*, No. 58, OECD Publishing, Paris.

ITF (2018b), *Policy Priorities for Decarbonising Urban Passenger Transport*, OECD/ITF, Paris.

Johansson, Å., et al. (2008), "Taxation and Economic Growth", *OECD Economics Department Working Papers*, No. 620, OECD Publishing, Paris.

KOF (2019), "Five insights about wages in Switzerland", *KOF Bulletin*, No. 128, ETH Zurich, Zurich.

Landau, J. and A. Genais (2018), *Les Crypto-monnaies [Crypto-currencies],* Rapport au Ministre de l'Économie et des Finances, Paris.

Lorenzoni, L., et al. (2018), "Cyclical vs structural effects on health care expenditure trends in OECD countries", *OECD Economics Department Working Papers*, No. 1507, OECD Publishing, Paris.

Nedelkoska, L. and G. Quintini (2018), "Automation, skills use and training", *OECD Social, Employment and Migration Working Papers*, No. 202, OECD Publishing, Paris.

NGFS (2019), *A Call for Action: Climate Change as a Source of Financial Risk*, Network for Greening the Financial System.

OAG (2019), *Annual Report 2018*, Office of the Attorney-General, Bern.

Occupational Pension Supervisory Commission (2019), *Situation Financière des Institutions de Prévoyance 2018 [Financial Situation of Pension funds 2018]*, Occupational Pension Supervisory Commission.

Oderkirk, J. (2017), "Readiness of electronic health record systems to contribute to national health information and research", *OECD Health Working Papers*, No. 99, OECD Publishing, Paris.

OECD (2019a), *Going Digital: Shaping Policies, Improving Lives*, OECD Publishing, Paris.

OECD (2019b), "Measuring distance to the SDG targets – Switzerland", in *Measuring Distance to the SDG Targets 2019: An Assessment of Where OECD Countries Stand*, OECD Publishing, Paris.

OECD (2019c), *Taxing Energy Use 2019*, OECD Publishing, Paris.

OECD (2019d), *OECD Economic Surveys: France 2019*, OECD Publishing, Paris.

OECD (2019e), *Measuring the Digital Transformation: A Roadmap for the Future*, OECD Publishing, Paris.

OECD (2019f), *OECD Skills Outlook 2019: Thriving in a Digital World*, OECD Publishing, Paris.

OECD (2019g), "Digitalisation and productivity: A story of complementarities", in *OECD Economic Outlook, Volume 2019 Issue 1*, OECD Publishing, Paris.

OECD (2019h), *OECD Economic Surveys: Denmark 2019*, OECD Publishing, Paris.

OECD (2019i), *OECD Employment Outlook 2019: The Future of Work*, OECD Publishing, Paris.

OECD (2018a), *A Broken Social Elevator? How to Promote Social Mobility*, OECD Publishing, Paris.

OECD (2018b), *Taxing Energy Use 2018: Companion to the Taxing Energy Use Database*, OECD Publishing, Paris.

OECD (2018c), *Effective Carbon Rates 2018: Pricing Carbon Emissions Through Taxes and Emissions Trading*, OECD Publishing, Paris.

OECD (2018d), *OECD Blockchain Primer*.

OECD (2018e), *Implementing the OECD Anti-Bribery Convention: Phase 4 Report: Switzerland*, OECD Anti-Bribery Convention, OECD Publishing, Paris.

OECD (2018f), *Key Policies to Promote Longer Working Lives in Denmark*, OECD Publishing, Paris.

OECD (2018g), *Working Better with Age: Japan, Ageing and Employment Policies*, OECD Publishing, Paris.

OECD (2017a), *OECD Economic Surveys: Switzerland 2017*, OECD Publishing, Paris.

OECD (2017b), *OECD Environmental Performance Reviews: Switzerland 2017*, OECD Publishing, Paris.

OECD (2017c), *Investing in Climate, Investing in Growth*, OECD Publishing, Paris.

OECD (2017d), *Preventing Ageing Unequally*, OECD Publishing, Paris.

OECD (2015a), *OECD Economic Surveys: Switzerland 2015*, OECD Publishing, Paris.

OECD (2015b), *The Future of Productivity*, OECD Publishing, Paris.

OECD (2014), *Vieillissement et politiques de l'emploi : Suisse 2014: Mieux travailler avec l'âge [Ageing and Employment Policies: Switzerland 2014: Working Better with Age]*, Vieillissement et politiques de l'emploi, Éditions OCDE, Paris.

OECD (2013), "Women's role in the economy", in *OECD Economic Surveys: Switzerland 2013*, OECD Publishing, Paris

OECD (2012a), *OECD Economic Surveys: Switzerland 2011*, OECD Publishing, Paris.

OECD (2012b), *Competitive Neutrality: Maintaining a Level Playing Field between Public and Private Business*, OECD Publishing, Paris.

OECD/EU (2018), *Health at a Glance: Europe 2018: State of Health in the EU Cycle*, OECD Publishing, Paris/European Union, Brussels.

OECD/KIPF (2014), *The Distributional Effects of Consumption Taxes in OECD Countries*, OECD Tax Policy Studies, No. 22, OECD Publishing, Paris.

OECD/WHO (2011), *OECD Reviews of Health Systems: Switzerland 2011*, OECD Reviews of Health Systems, OECD Publishing, Paris.

OFCOM (2018), *Digital Switzerland Strategy*, Federal Office of Communications, Biel.

Parvex, M. (2017), "Marchés publics, ce milliard que Berne distribue en toute opacité" [Public contracts, this billion that Bern distributes in complete opacity], *Le Temps*, (accessed 27 April 2019).

PwC/WWF (2019), *Paradigm Shift in Financial Markets – The Economic and Legal Impacts of the EU Action Plan Sustainable Finance on the Swiss Financial Sector*, PwC Switzerland.

Rainforest Action Network et al. (2019*), Banking on Climate Change: Fossil Fuel Finance Report Card 2019,* (accessed on 15 May 2019).

Schaltegger, C.A. and M. Salvi (2019), "Le frein aux dépenses explique-t-il le pessimisme budgétaire ?" [Does the Spending Brake Explain Budget Pessimism?], *La Vie Economique*, 15 April.

Schich, S. (2019), "Do fintech and cryptocurrency initiatives make banks less special?", *Business and Economic Research,* Vol. 9/4, Macrothink Institute, forthcoming.

Schwerdt, G. et al. (2012), "The impact of an adult education voucher program: Evidence from a randomized field experiment", *Journal of Public Economics*, Vol. 96/7-8), pp. 569-583.

SECO (2019), *Indicateurs de la Situation des Travailleuses et Travailleurs Agés sur le Marché Suisse du Travail [Indicators of the Situation of Older Workers in the Swiss Labour Market]*, Documents for the 2019 Annual Conference on Older Workers, State Secretariat for Economic Affairs, Bern.

SECO (2018a), *Adjusting Swiss GDP for the Impact of Major International Sporting Events*, State Secretariat for Economic Affairs, Bern.

SECO (2018b), *Rapport présentant les résultats de l'enquête «Test de compatibilité numérique», [Report presenting the results of the "Digital Compatibility Test" survey]*, State Secretariat for Economic Affairs, Bern.

SNB (2019), *Financial Stability Report 2019*, Swiss National Bank, Zurich.

Sorbe, S., et al. (2019), "Digital Dividend: Policies to Harness the Productivity Potential of Digital Technologies", *OECD Economic Policy Papers*, No. 26, OECD Publishing, Paris.

Surveillance des Prix (2018), *Newsletter*, No 6/18, Swiss Confederation, Bern.

Surveillance des Prix (2016), *Avis du Surveillant des prix sur le projet de révision de la loi sur les télécommunications (LTC) [Opinion of the Price Supervisor on the draft revision of the Telecommunications Act (TCA)]*, Swiss Confederation, Bern.

Swiss Sustainable Finance (2019), *Swiss Sustainable Investment Market Study 2019*, Zurich.

Swisscom (2019), *FinTech Startup Map*, September 2019 (accessed 1 October 2019).

TCFD (2017), *Recommendations of the Task Force on Climate-Related Financial Disclosures,* Final report, Task Force on Climate-Related Financial Disclosures.

Thomä, J., C. Murray, M. Hayne and K. Hagedorn (2017), *Out of the Fog: Quantifying the Alignment of Swiss Pension Funds and Insurances with the Paris Agreement*, 2º Investing Initiative, Berlin.

Turner, D., T. Chalaux and H. Morgavi (2018), "Fan charts around GDP projections based on probit models of downturn risk", *OECD Economics Department Working Papers*, No. 1521, OECD Publishing, Paris.

van Dender, K. (2019), "Taxing vehicles, fuels, and road use: Opportunities for improving transport tax practice", *OECD Taxation Working Papers*, No. 44, OECD Publishing, Paris.

Wardle, M. et al. (2019), *The Global Green Finance Index 3*, Finance Watch and Z/Yen.

WHO (2018), *Air Pollution and Child Health: Prescribing Clean Air*, World Health Organization, Geneva.

Yeung, K., et al. (2016), "Price Elasticities of Pharmaceuticals in a Value-based-formulatory Setting", *NBER Working Papers*, No. 22308.

Annex 1.A. Progress on structural reform

This Annex reviews action taken on recommendations from previous *Surveys* since the November 2017 *Survey* that are not reported elsewhere in this *Survey*.

Recommendations in previous *Surveys*	Action taken since November 2017
Labour market	
Facilitate high-skilled immigration from non-EU countries to meet labour market needs.	For 2018 and 2019 quotas were raised by 500 to 8 500 persons per year.
Increase women's labour market options by increasing childcare affordability.	In 2018 Parliament extended a federal programme providing additional childcare places. Parliament will vote on raising the federal income tax allowance for childcare expenses from CHF 10 000 to 25 000 per year.
Implement a corporate governance code establishing gender goals to increase the number of women in senior management. Increase the proportion of women on company boards by setting ambitious targets combined with a "Comply or Explain" requirement or by setting quotas.	In June 2019 Parliament passed a revision of the corporate law, which includes an objective of at least 30% women on the board of directors and 20% on the executive board on a comply-or-explain basis. In December 2018 Parliament passed a revision to the Gender Equality Law requiring companies with 100 or more employees to conduct a gender pay gap analysis every four years and share it with employees. In September 2019 Parliament passed legislation granting two weeks of paternity leave.
Promote programmes to lengthen healthy working lives, including preventative health programmes.	In 2018 the Federal Coordination Commission for Occupational Safety launched a campaign to improve risk prevention in the services sector.
Promote lifelong training, career planning and tailored job-search assistance to enhance workers' resilience to change.	Over 2018-19, the government launched a campaign to promote adult professional certification to adults, employers and career counsellors. In June 2019 the government announced further measures, including offering career guidance for workers aged 40 and over and offering training for older jobseekers whose unemployment benefits had expired.
Housing market policies	
Review spatial planning regulations to make it easier to build denser housing.	In October 2018, the government submitted to Parliament the second revision of the Federal Law for Spatial Planning. It will provide more flexibility to cantons but require compensation for building in restricted areas.
Limit the tax deductibility of mortgage interest so that, combined with maintenance outlays, it does not exceed the amount of declared imputed rent. Update the imputed rent calculations more frequently to better reflect market values.	No specific action taken.
Environment (including recommendations from the 2017 *Environmental Policy Review*)	
Make greater use of market mechanisms to lower the cost of the transition from nuclear to renewable energy.	On 1 January 2018 revisions to the Energy Law brought the feed-in remuneration closer to the market situation. However, feed-in remuneration for new installations will only be granted up to end 2022.
Increase the CO_2 levy, and remove exemptions to this and other green taxes.	In January 2018 the CO_2 levy was increased to CHF 96 per tonne of CO_2.
Further promote private- and public-sector energy-related research, and continue engagement with foreign researchers to facilitate realisation of the Energy Strategy 2050.	No specific action taken.
Move forward with linking the Swiss and EU emissions trading systems.	The agreement is expected to enter into force on 1 January 2020 after being ratified by respective Parliaments.
Harmonise and strengthen environmental policy and law implementation across cantons by improving vertical co-ordination, promoting regular performance monitoring mechanisms and indicators.	Since 2018, cantons report CO_2 emissions of buildings to the Federal Office for the Environment using common guidelines and reporting tools.
Expand incentive-based taxation to reduce the environmental impact of consumption; in particular, consider introducing mobility pricing and making the bin-liner fee an incentive-based instrument.	An impact assessment on different forms of mobility pricing using the example of the Canton of Zug is to be completed in 2019.
Maintain or strengthen the polluter-pays principle to finance needed investment (e.g. in sewage treatment plants) via an increase in corresponding charges, as necessary to ensure cost recovery.	No specific action taken.
Take concrete steps to more systematically monitor, and create incentives for improvement in, the environmental performance of investments made by the financial sector.	Market players will be invited again to test the climate alignment of their portfolios in 2020.

Annex 1.B. Predicting severe recessions

Table 1.B.1 summarises the models used to assess the probability of a severe recession in Switzerland, as discussed in Box 1.2.

Annex Table 1.B.1. Variables contributing to the risk of a severe recession

Coefficients from probit regressions at 2, 4, 6 and 8 quarters ahead

Dependent variable = 1 if severe downturn, 0 otherwise	t+2	t+4	t+6	t+8
Business cycle variables				
Yield curve slope (10-year less 3-month rate; lagged 1 and 3 quarters)	-1.08***	-1.49***	..	..
Unemployment gap (lagged 2, 4, 6 and 8 quarters)	2.98***	3.91***	2.89***	2.88***
Financial cycle variables				
House price to rent ratio (1-year change; lagged 3 and 5 quarters)	-0.25***	-0.18***	..	..
House price to rent ratio (3-year change; lagged 7 and 9 quarters)	..	..	0.15**	0.19***
Real share price growth (3-year change, lagged 6 and 8 quarters)	..	..	0.07*	0.16***
Euro area non-bank financial credit/GDP (3-year change, lagged 4 and 6 quarters)	1.04***	1.67***	..	..
Euro area bank credit/GDP (3-year change, lagged 8 quarters)	..	..	0.77***	..
Euro area real share price growth (1-year change, lagged 2 quarters)	-0.10***	..	..	..
Euro area real house price growth (3-year change; lagged 7 and 9 quarters)	..	..	0.53***	0.61***
OECD real house price growth (1-year change, lagged 3 and 5 quarters)	-0.18*	-0.24**	..	..
McFadden R-squared	0.83	0.84	0.69	0.65
% of correct predictions	94.9	94.8	88.9	88.2
- Severe downturns	100.0	93.3	96.6	100.0
- Other outcomes	93.7	95.1	87.3	85.7

Note: Severe downturns are defined as episodes during which GDP per capita falls cumulatively by at least 2 percentage points. ***, **, and * denotes significance at the 1, 5 and 10% level, respectively. For an explanation of the principles for selecting variables see D. Turner, T. Chalaux and H. Morgavi (2018), "Fan charts around GDP projections based on probit models of downturn risk", *OECD Economics Department Working Papers*, No. 1521.
Source: OECD calculations.

2 Policies for Switzerland's ageing society

Swiss society is ageing. At the same time, life expectancy is increasing. With most workers retiring around age 65, time in retirement is growing and the ratio of retirees to employees is set to soar. These developments bring a range of opportunities but will likely weigh on growth in GDP per capita and increase public spending. They may also widen existing inequalities. This chapter highlights three key policy challenges to preserve high living standards in coming decades. First, the pension system ensures good retirement incomes despite a lack of reforms. However, reforms are urgently needed as the system is under increasing pressure. Second, a range of disincentives and barriers in the labour market and tax system contribute to early retirement and involuntary retirement. Boosting employability at older ages and broadening older workers' options would dampen the economic impact of ageing. Third, the Swiss health system delivers good outcomes but at a higher cost than other countries, and ageing will only exacerbate the associated pressures. Cost containment and improved co-ordination are vital. Adjusting the financing of long-term care could improve access and the overall quality of long-term care.

Switzerland, like other OECD countries, is ageing. Almost one-fifth of the population is already 65 years old or more, a share set to reach 30% by 2060. While reaching 65 years previously denoted "old age", a Swiss 65-year-old can expect to live another 21 years, amongst the highest in the OECD (OECD, 2017a). The structural shift in the population is well anticipated and was highlighted already in the 2000 *Economic Survey* (OECD, 2000). Since then, brisk net immigration has slowed the pace of change and diminished the urgency of reform. However, going forward, lower net immigration and the retirement of the large "baby boomer" cohort make further reforms more pressing to ensure that high living standards extend into old age and that the bonus of longer lives does not become a burden. After spelling out the main economic implications of ageing in Switzerland, this chapter focusses on three key policy challenges: securing adequate incomes in retirement; lengthening working lives to ease adjustment costs; and meeting growing demand for health care and long-term care.

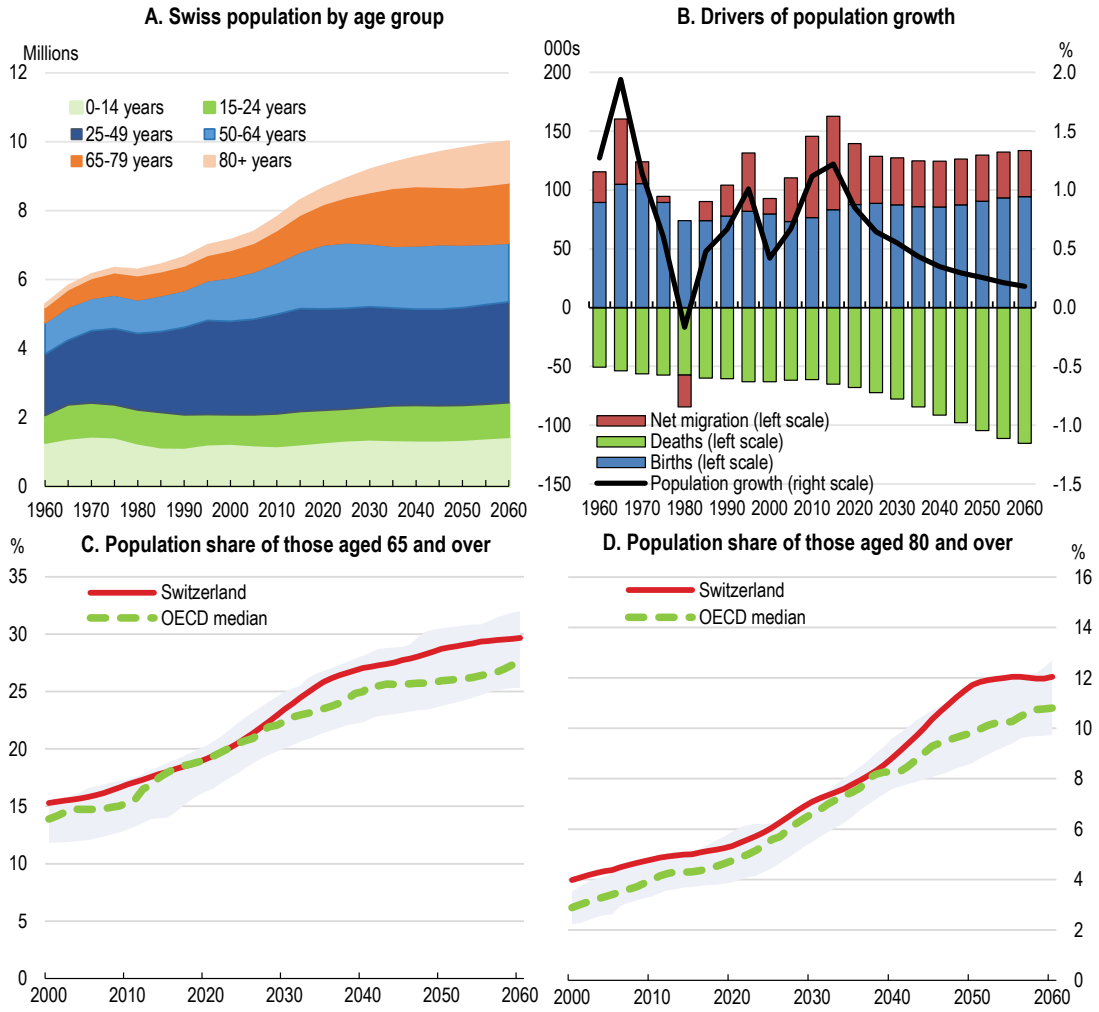
Implications and challenges of an ageing society

Over the past five decades the Swiss population has grown by around 3 million people and become older (Figure 2.1, Panel A). The fertility rate halved to 1.4 between the early 1960s and the early 2000s and has only increased marginally since. Higher health spending, better education, income gains and healthier lifestyles have raised life expectancy across the OECD (OECD, 2017a). In Switzerland, life expectancy has increased from 69 years in the early 1950s to 84 years. And if mortality rates continue to improve, a boy and girl born in 2017 could expect to reach 91 and 94 years, respectively. Rapid immigration boosted population growth in the 1960s, 1990s and 2000s, following the 2002 Swiss-EU agreement on the free movement of persons (Panel B). Immigrants tend to be younger.

Looking ahead, the rate of natural increase could turn negative and the pace of immigration is highly uncertain – it almost halved between 2013 and 2017 as other European economies recovered from the global financial crisis. Through its effect on population growth and employment, immigration will shape how ageing affects the economy (Box 2.1). In the baseline scenario, these dynamics will slow population growth and ageing will speed up in the 2030s. The share of the population over 65 years – the legal retirement age for Swiss men – could reach 30% by 2060 (Panel C). The share of the population aged 80 or over – at which disabilities become more prevalent – will more than double by 2045 (Panel D).

The OECD long-term scenarios shed light on how ageing can affect Switzerland's economy. The projected decline in the population share of 15-74 year-olds (potential working age), subtracts up to ½ percentage point from annual GDP per capita growth (Figure 2.2, Panel A). Moreover, older workers are less likely to be employed, notwithstanding the increase in the employment rates of older cohorts in recent years, so the employment rate may edge down (Panel B). Rising female participation has acted as an offset lately but without further reforms these gains will be exhausted from the early 2020s. In any event, future income growth depends heavily on raising output per worker, which is highly uncertain (Box 2.1). Labour shortages are widely expected to lift the relative return on capital and raise labour productivity (Guillemette and Turner, 2018; Lee, 2016). A scarcity of middle-aged workers may intensify automation and, in some industries, raise productivity (Acemoglu and Restrepo, 2018). Robot usage is intensifying in Switzerland, though it remains less common than elsewhere: in 2016 there were 70 robots per 10 000 employees in manufacturing, up from 42 in 2007 (OECD, 2019a). However, ageing may also weigh on productivity, if workers' skills become outdated or entrepreneurialism declines, for example.

Figure 2.1. The population is ageing



Note: In Panel A youth are shown in green, 25-64 year-olds in blue and seniors in orange. After 2020 data are from the "medium variant" of UN scenarios. In Panel B data are averages over the five years to the date shown. In Panels C and D, the shaded area denotes the 25th to 75th percentile range of available data for OECD countries.

Source: United Nations (2019), *World Population Prospects: The 2019 Revision*, Online Edition; OECD Economics Department Long-term Model.

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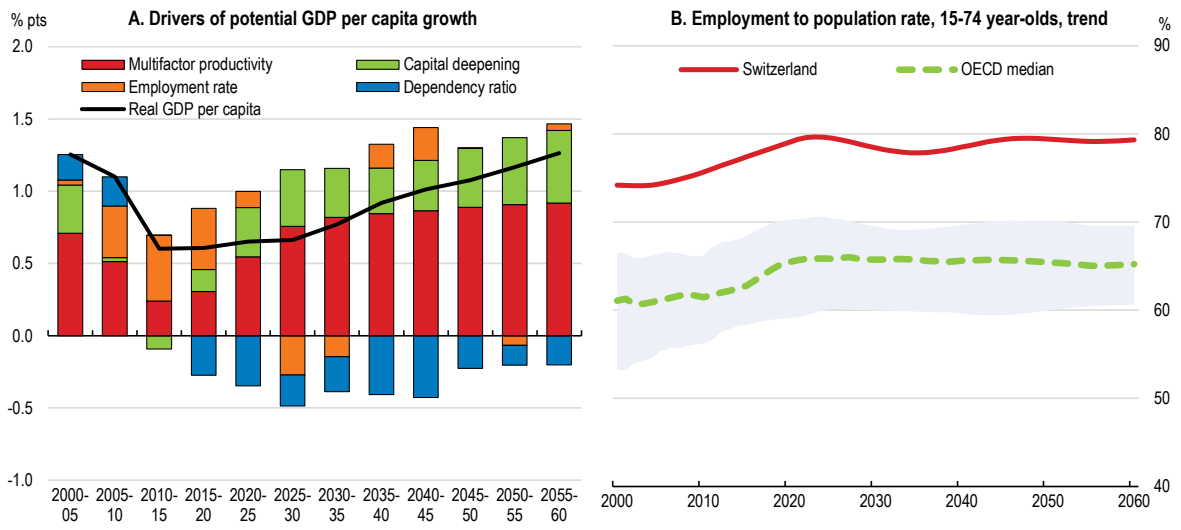
Figure 2.2. Productivity growth will be the main driver of GDP growth in the years ahead



Note: The working-age population is 15-74 year-olds. In Panel B the shaded area denotes the 25th to 75th percentile range of available data for OECD countries.
Source: OECD Economics Department Long-term Model.

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Box 2.1. Four sources of uncertainty about future economic developments

Immigration has been difficult to forecast and is the main source of uncertainty around Switzerland's population projections. In 2001, net immigration was expected to fall to 4 500 per year by 2015 and the population was expected to shrink after 2030. Instead net immigration was around 72 000 in 2015 and the population is expected to continue growing slowly throughout this century. The United Nations' scenarios show that the population would start declining from around 2030 if net immigration was zero. Immigrants are typically of working age so a higher immigration scenario could raise growth and reduce the burden of rising age-dependent expenditure by 0.7% of GDP in 2045 (Table 2.1). Future immigration may be limited because the European Union's population is also ageing and there are quotas for migrants from non-EU countries.

Table 2.1. Age-dependent public expenditure under different assumptions

Per cent of GDP, all levels of government

	2013	2030	2045
Baseline	17.3	19.3	20.8
Higher immigration (+20 000 by 2030; +10 000 by 2040)		-0.4	-0.7
Higher productivity growth (+0.3% annually)		-0.1	-0.2
Lower productivity growth (-0.3% annually)		0.0	0.2

Note: Age-dependent expenditure includes pensions, health care, long-term care and education spending.
Source: T. Brändle, C. Colombier and A. Philipona (2016), *2016 Report on the Long-term Sustainability of Public Finances in Switzerland*, Federal Finance Administration.

Productivity growth is another source of uncertainty. Ageing may weigh on labour productivity either directly, or indirectly through the impact of reduced technological progress (Lee, 2016). Over the past two decades GDP per hour worked grew by 0.8% on average, which was close to the 1% that the Swiss authorities had assumed (on a full-time equivalent basis) (OECD, 2000, 2017b). The most recent national scenarios assume that labour productivity will grow by 1.2% annually over 2020-45. In the OECD scenarios, labour productivity growth is dynamic, rising from around 1% per year in the coming decade to 1.4% in the 2050s. Faster productivity growth would ease the burden of ageing-related spending (Table 2.1).

Just as the spell of historically **low interest rates** was unanticipated, the pick-up in interest rates foreseen in the OECD long-term scenarios and other projections may fail to eventuate − or it may be sharper (Guillemette and Turner, 2018). Either scenario would have knock-on effects to the capital stock via the user cost of capital and in turn, productivity and wage growth. Interest rates also affect retirement incomes and the sustainability of public and private debt (household debt is currently high, with gross debt at 212% of net disposable income in 2016).

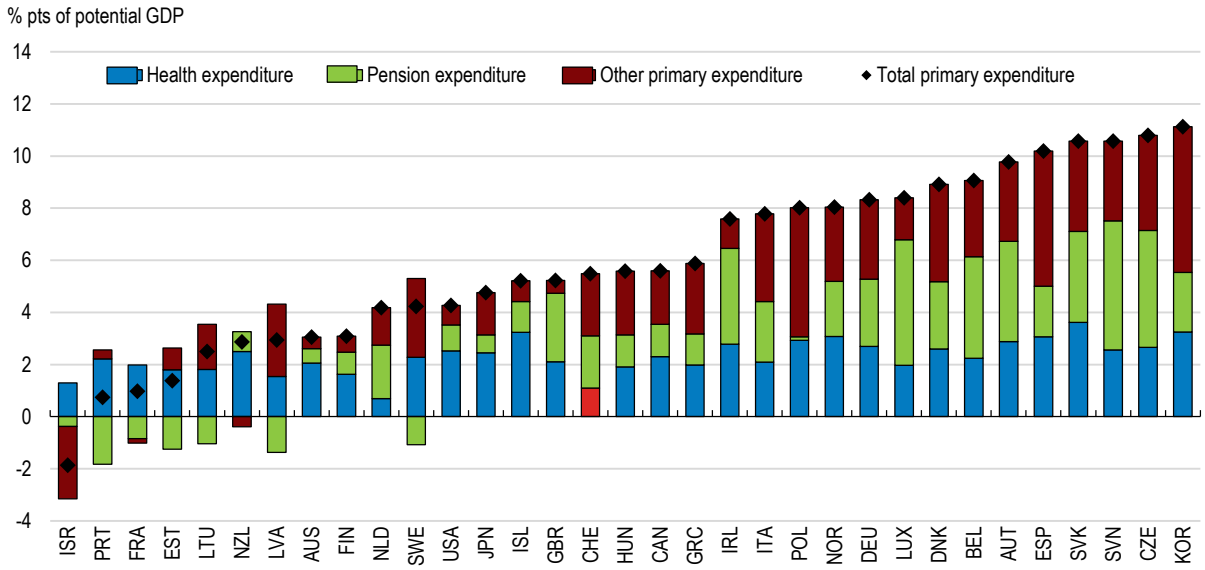
The effects of **climate change** on the economy are uncertain as the channels are complex, effects are non-linear, assumptions matter considerably and there are large tail risks, for example from extreme weather events (OECD, 2017c). Negative effects on the Swiss economy would materialise through health (including premature deaths) and labour productivity, but these may be partly offset by benefits from reduced heating costs and growth of industries such as summer tourism (Vöhringer, 2017). Delaying action adds to adjustment costs (OECD, 2017c). In addition to growth effects, climate change and mitigation policies globally may affect returns to saving via pension funds' assets that are exposed to the risk of stranded assets.

Ageing is also reshaping the economy, by expanding existing markets and creating new opportunities for businesses and entrepreneurs. These include products and services to manage physical or mental deterioration as well as leisure services for healthy individuals (OECD, 2019b). The Swiss Household Budget Survey suggests that spending per capita is highest for 65-74 year-olds, who spend more on transport, food, housing, health and leisure than other age groups. Above 75 years, spending tilts further towards health. Switzerland's specialisation in therapeutic goods and pharmaceuticals will be an advantage in an ageing world. Housing, transport and financial needs will change. Technology can deliver new products and services, facilitate changing work practices and create new ways of connecting socially (OECD, 2014a). Senior entrepreneurship can provide opportunities for activity and income in later life (OECD, 2019b).

Developments in longevity, decisions about work and demand for health and long-term care will all have fiscal effects. In Switzerland, the smaller role of government in providing pensions and financing health and long-term care will contain fiscal pressure relative to many other OECD countries (Figure 2.3). Nonetheless, these spending items could expand by 3% of GDP by 2060. Other public spending could grow even more if spending per capita is maintained in real terms, as assumed (Guillemette and Turner, 2018). Cantons and municipalities, which are primarily responsible for health and long-term care delivery, will bear ageing-related fiscal pressure most (Brändle, Colombier and Philipona, 2016). However, the different pace and extent of population ageing means that the challenge varies considerably across cantons (Figure 2.4). Managing these cost pressures and financing spending needs is discussed in later sections, focussing on pensions and health and long-term care.

Figure 2.3. Rising public expenditure will entail fiscal challenges

Change in expenditure from 2019 to 2060



Note: These scenarios are illustrative only and differ from national projections. Pension expenditure includes survivors' pensions and disability pensions but all other benefits are included in "Other primary expenditure", which is all non-interest spending except health and pension spending.
Source: Simulations using the OECD Economics Department Long-term Model.

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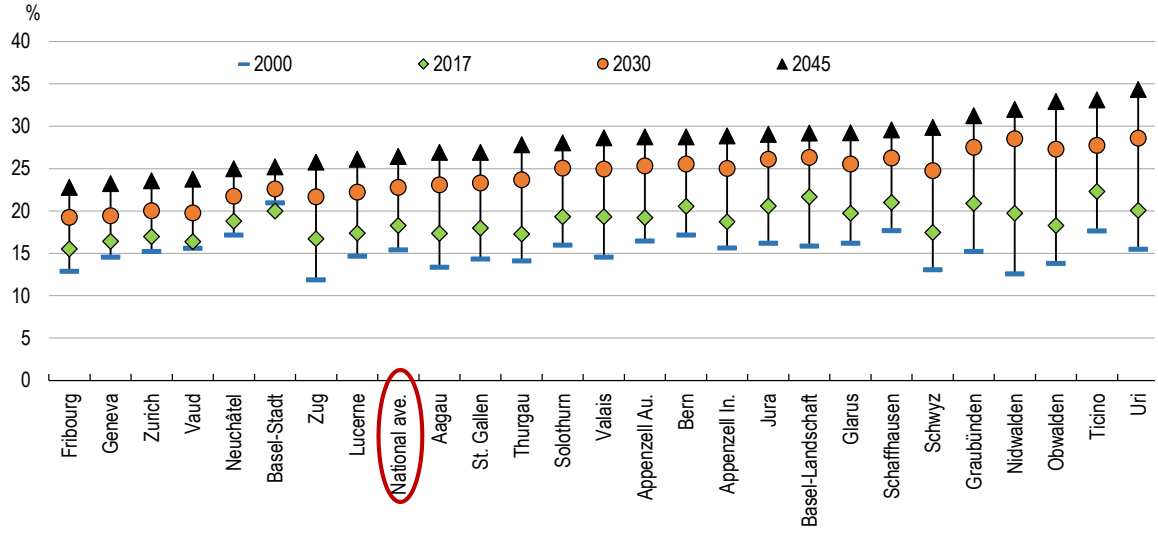
Figure 2.4. Ageing is likely to be uneven across cantons

Ratio of 65+ year-olds to total permanent resident population



Note: Scenarios for cantons are national projections and are only available to 2045. The national projection for the total population is slightly higher (483 000 people in 2045) than the projections elsewhere in this chapter.
Source: Federal Statistical Office

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Prospects for elderly Swiss are comparatively bright thanks to relatively high incomes and low disability rates in old age. Still, as elsewhere, ageing is likely to amplify earlier inequalities (OECD, 2017d). Although employment rates are high, the sizeable gap between the employment rate of highly educated adults and less educated adults (of 25 percentage points, close to the median OECD country), contributes to differences in savings and retirement income. Swiss women's lifetime earnings are lower than men's because of lower hours worked and wage gaps. Together with their longer lifespan, this puts women at greater risk of old-age poverty.

The social security system protects against poverty through a redistributive old-age pension and means-tested supplementary benefits to ensure individuals can meet expenses for basic needs, residential care, or needs related to invalidity. Around 13% of the population aged 65 or over received supplementary benefits in 2017, with the rate higher for women. Maintaining current levels of support will depend on economic outcomes and government finances. The level of support also varies across cantons. Spatial inequalities may widen if cantons with faster demographic change face difficulties in providing services, especially if tax revenues come under greater pressure. Recent empirical work highlights this risk: over 2001-12, OECD regions with faster demographic change than the national average experienced below-average productivity growth, which added to the drag on GDP from an ageing workforce (Daniele, Honiden and Lembcke, 2019).

Preparing the pension system for a fast-growing number of retirees

The Swiss pension system is organised around three pillars which mitigate individual and public risks as recommended by the OECD (OECD, 2018a; Table 2.2). The first pillar is a public pay-as-you-go system which is the main source of income for low-income earners (Figure 2.5; Box 2.2). Unlike a strict social insurance system, it is redistributive because pensions are capped but contributions are not. The second pillar is an occupational scheme and many firms choose to provide a voluntary ("extra mandatory") component. Most pension funds are based on a hybrid scheme, whereby individual pension assets accumulate but benefits are heavily dependent on parameters set at the national level. Less than 5% of pension funds' liabilities are pure defined-benefit.

Table 2.2. The Swiss pension system is organised around three pillars

	First pillar	Second pillar	Third pillar
Type of pension	State pension	Occupational pension plans	Private pension plans
Coverage	Mandatory	Mandatory for employees above a salary threshold	Voluntary
Objective	Guarantee basic living costs	Maintain living standards	Supplemental

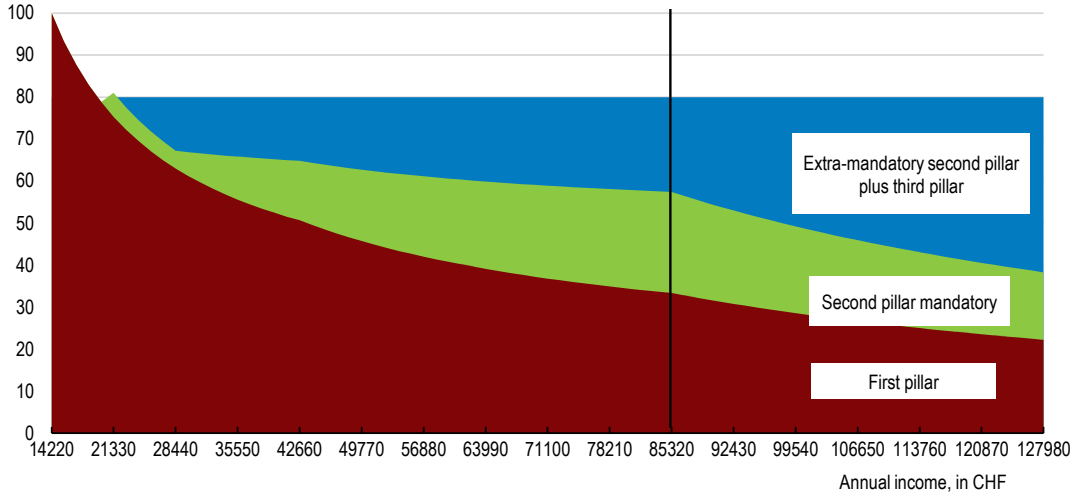
Note: A social safety net complements the first-pillar pension, providing "supplementary benefits" to recipients whose revenues fall short of defined basic expenses.

Box 2.2. Characteristics of the first pillar

The first pillar is a pay-as-you-go scheme. The contribution rate is the same for all employees at 8.4% of gross earnings (half of it being paid by employers). Pension benefits depend on the number of contribution years, the average salary over the career and some potential bonuses. After one year of contribution, a pension benefit can already be granted but to get a full pension, a worker should contribute every year from age 20. Each missing year implies a penalty of 1/44th. In 2019, full pension benefits range between CHF 1 185 and CHF 2 370 (the average salary is above CHF 7 000 per month). In addition, a couple cannot receive more than 150% of the maximum benefit. There are bonuses to compensate for years taking care of children and relatives.

Figure 2.5. The relative importance of each pillar changes with the level of income

Theoretical replacement rate in per cent of 2019 salary



Note: The replacement rate is the ratio of the pension benefit at retirement to the final year's salary for a worker with a full career. The average salary (CHF 85 320, which is about the same in US dollars) is marked with a line. The second pillar is based on cumulated contributions and returns equivalent to nominal wage growth. Extra-mandatory second and third pillars show the voluntary contributions required to have a replacement rate of 80%.
Source: Federal Social Insurance Office.

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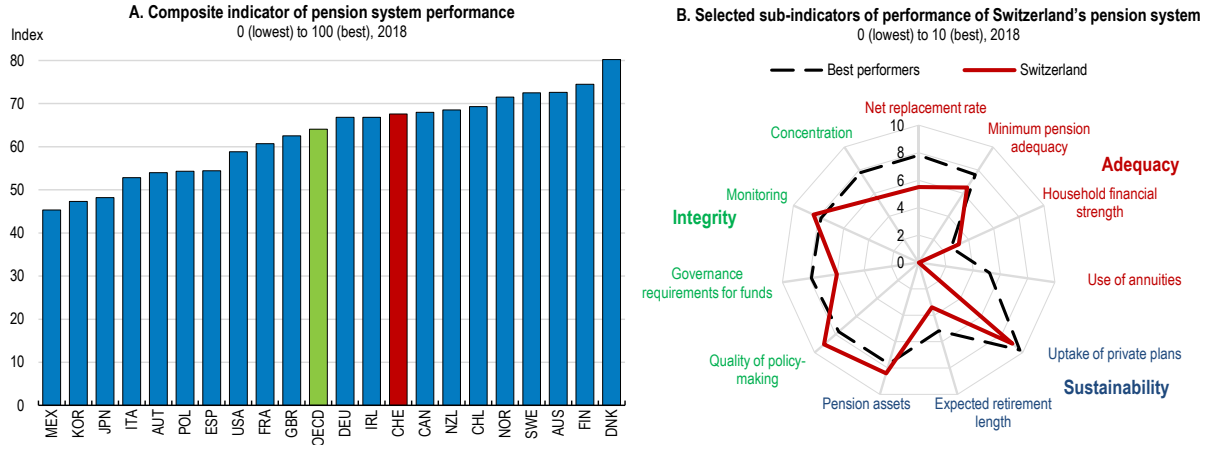
Overall, the pension system compares relatively well against other countries' systems, particularly in aspects related to governance ("integrity") and financial sustainability (Figure 2.6). It compares less well on the adequacy of retirement income, notably because of incentives to take a lump sum rather than an annuity (Mercer, 2018). Switzerland's relative position deteriorated over the years, mostly because of the lack of reforms in the past 20 years.

Figure 2.6. Switzerland's pension system is relatively sound



Note: In Panel A, the composite indicator, the Global Pension Index, is a score between 0 and 100 computed for 30 countries (mostly OECD members) from three sub-indices (adequacy, sustainability and integrity) to measure retirement income systems against more than 40 indicators. The OECD refers to the unweighted average of 22 OECD countries. Panel B presents selected sub-components of the three sub-indices. The best performers on this metric are the Netherlands, Denmark, Finland, Australia and Sweden.
Source: Mercer (2018), *Melbourne Mercer Global Pension Index*, Australian Centre for Financial Studies, Melbourne.

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The first pillar is overdue for reform

As is common among pay-as-you-go systems, the first pillar is on course to experience serious financing troubles as ageing progresses. Total spending on pensions has increased by 2.7% annually in the past 10 years while revenues only rose by 1.9% (Federal Social Insurance Office, 2018). The compensation fund managing first pillar assets and liabilities has run a deficit (excluding capital income) since 2014. Receipts currently come mostly from social security contributions by employees and employers (over 70%) with the rest from government revenues and capital returns.

Reforms to improve the financial sustainability of the first pillar have proven difficult. The latest major attempt was a comprehensive project "Prévoyance vieillesse 2020" rejected by referendum in 2017. Key elements were a higher retirement age for women, a lower pension from the second pillar partly compensated by a higher first-pillar pension, and a VAT increase.

A reform will take effect from 2020 with a view to raise an additional CHF 26 billion by 2030 (Box 2.3). It will delay the year the fund tips into negative equity by four years to 2035 (Federal Social Insurance Office, 2019). By 2030, the compensation fund will reach roughly 50% of annual expenditures (still 100% in 2018) and decline further afterwards. Further revenues will therefore be needed. Earlier estimates from before the recent reform suggest the funding gap would still be large: using a general equilibrium model, Keuschnigg (2018) estimates that first-pillar financing needs in the long run require raising the standard VAT rate by 4 percentage points and the effective retirement age by four years. While such reforms are difficult politically and could necessitate measures to support low earners, they are more efficient than alternatives like higher direct taxation.

The legal retirement age for men has been 65 since 1948 – when Swiss life expectancy at 65 was eight years lower – while the female retirement age increased to 64 in 1997 (women's life expectancy at 65 is three years above men's). Retirement is set to become one of the longest in the OECD as the legal retirement age falls below the average and life expectancy keeps rising (by more than three years by 2060) (Figure 2.7). The government plans to harmonise the retirement age for women with men (at 65) (Box 2.3). The revision would postpone the date the fund's equity is exhausted by just one year (while the proposed VAT increase would push it out by another three years).

A more ambitious reform can have a large impact on financing. For example, OECD estimates suggest that with the statutory retirement age at 67 years, the ratio of people above the retirement age to working age population would increase by 5 instead of 12 percentage points by 2030. Denmark and the Netherlands, with similar pension systems, will increase the retirement age to 67 in the early 2020s (and 68 by 2030 for Denmark) and have automatic increases linked to life expectancy thereafter. The legal retirement age should be set at 65 for both sexes as planned, then raised to 67 by 2034 and linked to further gains in life expectancy thereafter. At higher statutory retirement ages, additional measures may be needed to adjust for lower life expectancy in some socio-economic groups.

Box 2.3. Government reform of the first pillar

A first reform passed Parliament in September 2018 and a referendum in May 2019. From 2020 it will increase funding for the first pillar by:

- Raising social security contributions on gross earnings by 0.3 percentage point;
- Assigning an additional 0.2 percentage point of VAT revenues to the first pillar (to 1 percentage point);
- Boosting the federal government's contribution from 19.6% to 20.2% of total expenses.

Besides this, the government presented a draft law to Parliament in August 2019 to further strengthen the first pillar's financial sustainability. Four main modifications are envisaged, effective from 2022:

- The legal retirement age will be renamed reference age and increased by one year for women so that it is 65 for both sexes in both the first and second pillars. The increase will be three months every year from 2023.
- The increase in the reference age for women will be compensated during a nine-year transition period at a total cost of CHF 700 million annually. Penalties for early retirement will be lower for women with low- to middle-incomes. Women retiring at age 65 will receive a bonus depending on their revenues (on average CHF 76 per month).
- Flexibility will be increased, allowing withdrawal of benefits between age 62 and 70 (instead of 63-70 for men and 62-69 for women); actuarial penalties (bonuses) for early (late) retirement are being adjusted (Table 2.3). Working part-time and receiving a partial pension will become possible. Contributions after 65 years will be permitted to compensate for gaps in pension rights.
- Increased revenues for the fund via a 0.7 percentage point hike in the VAT standard rate.

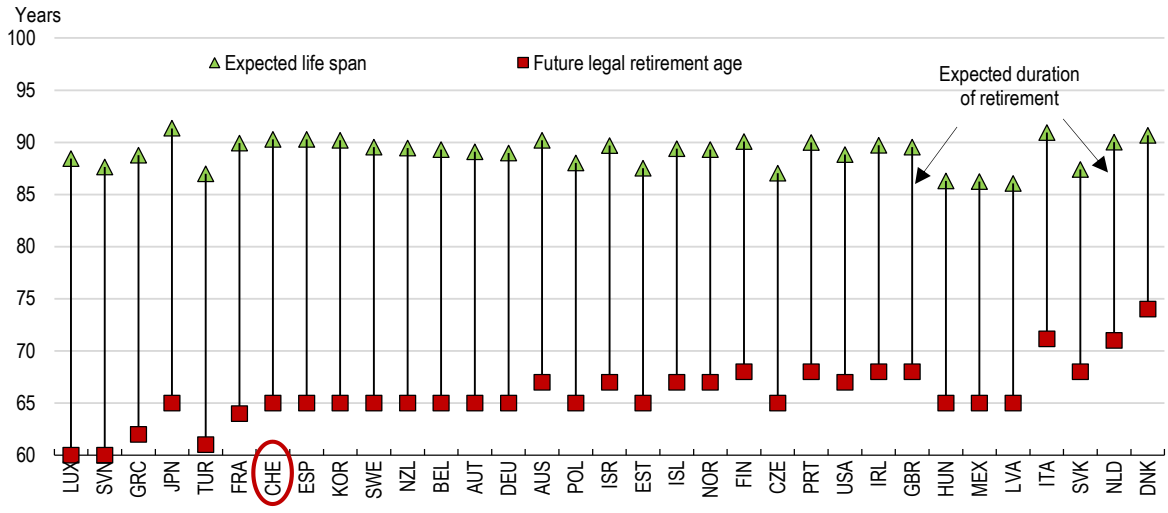
Table 2.3. Change in adjustment factors for working less/longer

	Early retirement by 2 years	Early retirement by 1 year	Postponed retirement by 1 year	Postponed retirement by 2 years
Current situation	-13.6%	-6.8%	5.2%	10.8%
Planned reform	-7.7%	-4.0%	4.3%	9.0%

Source: Federal Council

Figure 2.7. Expected duration of retirement will become one of the highest in the OECD

For a male aged 20 in 2016



Note: The future legal retirement age is based on present legislation. Expected life span is calculated as future legal retirement age plus projected life expectancy at that age. Projected life expectancy assumes that age-specific mortality rates are unchanged. Countries are ranked according to retirement duration.

Source: OECD, *Pensions at a Glance 2017: OECD and G20 Indicators*; United Nations (2019), *World Population Prospects: The 2019 Revision*, Online Edition.

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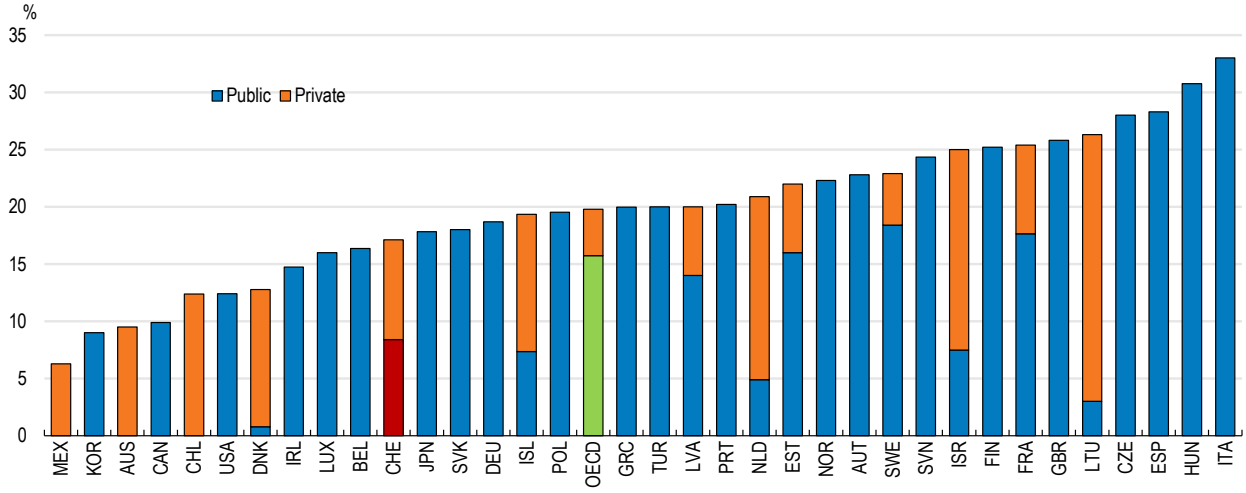
More flexibility around the legal retirement age can help raise the effective retirement age and ease entry into retirement. It can address concerns about inequalities in life expectancy. However, even if penalties and bonuses (for early and late retirement) are actuarially neutral, increasing flexibility can lower effective retirement ages due to underestimation of future needs, extensive social safety nets or high replacement rates (OECD, 2017e). In addition, flexibility can be socially inequitable if only the better-off can afford to retire early.

The government plans to update penalties and bonuses to be actuarially neutral so that for example, accrued pension benefits of working an additional year should be the same as in the year before (Box 2.3). However, given that early retirement is already quite common, lowering penalties may further encourage earlier retirement (Schaltegger, 2018). Some countries – such as Estonia, Iceland, Japan, Korea and Portugal – offer postponement bonuses above actuarial fairness. Other countries like Austria and Korea built financial disincentives to early retirement. By contrast, Sweden's system has no fixed statutory retirement age but flexible and actuarially neutral retirement entitlements from the age of 61. If the legal retirement age remains at 65 in Switzerland, adjusted bonus and penalties should be used to create incentives to postpone retirement.

The first pillar contributes most of low earners' retirement incomes (Figure 2.5; Box 2.2). Because it is complemented by a large second pillar, the future burden on public finances is smaller than for many other OECD countries (Figure 2.3). The contribution rate is relatively low (Figure 2.8); however, contributions are not capped while benefits are. This means that the pension system also functions as a tax on higher income earners, which is uncommon across OECD countries. However, through the minimum pension it offers an important safety net for low income earners.

Figure 2.8. Mandatory pension contribution rates are relatively low

For an average worker, in % of gross earnings, in 2016



Note: Includes pension contributions from both employer and employees. In the case of Switzerland, the public part relates to the first pillar and the private part to the second pillar.
Source: OECD, *Pension Outlook 2018*; and OECD calculations.

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Pension benefits (both at and during retirement) are adjusted every two years in line with an index that is the average of average nominal wage growth and consumer price inflation. Accordingly, pension benefits increased by 0.9% per year on average over 2000-17, compared to 1.1% for the average wage, implying a fall in the first-pillar replacement rate. Using the OECD Pension Model, the first-pillar gross replacement rate (defined as the revenue at retirement relative to the final year's earnings) is estimated at 24% in 2060 for a male with average earnings, below the current rate of 35% estimated by the government. The simulation rests on a number of simplifying assumptions, including that there are no future reforms. It is important that future retirees understand that this trend is under way.

The government should improve communication tools and information so future pensioners can plan for their retirement and adjust their saving behaviour as needed. Statements are currently only available by writing to the compensation fund; the existing website is only a calculator. A user-friendly website should provide workers with clear up-to-date statements of their pension rights. It should also incorporate second-pillar entitlements; statements of second-pillar pension entitlements are currently sent annually and some funds provide information online. In Sweden an internet service – *MinPension* – gathers information for all three pillars, representing 98% of total pension capital. It also provides ways to project future pension entitlements using different assumptions, notably on expected returns and wages. It is half financed by the government and half by pension companies.

As shown above, the replacement rate at retirement is expected to fall in the future partly because of the mechanism to compute pension entitlements at retirement. This will particularly impact low earners but also average earners. Promoting greater awareness of overall pension entitlements would help workers make informed saving decisions and compensate for the fall. In principle, the pension level at retirement should follow the evolution of wages, as is common across the OECD (OECD, 2017e). The measure would be costly compared to the current settings whereby falling replacement rates will help finance the first pillar. However, it could limit the number of people seeking supplementary benefits at older age to meet their basic needs. Indexing pensions during retirement to inflation could help pay for this, as wages tend to outpace consumer prices. Overall, costs may be higher during a transition period (when existing

pensioners still benefit from higher indexation) and such a period would probably be lengthy. One risk is that pensioners' purchasing power declines as they have a different consumption basket to the average consumer, notably with a higher share of health services. Australia for example uses a "pensioner and beneficiary living cost index" to better match the older population's needs.

Second earners (mostly women) may be more protected by their partner's contributions than by their own. For example, they can have a full first-pillar pension without contributing if their partner pays at least twice the minimum contribution. The survivor's pension also protects them in case of work interruption or inactivity. In 2017, about 50 000 widows received on average nearly 90% of the average pension. Despite lower earnings, women also typically receive slightly higher first-pillar pension income than men and longer benefits, due to higher life expectancy. Such a system creates inequality between household types. With a higher – and rising – female employment rate, there is less need to share the main earner's benefits. There is no obvious justification why a widow is more protected than another individual facing a similar poor income situation (OECD, 2018a). A review should examine removing the survivor's pension, including the effects on poverty. Sweden, for instance, abandoned it in 1990 (OECD, 2017e). The annuity cap for married couples and conditional exemptions on contributions for second earners also discourage work and should be removed. It would be more equitable to move towards a system providing pension entitlements according to individual contributions and means-tested assistance for those in need independent of marital status.

Self-employed workers are included in the first pillar, in line with OECD recommendations. Their pension contribution rates rise with income to reach a maximum of 7.8% compared to 8.4% for all employees. At low incomes, the difference with employees is sizeable. As self-employed workers receive the same benefits, the authorities should ensure that contributions are the same as for employees to avoid an apparent subsidy (Bonoli, 2017). The burden for the self-employed would be small as contribution rates are low in international comparison (Figure 2.8).

Making the mandatory occupational scheme more sustainable and inclusive

The second pillar grew out of employer initiatives that began in the 19th century and became mandatory in 1985. It is mostly akin to a defined-contribution scheme and is close to maturity as it already covered 80% of employees in 1985. Total pension assets are large but smaller than in Denmark and the Netherlands (Figure 2.9). More than half of the assets are from extra-mandatory contributions (discussed later). Most pension funds are private. Consolidation within the sector reduced their number from around 3 600 in 1985 to about 1 500 in 2018 and increased their average size. The scheme complements the replacement rate from the first pillar for a large share of the population. However, adjustments are required so the scheme can better meet future needs. In particular, its sustainability is at risk due to the rigidity of the legal framework, as discussed below. In addition, the current rules exclude some employees such as those working few hours or with multiple job contracts, which puts the adequacy of their retirement incomes at greater risk. At the request of the government, social partners agreed on a set of proposals that they announced in July 2019 (Box 2.4).

The system is a hybrid scheme. Unlike a pure defined contribution scheme, key parameters are set by the authorities mainly to reach a target replacement rate of 60% from the mandatory first and second pillars. Parameters are the conversion rate, which transforms accumulated assets into pension benefits, and the minimum return on assets. In 2004, the conversion rate became law (from a system where a technical committee made proposals to the government). It was also revised down stepwise, from 7.2% (valid since 1985) to 6.8% in 2014. The minimum return, originally fixed at 4%, is now 1% and is set every two years by the government based on the Supervisory Commission's proposal. In 2018 the Federal Council did not follow the recommendation to lower it to 0.75%. For the extra-mandatory scheme, funds can freely set returns and benefits subject to the constraint that the pensioner is better off than if they had not made extra-mandatory contributions.

Box 2.4. A proposed reform of the second pillar by social partners

In July 2019, three out of four main social partners agreed on a set of reforms of the second pillar that have been passed to the Federal Council. The package contains a recommendation to lower the conversion rate from 6.8% to 6% in one step and proposes three measures to reduce the impact on the replacement rate:

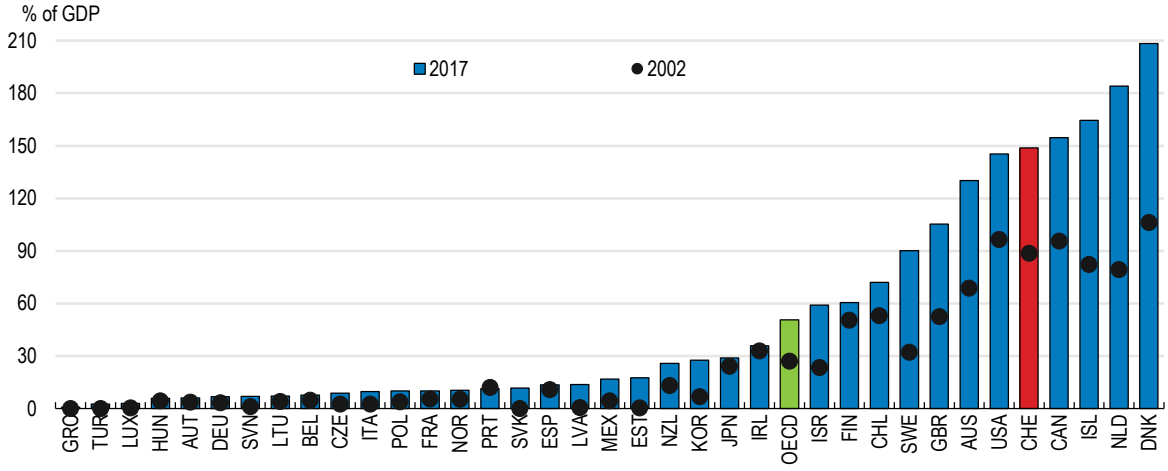
- Lowering the co-ordinated deduction from CHF 24 855 to CHF 12 443. This would help part-time workers to increase their pension entitlements.
- Flattening the relationship between contribution rates and age: from 7% to 9% of the insured salary for the 25-34 age group; from 10% to 9% between 35 and 44; from 15% to 14% between 45 and 54; and from 18% to 14% for older workers. This would improve the employability of older workers.
- A permanent extra benefit of CHF 200 for new retirees in the first five years, CHF 150 in the following five years and CHF 100 in the following five years. This introduces a pay-as-you-go element in the second pillar, as it would be financed by raising contributions by 0.5% of the salary.

In addition, the proposal recommends that the Federal Council regularly report on the adequacy of the conversion rate and of the permanent extra benefit.

Source: Union Patronale Suisse / Union Syndicale Suisse / Travail.Suisse, Press release, 2 July 2019

Figure 2.9. Swiss pension assets are amongst the largest in the OECD

Including voluntary savings



Note: The OECD average is unweighted.
Source: OECD, *OECD Pensions Outlook 2018*.

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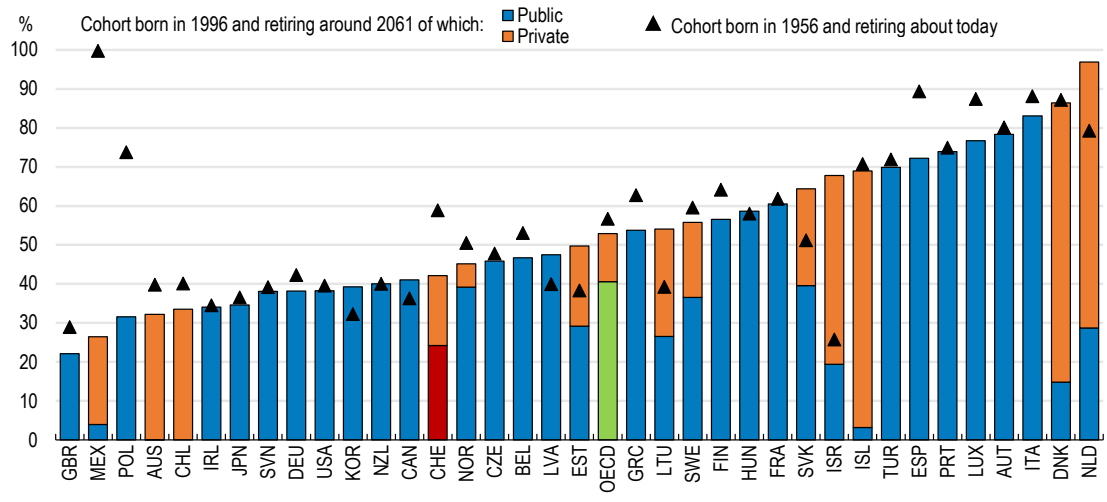
Replacement rate and pension entitlements

Calculations based on the OECD Pension Model suggest that without pension reforms, the replacement rate from the mandatory pension system for an average-salary worker will fall to around 40% for a person starting a career now − lower than in many other OECD countries and below the 60% target in the pension law (Figure 2.10). Almost 90% of employees will receive income from extra-mandatory pension schemes. The projected fall in the mandatory component comes from a reduction in the replacement rate of both the first and second pillars. In the second pillar, the relative fall in the maximum covered wage will reduce the replacement rate as the ceiling only partly integrates real wage gains, mostly due to the indexation described above. While only optional in the law, the ceiling should systematically take into account real wage increases to limit the decline in the replacement rate. Otherwise inequalities between those only benefiting from the mandatory system and those having access to an extra-mandatory scheme may increase.

Figure 2.10. The expected replacement rate from mandatory schemes is relatively low

Per cent of individual earnings for an average earner



Note: Theoretical gross replacement rates at retirement for a full-career male worker. A Swiss man is expected to retire at age 65. For Switzerland, public refers to the first pillar while private refers to the mandatory settings of the second pillar.
Source: OECD, *Pensions at a Glance 2017: OECD and G20 indicators*; OECD (2019), "Will future pensioners work for longer and retire on less?", *Policy Brief on Pensions*.

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The minimum conversion rate is too high according to actuarial models. Even in 1985, it was set at a high level in comparison with life expectancy but returns were high enough (Occupational Pension Supervisory Commission, 2019). Given that returns are lower than expected at the time of the 2004 reform and longevity is higher, pressures in the system are growing. Attempted revisions in 2010 (to 6.4%) and in 2017 (to 6.0%) failed. The 6.8% rate is consistent with an annuity for about 15 years (100/6.8), well below life expectancy at 65 (above 20 years). Equivalently, the rate corresponds to an implicit return of 4.8%, well above market returns (Bauman and Koller, 2018).

Pension funds have adopted various strategies to finance the non-funded gap. Some reduced the rate applied to extra-mandatory contributions so the overall conversion rate is below 6.8%, which confirms that the mandatory system is not currently sustainable. Pension funds also lowered the already low returns accruing to current contributors, amounting to an intergenerational transfer of about 0.8% of pension assets

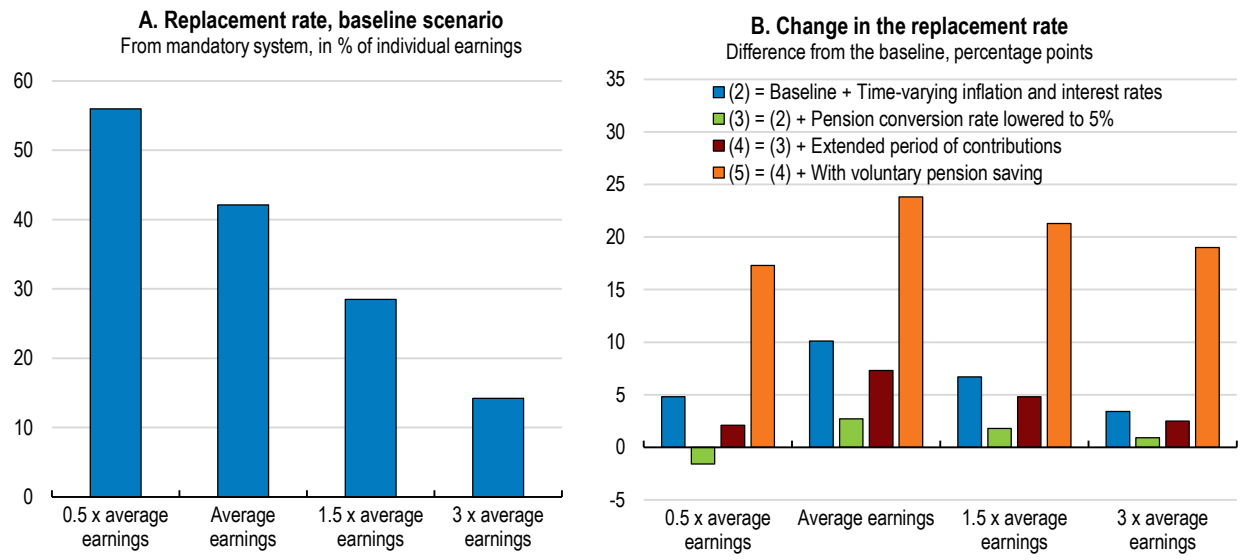
(about CHF 7 billion annually) on average during 2014-18 (Occupational Pension Supervisory Commission, 2019). For pension funds mainly relying on the mandatory scheme, the transfer is even higher and their future solvency is at risk.

Keeping the conversion rate at 6.8% would require an effective retirement age beyond 70 for the system to be financially viable. Estimates put the appropriate conversion rate at between 4.5 and 5%, depending on expected returns and retirement age (Helvetia, 2018). The current system for setting parameters has proved unable to adapt to the economic situation and changes in life expectancy. One option would be to shift to a pure defined-contribution scheme whereby benefits would depend on the fund's performance. A less radical option would be to task the Federal Commission for occupational pensions with making a recommendation based on market returns and life expectancy with the rate set in an ordinance, as currently done for the minimum return. Before 2004, the government was able to adjust the conversion rate according to technical parameters. In Sweden, such conversion (for earnings-related notional accounts) uses the retirement age and contemporaneous life expectancy (OECD, 2017e). In a system with a rate set by the government, the government should report regularly on the sustainability of the conversion rate, as is proposed by the social partners (Box 2.4).

On its own, lowering the conversion rate will reduce pension benefits (Figure 2.11). This could be partly compensated by higher contributions. Lengthening the contribution spell would also help. Starting contributing before age 25, which is currently impossible by law, would add over 2 percentage points to the replacement rate of an average earner due to compound interest. Extending contributions to age 68 would add a similar amount because contribution rates are higher.

Figure 2.11. Lowering the conversion rate will make voluntary saving more important

For an individual retiring in 2061



Note: The baseline scenario is from the OECD Pension Model and assumes a full-career worker starting a career at 20 in 2016; it applies mandatory settings for pillars 1 and 2; inflation is 2% per year; real wages increase 1.25% per year; rate of return is assumed equal to nominal wage growth. 'Time varying inflation and interest rates' are the projections for inflation (converging to 2%) and rate of return (long-term real interest rate plus 1 percentage point, converging to 3.5%) from Guillemette and Turner (2018). 'Extended period of contributions' have contributions starting at age 20 and up to 68. Scenario 5 adds extra-mandatory pillar 2 and pillar 3 contributions equivalent to 2.5% of salary for each, taking into account the cap on pillar 3 contributions.
Source: OECD calculations based on the OECD Pension Model and OECD Economics Department Long-term Model.

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Withdrawal of pension assets

The wide scope for early withdrawal of funds may compromise pension adequacy. *First*, it is possible to buy a home using all pension assets (until age 50); about 18 000 people requested such early withdrawal in 2016. Top-up contributions can then plug the gap in capital but there is no obligation to compensate for withdrawn capital. To facilitate home ownership, pension assets should only be used as a guarantee, as envisaged by the law, so that returns continue cumulating and there is less risk of lost pension assets. *Second*, an employee can withdraw all accumulated assets to create a business. This puts future retirement income at risk. No other OECD country offers this option. Given the well-developed financial system, this possibility should be removed.

Another risk to retirement income is from the ability to withdraw pension assets at retirement as a lump sum. By law individuals are entitled to withdraw a minimum of 25% of their capital as a lump sum. Given a high conversion rate and rising longevity, pension funds often propose taking full pension wealth as a lump sum which reduces their liabilities (Swisscanto, 2018). Nearly a third of the insured choose to do so (Schüpbach et al., 2018). The retiree then bears investment and longevity risks. The safety net provided by supplementary benefits to the old-age pension has been found to reduce the demand for annuities (Bütler et al., 2017). Favourable tax treatment adds to incentives to take a large lump sum (Bütler and Ramsden, 2017): the tax burden is often lower with complete lump-sum withdrawal than with annuities, which are taxed as a normal income (Schüpbach et al., 2018). Moreover, a lower conversion rate may increase lump-sum withdrawals.

In principle, lump-sum withdrawals should not be allowed as they undermine the insurance aspect of the system. As a second-best solution, the maximum withdrawal should be set at 25% to reduce the fiscal cost of tax incentives and recourse to supplementary benefits, in line with OECD recommendations (OECD, 2018a). Removing the tax advantages that encourage lump-sum withdrawal is difficult in Switzerland's decentralised tax system.

Coverage

There is still scope to broaden the coverage of the second pillar. In 2017, the number of second-pillar contributors was only two-thirds that in the first-pillar. An entry threshold limits participation in the second pillar for employees. Although the threshold is quite low (a quarter of the average wage), those on multiple contracts (about 8% of employment), working part-time (one quarter of employment), or with low wages may be excluded. Participation of self-employed workers is optional but if not participating, they have access to a larger third pillar. On average benefits from both pillars for employees and self-employed workers are about the same (Ollivaud, 2019). The second pillar only insures the "co-ordinated salary", that is, the salary above what the first pillar pension insures. It ensures that both systems work together but creates complexity.

Lowering the threshold and basing contributions on the full salary would simplify the system and improve coverage. A 2011 survey reported that most employers were neutral or positive regarding lowering the threshold (OECD, 2014b). A lower contribution rate for low wage earners could limit the potential negative impact on their employment. For those already covered, contribution rates should be recomputed to ensure the change is neutral. Social partners have proposed maintaining the threshold but increasing the co-ordinated salary to improve the pension entitlements of part-time workers (Box 2.4).

Currently employees cannot choose their own fund and must change funds when they move jobs. The employer selects the pension fund for all employees, although employees and employers are represented in the fund board. The employer may have different selection criteria or preferences from employees. About 1 in 10 workers changes job every year, generating movement of pension entitlements and thus administrative costs (Roten, 2019). The new pension fund can also reject part of the pension entitlements if its parameters are less generous. Consolidating the number of pension funds would limit changes

between funds and better exploit economies of scale to reduce fees (OECD, 2018a). Switzerland should continue promoting fund mergers through increased scrutiny of costs. A more radical option is to provide fund choice to employees, as in the United Kingdom. It would allow employees to keep their pension funds and could ultimately improve the range of offers by increasing competitive pressures. However, this approach could be costly for pension funds and accompanying measures would also be needed to address risks from behavioural biases and financial illiteracy highlighted in OECD (2018a).

Governance

Good governance and monitoring of pension funds are key to maintaining the second pillar's financial sustainability. With a well-functioning system there is no need to impose pension parameters that distort the system, notably the minimum return. The composition of the investment portfolio across asset classes is limited by regulation. However, nearly half of pension funds have sought exemptions, usually to increase exposure to real estate (Swisscanto, 2018). The rising share of real estate and equities (Figure 2.12) has offset falling returns from lower, and even negative, bond yields.

Given the heightened incentives for risk taking stemming from the low interest rate environment and high conversion rate, monitoring of asset holdings should be strengthened. Many countries apply the "prudent person principle" to assess investments according to the security, quality, liquidity and profitability of the whole portfolio (OECD, 2015a). A prudent investor rule would push funds to focus on more risk management. Smaller institutions display lower performance (Swisscanto, 2018), which may lead them to take more risks even though they may lack proper risk management expertise. Continued consolidation of pension funds could help mitigate these risks as larger funds can devote more resources to risk management.

The overall coverage ratio of pension funds (assets as a percentage of liabilities) is sound, at 105.5% in 2018 (Occupational Pension Supervisory Commission, 2019). This was down from 110.9% in 2017 because of negative returns. Coverage ratios below 100% must be well communicated and resorbed within five years. Nearly 30% of funds had a coverage ratio below 100% in 2018 according to the Commission. Technical interest rate (or discount rate) assumptions are crucial as they determine liabilities and have decreased quickly in recent years. Although technical interest rates and promised returns have been falling in the past few years, they remain above market rates. For example, average technical interest rates decreased from 2.7% in 2015 to 2.1% in 2018. The share of funds with a rate above 3% was 5% in 2018, down from a quarter in 2016 while more than 20% use a rate below 2%. Promised returns are on average 0.6 percentage points above technical interest rate assumptions, suggesting that they are still too high at many funds. This is related to the high current conversion rate in the mandatory system (see above). The supervisor highlighted that 44% of funds face a significant risk of lowering future benefits (Occupational Pension Supervisory Commission, 2019).

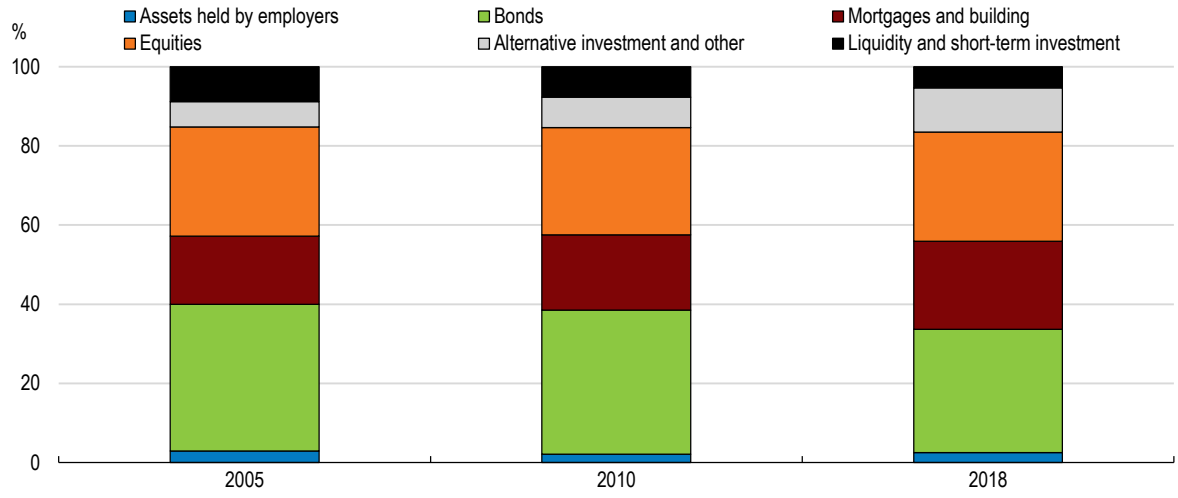
The Commission used a discount rate of 2.1% (average of funds' technical interest rate assumptions) to measure risks to the coverage ratio and found that nearly 30% of funds have high or medium-high related risks (Occupational Pension Supervisory Commission, 2019). The discount rate should be prudent and consistent with market conditions and expectations (OECD, 2016a). The supervisor should put in place a framework that regulates technical interest rate assumptions to avoid wide variation. In Finland and the Netherlands for example, all funds use the same discount rate, decided by the authorities.

Monitoring is currently carried out by individual experts, cantons and national supervisors. Their role should be strengthened, as proposed by the Commission, to address the increasing complexity of funds and improve funds' transparency (Occupational Pension Supervisory Commission, 2019). A more efficient and less costly system would have strict national standards and no need for cantonal supervision. Stress tests could be performed using, for instance, different technical interest rates, scenarios of house price declines and increased longevity. The authorities should improve data collection with respect to timeliness, granularity and coverage to better track exposures, including to real estate (IMF, 2019).

In addition, some public pension funds are treated differently, and nearly half of these have a coverage ratio below 80%. Those funds benefit from a government guarantee and have limited incentives to correct their situation, representing a fiscal risk. The most recent reform strengthened the relevant regulation by requiring these funds to improve their coverage ratio to at least 80% by 2050. Further reforms are clearly required. Ideally, they would be fully capitalised and treated as a standard pension fund.

Only half of all funds used cohort life tables in 2017 (Occupational Pension Supervisory Commission, 2019). Cohort life tables take into account changes over time in age-specific mortality rates, while period life tables do not. For instance, life expectancy for someone born in 2017 is almost 10 years higher with the former approach. Generalising cohort life tables would improve assessment of mortality rates. Additionally, average population mortality rates are higher than those applied for second-pillar beneficiaries, thus further underestimating future payments in the second pillar (Lüske, 2015). Imposing mortality table improvements, as in many OECD countries, would benefit all funds (OECD, 2014c).

Figure 2.12. The composition of pension fund assets changed after the global crisis



Source: Federal Statistical Office, *Pension Funds Statistics*.

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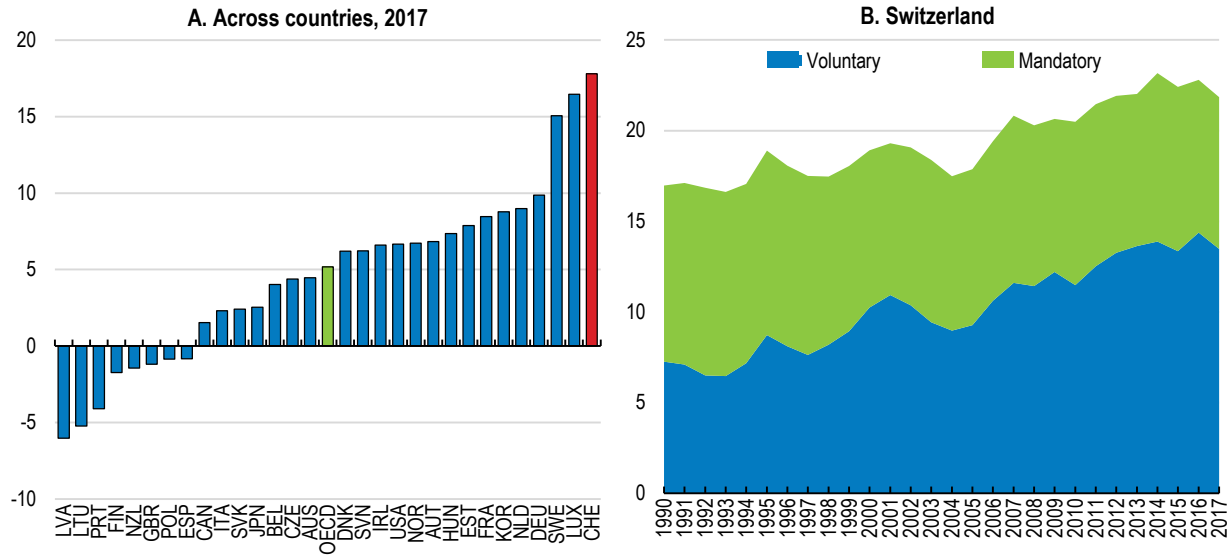
Balancing mandatory and voluntary pension contributions

The overall level of saving, including saving outside the pension system, will determine the adequacy of retirement incomes. Switzerland's household saving ratio is the highest in the OECD (Figure 2.13, Panel A). At least in aggregate terms, retirees appear to have ample savings since the saving rate does not include second-pillar contributions (as per national account conventions). Taking these into account shows a rising saving ratio over time (Panel B). Many Swiss save voluntarily for pension purposes (Box 2.5). Swisscanto (2018) estimates that the overall replacement rate from the first two pillars was about 80% over 2008-14 for a worker earning an average salary, above the 60% government objective. However, pension benefits from both pillars have declined by 11% on average in the past four years (Occupational Pension Supervisory Commission, 2019). Given the risks of a lower future replacement rate from pension benefits under the mandatory system, voluntary savings could become essential to maintain adequacy of retirement income. This is especially important in a country with one of the lowest home ownership rates since home ownership is a common way of reducing needed retirement income (Mudrazija and Butrica, 2017).

Figure 2.13. The household saving ratio is high

In per cent of disposable income



Note: Panel A is the net household saving ratio on a national accounts basis. Panel B is a broader measure.
Source: OECD, *OECD Economic Outlook* database; Federal Social Insurance Office, *Social Insurance Statistics 2018*.

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Box 2.5. Voluntary pension saving in Switzerland

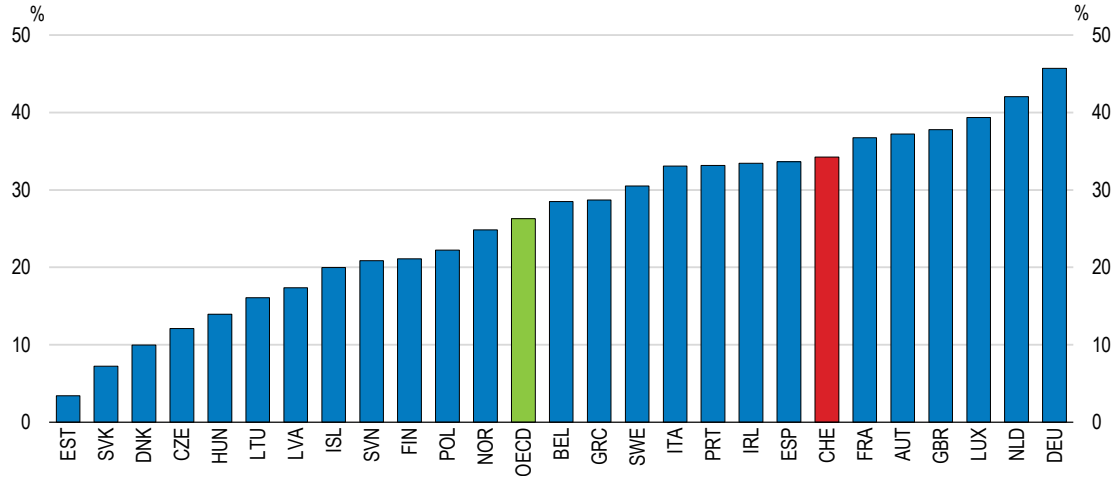
Two vehicles exist in Switzerland to encourage voluntary pension saving:

- The second pillar offers incentives for workers to make additional "extra-mandatory" contributions to their occupational pension assets. According to the Federal Social Insurance Office, about 40% of second-pillar assets are from the minimum contributions set by law. Contributions lower employers' operating costs and reduce employees' taxable income. There is no distinction for a pension fund between assets from the extra- and mandatory parts. One of the savings schemes ("1e") provides individuals with greater investment choice but is restricted to high-income earners.
- A third pillar also offers tax incentives to contribute to pension savings managed by banks and insurance companies. The scheme ("3a") provides incentives with a maximum contribution of CHF 6 826 per year for those having a second pillar plan or up to 20% of income (maximum CHF 34 128) per year for others (mainly self-employed). Contributions can be deducted from personal income tax. Total assets grew from 5% of GDP in 1995 to 15% in 2017.

Women have lower pension benefits because of lower lifetime incomes due to lower hours worked and a gender wage gap, as well as career interruptions if they have children. In 2017, women represented 38% of second-pillar pension beneficiaries and received around one-quarter of the average pension benefit (according to the Federal Statistical Office). The pension gap with men is high in international comparison (Figure 2.14). The impact of part-time employment and the gender earnings gap – 15% for the median full-time employee – is strong in the second pillar due to compound interest. Greater communication of pension entitlements would raise awareness about the consequence of part-time work and career breaks on retirement income, facilitating more informed decision-making.

Figure 2.14. The gender gap in pensions is relatively high

In per cent, 65+ year-olds, 2014 or latest available



Note: The gender gap in pensions is defined as: (1 - (women's average pension / men's average pension)) * 100. Pensions include public pensions, private pensions, survivor benefits and disability benefits. The gender gap in pensions is calculated for people aged 65 and older. The OECD average is an unweighted average of countries shown in the figure.
Source: OECD (2017), *The Pursuit of Gender Equality: An Uphill Battle*, OECD Publishing, Paris

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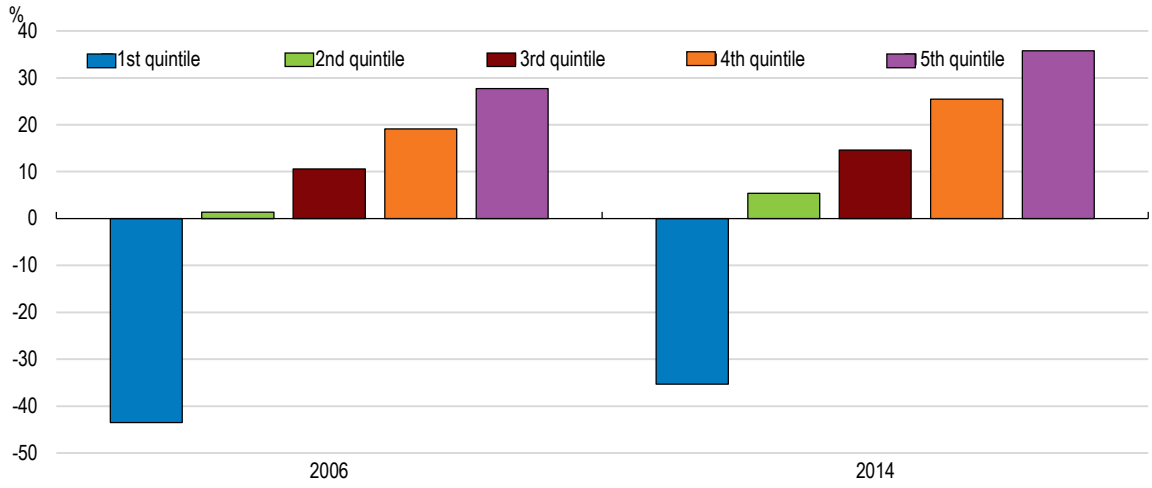
Tackling causes of women's lower incomes would boost their retirement incomes. For example, a lack of affordable childcare limits full-time female employment (Thévenon, 2013). A 2003 government programme aimed to boost supply. Although the situation has improved, childcare expenses remain high in Switzerland (OECD, 2017b). Data on costs and government spending are inadequate. Comprehensive statistics on childcare are needed notably to compare costs across cantons and find ways to lower the apparent high cost. Parliament is discussing raising childcare tax deductions in the federal personal income tax system from CHF 10 000 to CHF 25 000. In 2018 the federal government announced spending of CHF 100 million over five years to boost sub-national government subsidies to families and childcare supply. This could be complemented by measures recommended in the 2004 OECD review of work and childcare policies, including: expanding supply of childcare facilities; making school hours more compatible with work; and introducing a time-limited entitlement to part-time employment for parents (OECD, 2004).

The saving rate among working-age low-income households is negative and it is close to zero for the second quintile (Figure 2.15). There is a risk that these households find themselves with inadequate income in old age. Currently, the old-age income poverty rate is high at 19.5%, well above the 13.1% OECD average. However, income poverty is relative and Swiss average income is high. Thus the extent of material deprivation is low, at 1.8% for the older population, much lower than for the younger population. Furthermore, household wealth can substitute for income, especially when pension wealth is withdrawn as a lump sum. Indeed, recent research suggests that the older population is not at a greater risk of poverty if income and (liquid) assets are considered jointly (Federal Statistical Office, 2018). Still, about 7.5% of retirees report facing financial difficulties, especially women.

Figure 2.15. The household saving ratio has increased across the income distribution

In per cent of disposable income, average by income quintile, for households with reference person aged below 65



Note: The data are not compatible with national account definitions. The reference person in a household corresponds to the person with the highest earnings.
Source: Federal Statistical Office; OECD calculations.

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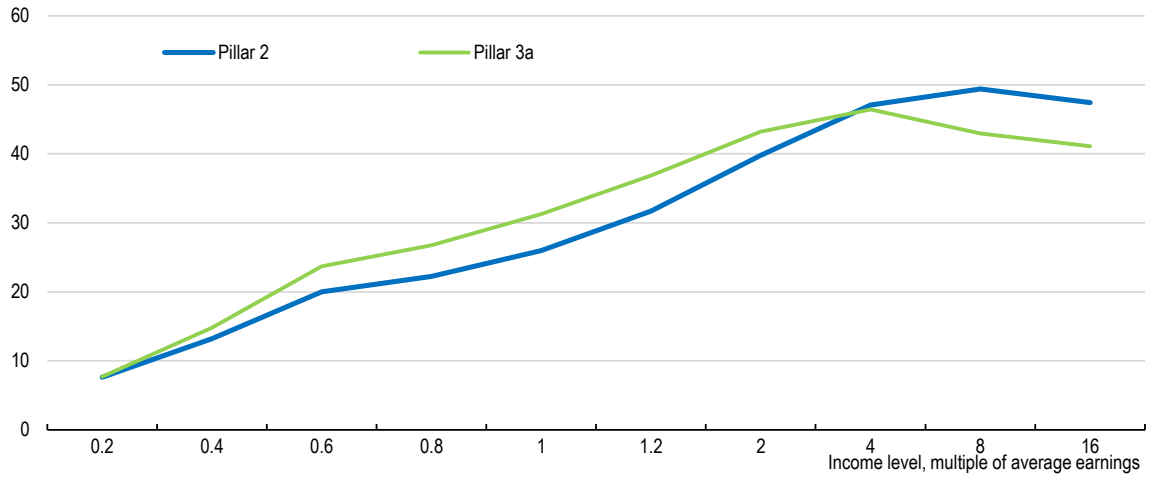
Supplementary benefits to the old-age pension help retirees who are unable to cover basic needs. A 2019 reform tightened the assets threshold for eligibility and raised the allowable rent expenses, which had not changed since 2001. Regular reviews of benefit adequacy, including eligibility thresholds and changes in living costs, would help ensure the right balance between cost effectiveness, targeting and adequacy of the benefits as longevity rises. Policies that support employment of women and disadvantaged groups would lower their risk of becoming poor.

The increase of the top income quintile's saving rate – by 8 percentage points over 2006-14 – drives the rise in aggregate voluntary savings as this quintile accounts for about two-thirds of aggregate saving (Figure 2.15). Tax incentives play an important role: for an individual earning five times the average wage, marginal effective tax rates on private pensions savings are the most negative in the OECD, at -90% (OECD, 2018b). The tax advantage grows with income (Figure 2.16). The latest estimate of tax expenditures resulting from the tax treatment of private pension plans (only for 2007) was 0.75% of GDP but the cost will be higher now (OECD, 2018c). Given that high earners already have high saving rates, the authorities should review tax incentives. Maximum tax deductions from second-pillar contributions should be lowered; currently the maximum insured salary is CHF 853 200 (equivalent to a total salary of CHF 878 085). In addition, net tax expenditure estimates (of forgone personal income tax revenue) should be published regularly to increase the transparency of these incentives.

Figure 2.16. Tax advantages from pension contributions benefit higher-earners

Present value of taxes saved over a lifetime, as a percentage of the present value of contributions



Note: Assumptions: 5% contribution rate for the third pillar (3a), mandatory rates by age for the second pillar; full career starting at age 20; annuity fixed in nominal terms at age 65; inflation 2%, productivity growth 1.25%, real return 3%, real discount rate 3%; the individual lives in Zurich.
Source: OECD calculations.

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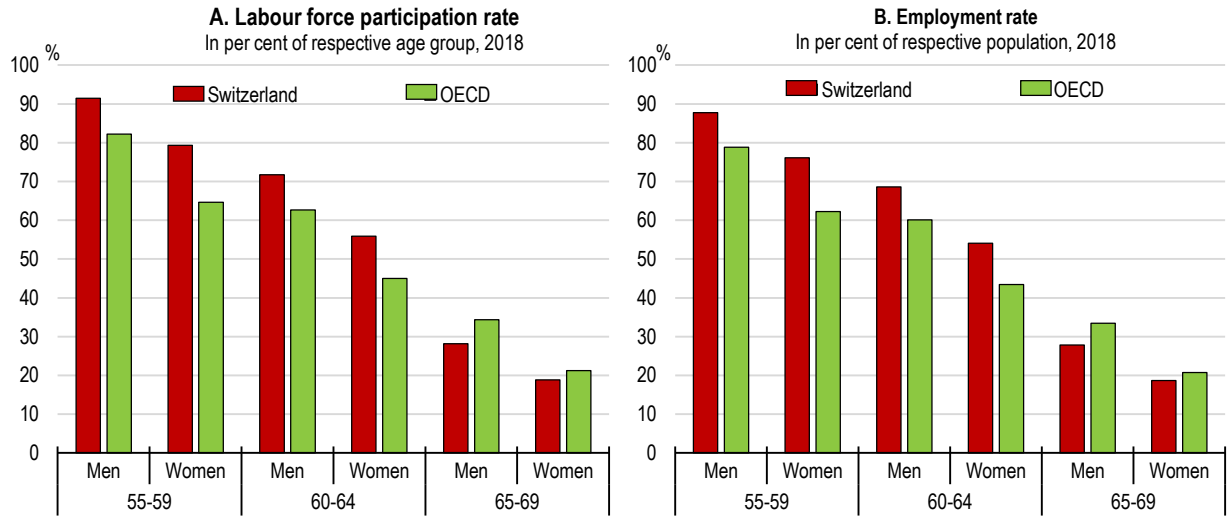
Lengthening working lives

Healthy ageing has made chronological retirement ages outdated, creating opportunities to depart from the standard "three stage life" of study, work and retirement and pursue different work objectives (Gratton and Scott, 2016). Working for longer can also maintain cognitive function and provide social stimulation, lowering the risk of dementia (Dufouil et al., 2014). Lengthening working lives will help manage the economic costs of ageing by adding directly to growth, attenuating skill shortages in some occupations, limiting pension-related public spending and raising tax revenue. Removing barriers and disincentives to working longer is therefore crucial for raising the effective retirement age, including by shifting the tax burden away from taxation of labour income.

Employment rates are high until the retirement age

Under age 65, labour force participation and employment rates are amongst the highest in the OECD but participation declines steeply thereafter, falling below the OECD average (Figure 2.17). In the past 20 years, the estimated effective retirement age increased in other countries by about three years but was unchanged for Swiss men at 66 years (Figure 2.18). The retirement age for Swiss women has increased by two years, but less than in other countries. To some extent, this is because effective retirement ages were already high. However, Swiss life expectancy is close to the top of the OECD. One driver for this stickiness has been the relatively high replacement rate (Bütler, 2009; Leisibach et al., 2018). Looking ahead, uncertainty about future returns, the potential fall in future pension benefits discussed above and concerns about financing a longer retirement may incentivise some workers to delay retirement.

Figure 2.17. Labour participation is high until age 65



Source: OECD, *Labour Force Statistics* database.

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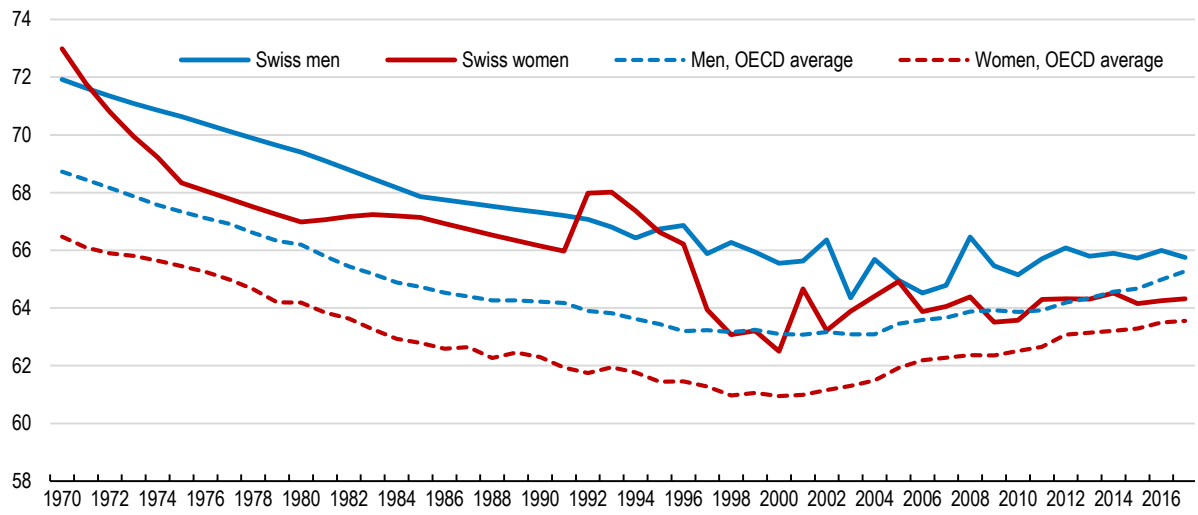
Figure 2.18. The effective retirement age has flatlined in Switzerland

Based on age of exit from the labour force



Note: The average age of labour market exit is used as a proxy for the average effective retirement age. It is calculated as a weighted average of (net) withdrawals from the labour market at different ages over a five-year period for workers initially aged 40 and over. It includes extrapolation of data for some countries. These estimates may differ from national estimates.
Source: OECD calculations based on national labour force surveys, the European Union Labour Force Survey and, for earlier years in some countries, national censuses.

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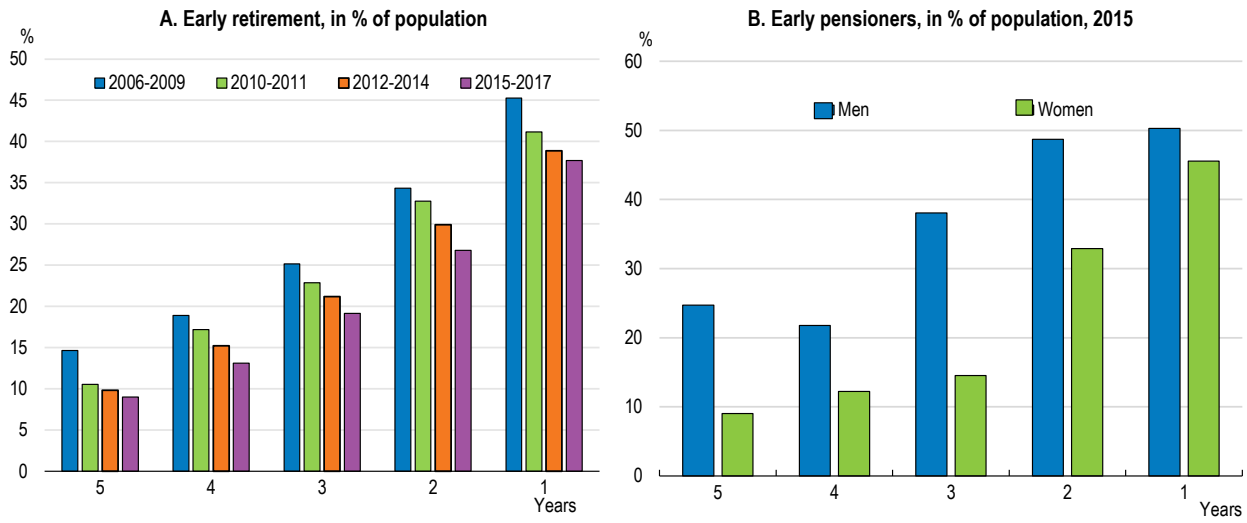
Around 38% of all workers retire at least one year before the legal age (Figure 2.19, Panel A). This is especially the case for men (40% of male workers), for employees (43% of all employees) and in finance and insurance (65% of workers in the sector). The occurrence has decreased in the past decade but remains high. In 2018 43% of Swiss not in the labour force and aged between 55 and 64 were retired, representing nearly 14% of the respective population (SECO, 2019). One important driver is the pension system's settings (Panel B). Three-quarters of early pensioners benefit from a second-pillar pension, even before officially retiring. Early retirement incidence has increased by 16 percentage points since the early 2000s, especially for higher-educated workers as they benefit from a high replacement rate (Dorn and Sousa-Pouza, 2005). The current high pension conversion rate (see above) contributes to replacement rates being sufficient to retire early. The expected fall in the conversion rate also currently increases incentives to retrieve second pillar benefits sooner.

Figure 2.19. Early retirement is receding but remains common

By years before statutory retirement age



Note: The statistics include only the population that worked until age 50. Panel A uses labour force data. In Panel B, the figures report those who receive a benefit from at least one of the three pillars.
Source: Federal Statistical Office.

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Facilitating early retirement appears socially inequitable and increases exposure to longevity risk. Sectoral agreements (like in the construction sector) and disability benefits address health inequalities in a more targeted way. Austria, Belgium, Germany and Finland tightened rules so that the early retirement age increased more than normal retirement age (OECD, 2017e). The earliest age to enter retirement in the second pillar (currently 58 years) could be revised up in line with the first pillar retirement age (62 for women, 63 for men).

The pension system does not encourage employment beyond age 65. In the second pillar, the law stipulates that contributions are not mandatory beyond age 65. Only some pension funds offer the option to postpone receiving pension benefits and postponement is not allowed beyond 70. More possibilities to continue contributing would help those who wish to augment their pension entitlements. In the first pillar, after age 65 workers continue paying contributions for part of the salary above CHF 1 400 per month (a fifth of the average wage), which reduces work incentives for most employees. In addition, an average earner postponing retirement by three years currently contributes around CHF 400 per month during those years to gain about CHF 400 per month later (equivalent to around USD 400 per month). The proposed

pension reform (discussed above) envisages decreasing the extra revenue substantially. However, the reform also plans to provide the possibility to compensate for gaps in pension rights through contributions after age 65, which would improve incentives.

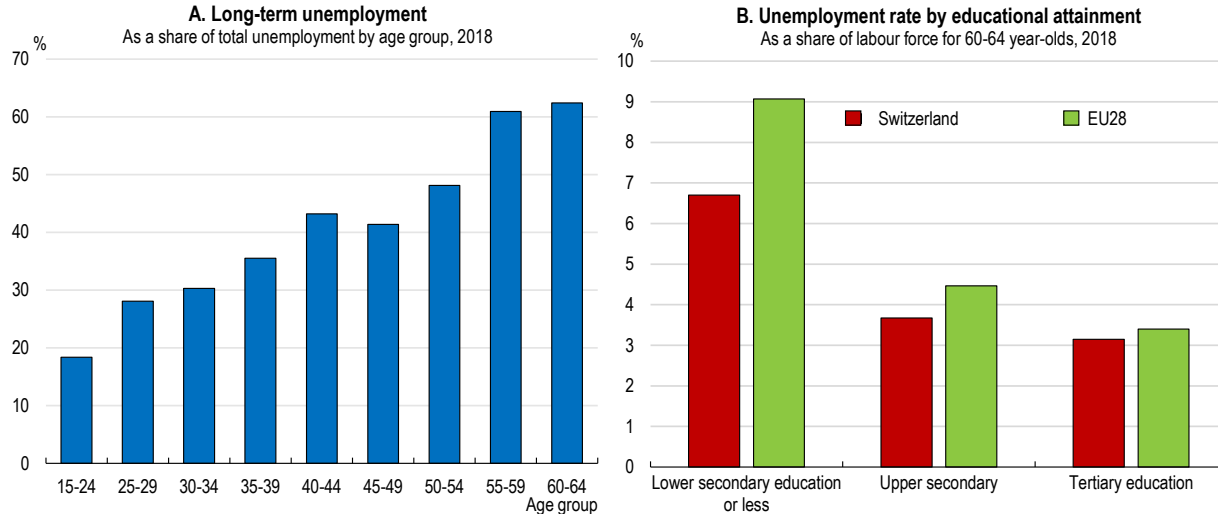
Senior workers tend to be more expensive for employers. Wages are strongly linked to seniority in Switzerland and pay can exceed productivity (OECD, 2014b). For example, for the same occupation and industry, a 65-year-old worker with 20 years of tenure at a firm receives (on average) up to 15% more than someone with 1 year of tenure (according to the government's wage calculator). The public sector could lead by example. In 2007 Finland finalised a new pay system for civil servants through a collective labour agreement that better links salary with job demands and individual performance (OECD, 2018d). The annual national conference on old-age workers, which gathers social partners and other stakeholders, could discuss ways to introduce greater flexibility into the system and increase older workers' employability, including by removing seniority wages. This would create a stronger link between wage and productivity developments. Greater provision of training to older workers could facilitate this change insofar as it helps them keep up their productivity.

In addition, minimum contributions to the second pillar rise with age, with employers paying at least half. Employee costs can increase substantially at age thresholds (ages 35, 45 and 55); the contribution rate for an average earner jumps 2.5 times between age 34 and 55. The current structure benefits younger workers who may have less leeway to invest in their future retirement. However, Switzerland is the only OECD country with such a mandatory system. Adjusting employer contributions to a flat rate so that only employee contributions increase with age would reduce this disincentive to hire older workers but maintain a progressive rate. If the overall rate of mandatory contributions remains low, a flat rate should not impact younger workers' employment. An alternative proposed by social partners envisages a flatter structure with only two contribution rates (with half paid by employers) (Box 2.4).

Job loss can be particularly damaging at an older age. While lower than elsewhere in Europe, unemployment rates are higher for older workers with less education and older jobseekers also face a higher incidence of long-term unemployment (Figure 2.20). For the 55-59 age group the incidence is higher than the EU average. The share of unemployed reaching the end of their benefits without re-employment also increases with age: at 23% on average, it reaches 27% and 31% for the 45-54 and 55-64 age groups, respectively (SECO, 2019). Swiss regional employment offices report that the main difficulties for re-employment of those aged 50 and over are: employers' preferences; employees' lack of confidence and skills to improve applications and résumés; narrow specialisation; lack of lifelong training; reservation wages; health status; and weak computer skills (Egger, Dreher & Partner AG, 2019). Recourse to social assistance amongst those aged 55-64 has increased to 2.9% in 2017 from 2.2% in 2011, but it remains lower than for the whole population (3.3% in 2017).

In May 2019, the government launched a reform package that includes additional spending on activation policies for older workers (Table 2.4). However, average spending on activation programmes per unemployed will remain well below leading OECD countries (see below). In Switzerland, investment in labour market programmes for the unemployed differs by age and by canton providing opportunities to promote best practices. Average duration of such programmes ranged from 31 to 67 days for those aged above 50, and from 30 to 115 days for those aged below 50 (Egger, Dreher & Partner AG, 2019), Given the profile of unemployment, intervention should also be earlier, at age 50 or 55. For example, in Denmark, unemployed over 50 are offered an activation programme within three months of unemployment compared to six months normally (OECD, 2018e).

Figure 2.20. Finding work is more difficult for older jobseekers, especially the less educated



Note: In Panel A, long-term unemployment is unemployed persons for at least one year.
Source: Eurostat, Labour Force Statistics.

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Table 2.4. New measures to strengthen the local labour force

Measure	Target group	Annual cost (CHF)
Strengthen pre-apprenticeship training (currently available to refugees) and extend it to immigrants who have not completed secondary school	Recognised refugees, provisionally admitted persons, adolescents and young adult immigrants who have not completed secondary education	15 million / 13 000 per person
Pilot programme providing work induction allowances to employers hiring refugees and those admitted on a temporary basis	Refugees and provisionally admitted persons whose placement remains difficult	3.8 million / 12 000 per person
Free situation analysis and career guidance for workers aged 40 and over will be piloted in 2020-21 and extended to all cantons over 2021-24	Workers aged 40 and over	6.6 million for pilot 7.6 million thereafter
Consistent recognition of existing skills and prior learning for professional certification programmes to enable adults to acquire a vocational qualification more efficiently.	Adults aged 25 and over	0.6 million
Additional funding to cantons to enable regional job centres to better support jobseekers who are difficult to place	Jobseekers who are difficult to place, particularly seniors who do not have unemployment insurance benefits	62.5 million
Access to training for jobseekers aged over 60 whose unemployment insurance has expired	Jobseekers over 60 who have not found a new job after their unemployment benefits expired (around 2 600 people)	21 million
"Transitional" benefit for unemployed persons aged 60 or over, subject to conditions including assets excluding the main residence below CHF 100 000 for singles or CHF 200 000 for couples	Unemployed workers who exhausted unemployment benefits at the age of 60 or over	40 million in 2022 / 230 million in 2025

Note: Monetary amounts shown relate to the Confederation and are in constant prices.
Source: Swiss Confederation (2019), *Fiche d'information : mesures pour renforcer l'encouragement du potentiel de la main-d'oeuvre en Suisse* [Factsheet: Measures to strengthen the promotion of the potential of the workforce in Switzerland]; *Prestation transitoire pour chômeurs âgés : ouverture de la procédure de consultation* [Transitional benefit for elderly unemployed: opening of the consultation procedure].

Welfare benefits should not be pathways to early retirement. The 2019 reform package will create a new benefit scheme for jobseekers above age 60, subject to an assets test and other conditions. The scheme will be costly and will likely reduce incentives to undertake training and to search for work below age 60; it should be reconsidered. Alternatively, conditions should expand to requirements to participate in training or community service, or continue looking for a job. The extended period of unemployment benefits for older people (a bonus of six months both at 55 and four years before the legal retirement age) is also not recommended, as explained in OECD (2019e). Denmark removed a similar scheme in 2011. Extended unemployment and transitory benefits will allow someone aged 58 to wait for official retirement with government support and reduce incentives to undertake training at younger ages. In Finland, the availability of unemployment benefits from age 61 until the statutory retirement age has increased inflows to unemployment substantially because employers tend to target dismissals to eligible workers and because those workers voluntarily choose to use the "unemployment tunnel" (OECD, 2018f).

The invalidity scheme is also a pathway for retirement. Past reforms successfully activated people with disabilities, including older workers (OECD, 2014b). The number of recipients decreased by 1.3% per year on average over 2007-17. However, a parallel system of extraordinary allowances reserved for Swiss nationals who are close to qualifying for the normal allowance increased by 3.2% annually over that period. The authorities should ensure that everyone faces identical eligibility criteria.

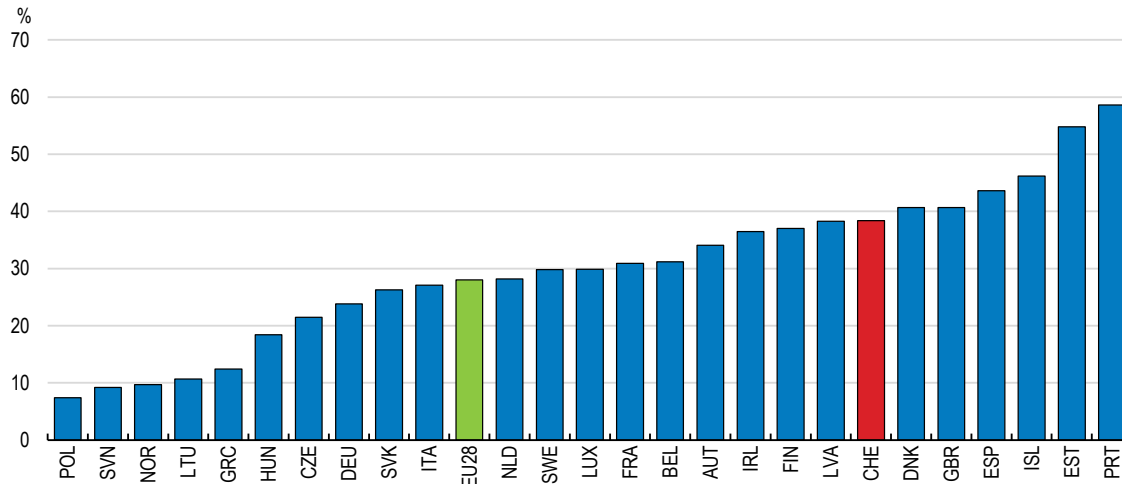
In the context of digitalisation, new tools, tasks and jobs will emerge over time requiring different skill sets, which call for upskilling and reskilling over the life course and well-adapted adult learning systems (OECD, 2019c). Because technological advances can reduce the physical demands of jobs and make jobs more flexible, older workers stand to benefit. Swiss regional unemployment offices also highlight the importance of lifelong training to lower the risk of unemployment for older workers and to help offices match their training offer with employers' needs (Egger, Dreher & Partner AG, 2019). However, adults with low skills have usually lower employment opportunities at older ages, because their skills are more at risk of being outdated and they tend to participate less in ongoing training (OECD, 2017b). Eurostat data show that in 2018 about 44% of workers with a tertiary education participated in training, far above other European countries. But the participation rate for workers without upper secondary education was only 11%, below the Nordic countries and Iceland.

In 2018 Switzerland launched a *Basic Skills in the Workplace* programme, targeting less-educated workers and including IT skills, which reached about 1 500 participants in the first year. If it is effective, it should be expanded. The May 2019 reform package includes free career guidance and skills assessment after age 40 for all adults, which should help promote the take-up of training for those in need. Subsidies or vouchers could encourage targeted groups to invest in training (OECD, 2017b). Better recognition of existing skills through validation and certification would lower barriers to formal training in Switzerland (OECD, 2014b). In 2019, the federal government announced that it will provide cantons with guidelines and CHF 3.2 million to promote professional certification which should improve skills recognition and further formal training. Monitoring and sharing experiences across cantons are essential for success.

The incidence of involuntary retirement is relatively high in Switzerland (Figure 2.21). In addition, 6% of job advertisements have age caps (Buchs and Gnehm, 2018). Applications are also sometimes filtered out by age. Employers may have stereotypes that are prejudicial to hiring older workers (OECD, 2014b). Retaining older workers depends on the balance of experience, knowledge transfer and skill shortages against concerns about lower productivity and adaptability. Negative employer perceptions can lead to mandatory retirement stipulated in contracts or forced retirements. For example, civil servants need an extension to their contract at the legal retirement age to continue working. While the Constitution rejects all forms of discrimination, there is no law preventing age discrimination. It should be prohibited, as in all other OECD countries (OECD, 2018g). To ensure effectiveness, this should be complemented by enforcement measures and campaigns to change social norms (OECD, 2014b). In Sweden the Equality Ombudsman is charged with monitoring compliance with the Discrimination Act. In the Netherlands, vacancy announcements are screened.

Figure 2.21. Involuntary retirement is relatively high

Share of pensioners aged between 50 and 69 who would have preferred to stay longer in employment, 2012



Source: Eurostat.

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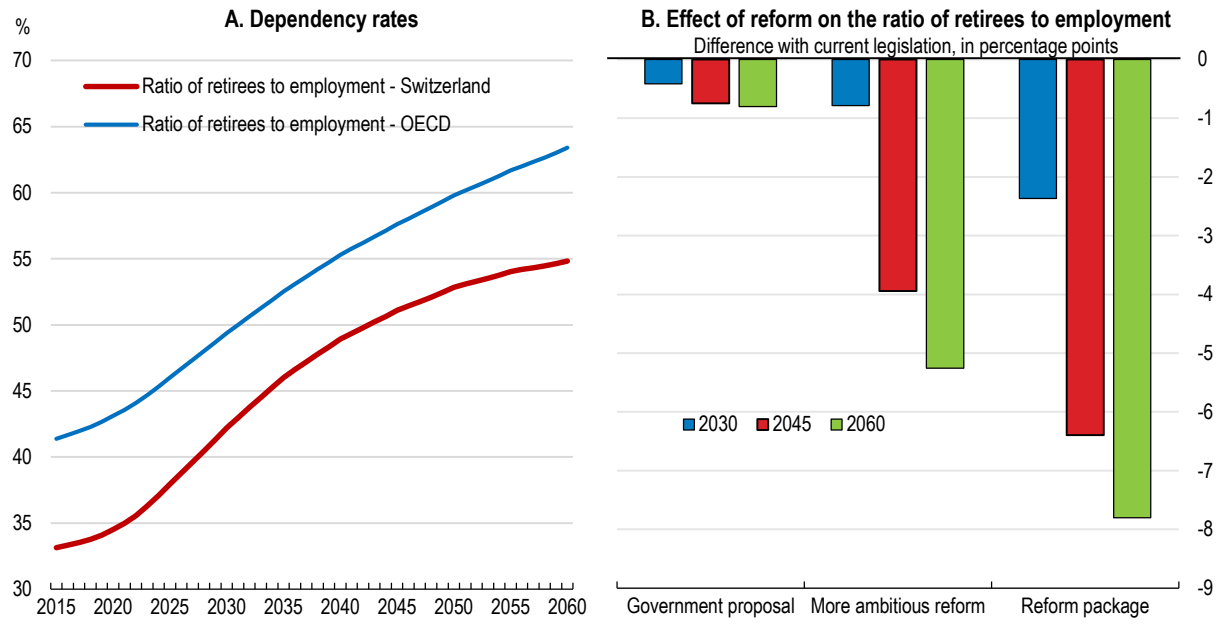
Shortages are already evident for some occupations and will worsen as ageing bites and immigration slows, unless changes in workplace culture and practices encourage older workers to remain in the workforce longer. In 2019 the authorities organised the fifth annual conference on old-age workers. It raised awareness of the risk of shortages but more direct campaigns could force firms to confront and better prepare for an ageing workforce. New forms of work could help align older workers' preferences with their abilities. Less physical and more part-time work and consultancy could facilitate phased retirement. Adopting new technologies could facilitate teleworking – in 2018 only 10% of the employed teleworked in Switzerland compared to more than 30% in Nordic countries – and reduce physical work. Preventive health and safety programmes also improve employability. Switzerland could use its annual conference to establish a framework similar to *Strategy55+* in Spain. This strategy, established in 2011 after consultation with social partners, proposes preventive measures supported by training, information, research and occupational risk assessment (OECD, 2018h).

Switzerland has room to ease the transition to retirement through greater workplace flexibility. Reducing hours could enable some workers to remain in the workforce, if they desired: in 2012, 9% of older workers reduced working hours before retirement compared to 17% in the Netherlands (according to Eurostat data). Some Swiss early retirees continue working: they usually receive full retirement income from the second pillar and continue contributing to the first pillar. A previous survey reported 30% of them doing so, highlighting the potential of phased retirement (Dorn and Sousa-Poza, 2005). Workers continuing beyond 65 typically reduce their hours: average hours are 84% of a full-time position between age 55 and 64, which declines to 45% for the 65-69 age group (SECO, 2019). Providing partial pension benefits while working beyond the statutory retirement age would raise employment rates beyond age 65: it is currently only possible in some pension funds and not at all in the first pillar. In Austria for example, retirees can continue working and their pensions are recalculated each year (OECD, 2017e). The proposed reform to the first pillar is welcome in that regard (Box 2.3).

Implementing a package of reforms now could lift the effective retirement age and limit the economic costs of ageing. The ratio of retirees to employed workers will increase steeply in the next decades (Figure 2.22, Panel A). According to OECD simulations, the government proposal to increase the female retirement age to 65 by 2026 will have a negligible impact on the ratio of retirees to employed workers (Panel B). A more

ambitious reform that increased the retirement age to 67 by the early-2030s and in line with half of the increase in life expectancy thereafter could reduce the ratio by 5 percentage points in 2060. A reform package also comprising increased spending on labour market activation policies and labour market reforms to increase the retirement age by six months could raise the older-worker employment rate by about 8 percentage points by 2060 (to 57%, which would still be below countries like Iceland and Japan in the OECD's long-term scenarios). It would also boost GDP by 10% in 2060, offsetting the direct effects of population ageing (Figure 2.2, Panel A).

Figure 2.22. Reforms could alleviate economic effects of the rising dependency rate



Note: The age-based dependency rate is the ratio of the population above the legal retirement age to the population aged between 20 and the retirement age. Panel A describes the situation based on current legislation. In Panel B, the "government proposal" sets the retirement age at 65 for both sexes by 2026. The "more ambitious reform" also increases the retirement age by three months every year to 66 in 2030 and 67 in 2034, and by half of the expected gain in life expectancy thereafter (one month every two years thereafter to reach 68 in 2058). The "reform package" adds an increase in active labour market policies spending by two-thirds (to the average of Denmark, Hungary, Sweden, Germany and Luxembourg) and an increase in the effective retirement age to proxy for prohibiting age discrimination and removing the additional duration unemployment benefits for older workers.
Source: Federal Statistical Office; simulations based on the OECD Economics Department Long-term Model.

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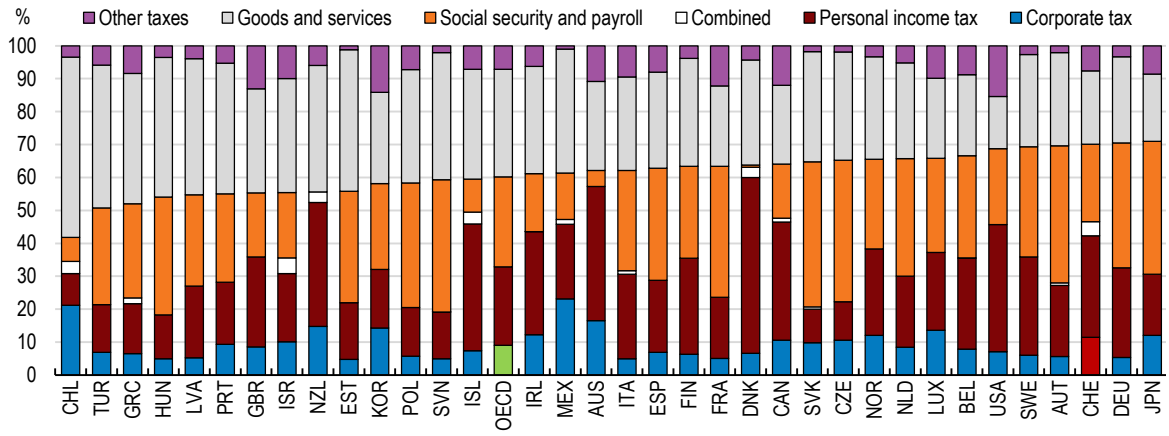
Revenues rely on labour taxation at all levels of government

Switzerland relies more heavily on direct taxation, particularly personal income taxation, than most OECD countries (Figure 2.23). But taxation of labour income acts as a disincentive to work (Akgun, Cournède and Fournier, 2017; Arnold et al., 2011). Cantons and municipalities, which will bear the brunt of the ageing-related spending pressures (Brändle, Colombier and Philipona, 2016), rely on personal income taxation for 60% and 66% of their tax revenues, respectively. Ageing may also pressure revenues, creating a need for higher tax rates. The economic literature on the effects of ageing on revenues is fairly limited and the outcomes depend heavily on modelling assumptions (Woodland, 2016). Ageing will likely weigh on tax revenues from labour income. However, the effects of ageing on revenue from taxing capital income and consumption are difficult to predict (Nerlich and Schroth, 2018). In Switzerland older households tend to have higher consumption spending, which may support revenue from consumption-based taxes.

Figure 2.23. The tax mix is tilted towards direct taxation



Note: Countries are sorted according to the share of direct taxation including social security contributions. Data are for 2017.
Source: OECD, *Revenue Statistics* database.

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Previous OECD *Surveys* have recommended reducing distortions in the Swiss tax system by shifting the tax base away from labour-related taxation and towards more indirect taxation as well as improving the design of individual taxes (OECD, 2012). Such reforms would better equip government finances for the challenges ahead, and also boost growth. Simulations calibrated for Switzerland highlight this clearly: funding higher projected pension spending through labour taxation could reduce GDP per capita by 20% in the long run whereas raising VAT and the retirement age would halve this effect (Box 2.6). Given the difficulties in changing taxation in Switzerland, with the possibility (or requirement for some taxes) of a referendum, and the considerable uncertainties around future revenues, revenue projections and discussion should be included in the government's regular long-term fiscal sustainability reports to help communicate the need for reform. A reform would also require changes to the fiscal equalisation formulae that distribute revenue between and within levels of government.

Box 2.6. Simulated benefits of comprehensive reforms

Keuschnigg (2018) conducts simulations using an overlapping generations model calibrated for Switzerland. He explores the effects of ageing on pensions, taxes and social contributions and contrasts the economic effects of a "passive scenario", where labour taxation increases, against more comprehensive reforms (Table 2.5). A reform that raised the VAT rate by four percentage points and delayed retirement by three years could reduce the need for labour taxation, thereby halving the decline in GDP per capita. More extensive reforms that raised employment could remove the need for any increase in labour taxation.

Table 2.5. Simulated effects of different tax and pension policy reforms

Long-run difference from initial steady state

	Passive scenario (1)	With VAT financing and delayed retirement (2)	With VAT financing, delayed retirement and pension reforms (3)	With all reforms, increased monitoring of unemployed and training (4)
Labour taxation (% pts)	7.1	1.9	0.5	0.1
Implicit PAYG tax (for employers and employees) (% pts)	5.9	0.9	-1.5	-1.8
Effective tax on hours worked (%pts)	9.7	2.0	-1.0	-1.2
VAT (% pts)	0.0	4.0	4.0	4.0
Hours worked (%)	-1.6	-1.2	-0.8	-0.8
GDP per capita (%)	-19.9	-9.9	-7.5	-5.7

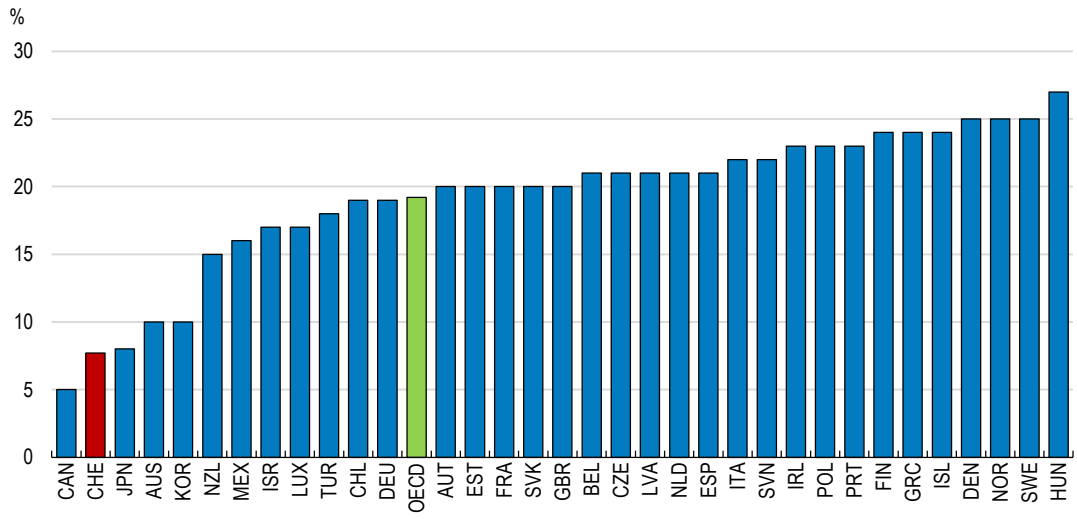
Note: Column 2 includes an increase of three years in the retirement age. Column 3 adds pension reforms that eliminate the ceiling in the first pillar and stop accumulation of pension entitlements when unemployed. Column 4 adds tighter monitoring of the unemployed and public investment in promoting training

Source: C. Keuschnigg (2018), "Aging, Taxes and Pensions in Switzerland", in R. Holzmann and J. Piggott (eds), *The Taxation of Pensions*, MIT Press, Cambridge.

There is considerable scope to expand VAT. Switzerland's standard VAT rate of 7.7% is currently the second-lowest in the OECD and well below the 20% OECD average (Figure 2.24). The government has been discussing raising the rate for many years, and proposes to raise it by 0.7 percentage points as part of planned pension reforms. However, change has proved difficult partly because the rate is in the Constitution and changes must pass a referendum. In 2018 the VAT rate fell because a previous increase expired. VAT is an efficient tax base because it does not affect saving incentives, has smaller work disincentives than labour income taxation and exports are zero-rated (with no VAT payable but VAT paid on inputs can be recovered). Cross-country analysis suggests that the current rate is likely more than 10 percentage points below the level at which high rates would reduce VAT revenues (Akgun, Bartolini and Cournède, 2017). Leakage due to fraud and tax evasion appears low: in 2016 revenue collected amounted to almost 70% of potential revenues (proxied using consumption and the standard rate), one of the highest ratios in the OECD (OECD, 2018i).

Broadening the VAT base would boost revenues, reduce administration costs and improve efficiency. Reduced rates (2.5% and 3.7%) and exemptions apply to a range of goods and services. Evidence from other OECD countries shows that reduced rates for goods like magazines and cultural services disproportionately benefit high-income households (OECD/KIPF, 2014). VAT exemptions are also inefficient and can have unintended consequences; for example, exemptions for pesticides and fertilisers likely encourage over-consumption. A 2007 study showed that the standard rate could be 1.1 percentage points lower with a broader base (Swiss Federal Audit Office, 2007). Distributional concerns could be addressed though reductions in income taxes for lower-income households, offsetting social security contribution credits or larger and better targeted subsidies for mandatory health insurance premia, as recommended in OECD (2012).

Figure 2.24. Switzerland's value-added tax rate is the second-lowest in the OECD



Note: Data are for 2018.
Source: OECD, *Revenue Statistics* database.

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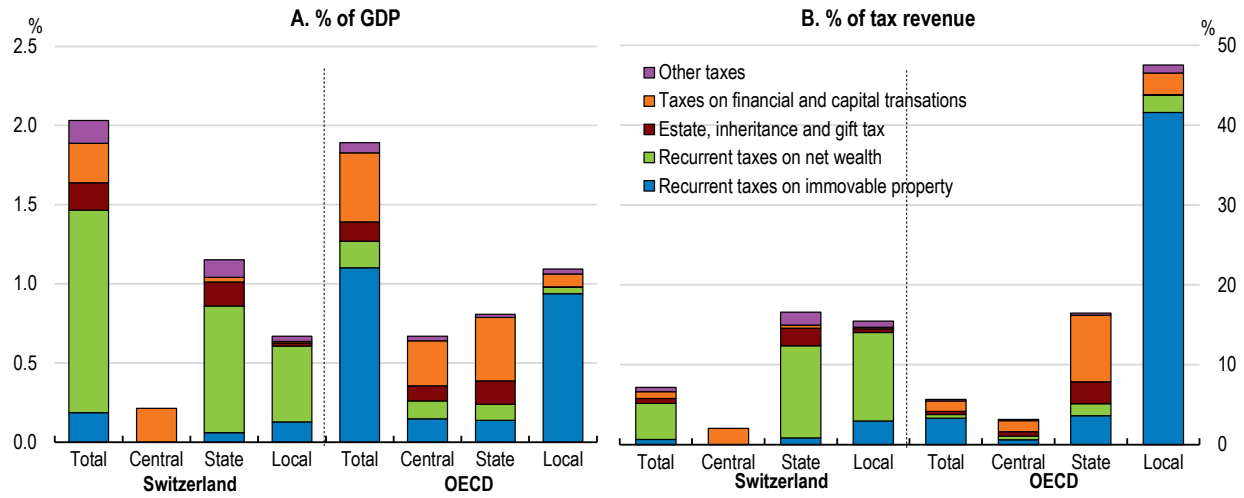
Increasing revenues from recurrent tax on immovable property could make room for lower personal income taxation. Although property tax revenues represent around 2% of GDP, which is close to the OECD average, the composition differs, with greater reliance on recurrent taxes on net wealth rather than on immovable property (Figure 2.25). The latter is particularly common for local governments in other countries. While net wealth taxes can help reduce inequality, they are less efficient than a combination of broad-based capital income taxes and inheritance and gift tax (OECD, 2018j). In particular, wealth taxes create disincentives to accumulate wealth and incentives for tax optimising behaviour and may lower output (Cournède, Fournier and Hoeller, 2018). Evidence from Switzerland suggests households are highly sensitive to even a small (0.1%) increase in the tax rate but will employ tax avoidance strategies rather than moving to a different jurisdiction (Brülhart et al., 2016).

Recurrent taxes on immovable property can help offset the pressures that ageing will place on revenues in municipalities with faster demographic change (Figure 2.4). These taxes are also difficult to avoid and because the tax base is less mobile than income or capital, they can also limit tax competition. Cantons should consider assigning these property taxes fully to municipalities. Although such taxes can be unpopular, these reforms would give municipal governments more flexibility to meet future spending challenges. Increases in taxation of immovable property can be designed to limit the effect on low-income households, particularly the elderly, by deferring tax payment or using special credits (Blöchliger, 2015). Given the evidence that inheritance taxation is not distortionary and improves equality, cantons could shift some wealth taxation to inheritance taxation (Akgun, Cournède and Fournier, 2017).

Figure 2.25. The property tax mix differs considerably from the average OECD country



Note: Data are for 2017 for Switzerland and 2016 for the OECD average. The OECD average is unweighted.
Source: OECD, *Revenue Statistics* database.

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Greater use of environmentally-related taxation could generate additional revenues and incentives to green the economy. These taxes are currently almost entirely on energy use and motor vehicles. They raised the equivalent of 1.6% of GDP in 2016 compared to around 2% in the median OECD country. Taxation could help reduce the environmental cost of transport, which accounts for 40 per cent of greenhouse gas emissions from energy use. Swiss new cars have the highest CO_2 emissions in all EU-European Free Trade Association countries. The federal tax on vehicle purchases is currently uniform except for electric vehicles. Linking the rate to the level of pollutants (including CO_2 and NOx) would strengthen price incentives. Israel currently applies a vehicle tax linked to five pollutants (OECD, 2016b). Nine cantons currently link their annual vehicle taxes to CO_2 emissions. A redesigned federal structure could help more cantons to link these annual taxes to cleaner cars. Other local taxes and charges could further boost sub-national government revenues.

Road pricing takes different forms. There is currently a low motorway toll on highways and freeways and cantons may apply to charge road tolls for specific use, such as infrastructure. The heavy goods vehicle tax appears to have helped shift traffic from road to rail but there is scope to increase it further (OECD, 2017f). Congestion charging, as in other cities like London and Milan, can reduce traffic and air pollution. Mobility pricing was piloted over 2011-15. The authorities are currently undertaking an impact analysis using the canton of Zug as an example. Expanding the coverage of the distance-based transport tax beyond heavy vehicles and introducing congestion charging would price road use more effectively (ITF, 2018, OECD, 2017f). This could also offset the diminishing effectiveness of fuel pricing in capturing negative externalities from congestion and road use as electric vehicles become more popular (van Dender, 2019). Decreasing tax benefits associated with a company car would diminish incentives for employees to take part of their salary as a car and reduce forgone revenues. The 2017 *Environmental Performance Review of Switzerland* pointed to the environmental benefits of broadening the tax on volatile organic compounds to include low emitters, removing exemptions to the CO_2 tax and imposing higher fees for waste disposal (OECD, 2017f).

Coping with rising demand for health care and long-term care

Population ageing will increase demand for health and long-term care. Older Swiss are in better health than their counterparts in most other OECD countries, thanks to higher incomes, healthier lifestyles and quality health care. Life expectancy at birth is the second-highest in the OECD and measures of quality are above EU averages (OECD/EU, 2018). However, this comes at a higher cost than in countries with similarly good (or better) outcomes (Figure 2.26, Panel A). Moreover, health care spending has grown by 1.4% of GDP since 2009 whereas it has been contained in countries with similar institutional characteristics – like Germany and the Netherlands – and in the United States, the only OECD country with higher expenditure. Households largely bear the cost: out-of-pocket payments are the highest in the OECD (Panel B). Households must also purchase health insurance from private providers, which finances around 40% of spending (Box 2.7).

Box 2.7. Key features of the Swiss health system

The Swiss health care system is highly decentralised with the 26 cantons shouldering major responsibilities for securing service provision, supervising providers and ensuring affordability through various subsidies (Table 2.6). Some cantons have delegated responsibilities such as long-term care to municipalities. The number of actors in the system makes co-ordination particularly important. The Swiss Conference of Cantonal Ministers of Public Health co-ordinates between cantons. The National Dialogue on Health Policy co-ordinates policy between cantons and the Confederation.

Table 2.6. Key roles in the health and long-term care system

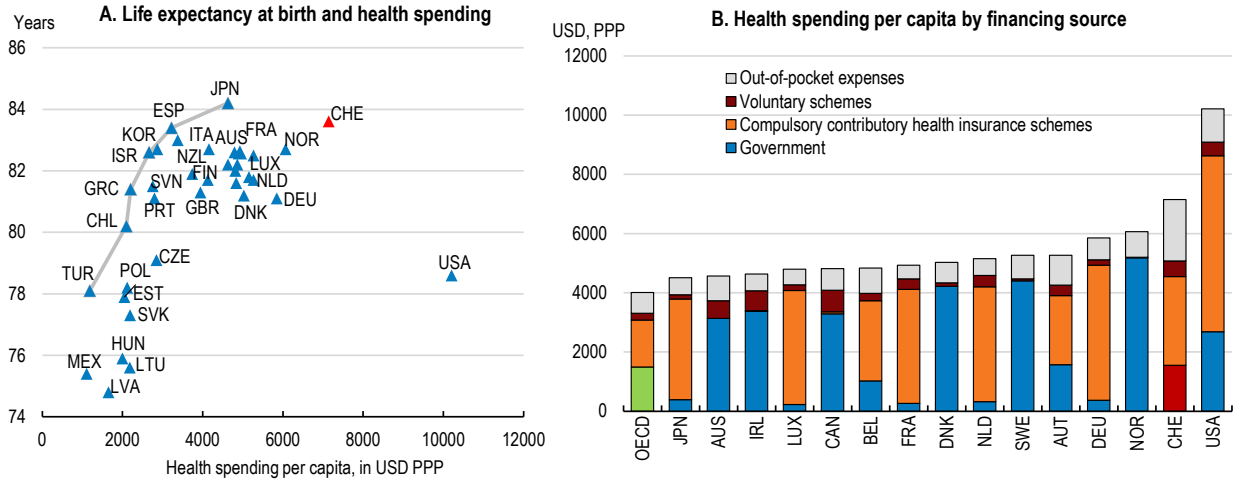
	Financing	Service provision and other responsibilities
Confederation	Legislative responsibility on financing of mandatory health insurance (LAMal) Subsidises low-income households' mandatory health insurance (with cantons) Pays a helplessness allowance	Legislative responsibility for quality of long-term care, pharmaceuticals and medical devices, public health, research and training Health worker immigration
Cantons	Large share of inpatient care financing Subsidise low-income households' mandatory health insurance Pay residual costs of health-related long-term care Pay supplementary benefits to the old-age pension May subsidise long-term support services	Securing provision, sometimes directly (e.g. most hospitals, construction and running costs of long-term care) Co-ordinate prevention and health promotion activities Issue and implement legislation Train health workforce Set tariffs if providers and insurers do not agree
Municipalities	Varies depending on canton	Depending on the canton, may run nursing homes or contract such services
Insurers / associations of insurers	Negotiate tariffs with providers (if applicable)	
Individuals	Contribute to the cost of insured benefits they receive usually via deductibles and retention fees. For long-term care costs patients' contributions are capped at 20% of health insurers' contribution. Pay long-term support service costs including board and accommodation in long-term care	Provide informal care services for others

The most important piece of legislation is the Federal Health Insurance Law ("Loi Fédérale sur L'Assurance-Maladie", or LAMal). From 1996, it introduced universal health coverage through mandatory health insurance with insurance premia subsidised for social assistance recipients, children and some low-income households and expanded the scope of benefits covered. It also aimed to contain rising costs. Individuals choose amongst competing health insurers, which are not allowed to make profits from their basic health insurance business. Insurance premia are community-based and determined by age (three categories), gender and canton with some risk equalisation across insurers to compensate for differences in their members' risk profiles. Insurers can reduce premia by offering higher deductibles, up to a limit. There has been substantial growth in managed care insurance plans that restrict access to a specified network of providers.

Source: I. Sturny (2017), *The Swiss Health Care System*, International Health System Profiles, The Commonwealth Fund; S. Boes, S. Mantwill and T.K. Wicki (2018), *The Health Systems and Policy Monitor: Switzerland*, European Observatory on Health Systems and Policies; OECD/WHO (2011), *OECD Reviews of Health Systems: Switzerland 2011*.

The government's *Health2020 Strategy*, launched in 2013, aims to address challenges associated with ageing and rising costs and to make the system more people-centred. However, the multitude of stakeholders, including 26 cantons, complicates reform (Table 2.6). Long-term care is even more complex because some services fall outside of the health care system and are financed by users. Financing and provision will face challenges as demand expands (Federal Council, 2016).

Figure 2.26. The Swiss health care system is high quality but costly



Note: Data are for 2017. In Panel A the line shows the countries with the highest life expectancy at different levels of spending. In Panel B only countries with expenditure above the OECD (unweighted) average are shown.
Source: OECD, *Health Statistics* database.

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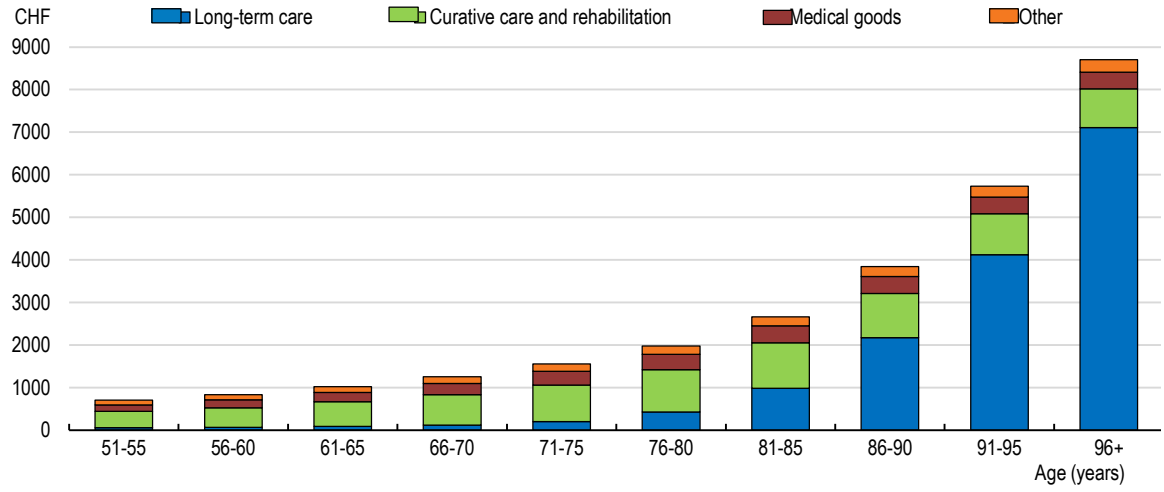
Ageing will push up costs and inequality

The average cost of health care rises steeply at older ages (Figure 2.27). In 2016 around one-fifth of spending was accounted for by the 4% of the population aged over 80, reflecting high costs of long-term care, including palliative care. However, non-demographic factors drive per capita spending growth (Lorenzoni et al., 2019). These include rising incomes, the spillover of real wage growth from other sectors of the economy with faster productivity growth and technological progress that adds to demand. A shift-share analysis for Switzerland confirms that demographic change explains less than one fifth of the growth in real health care spending per capita over 2011-16. Nonetheless, the growing number of elderly will drive up overall spending in coming years. Combined with varying needs, this trend will expand demand for long-term care, as discussed below.

Figure 2.27. Curative care and long-term care needs drive higher costs at older ages

Annual health care costs per capita, 2016



Note: "Other" comprises spending on ancillary services, prevention and administration.
Source: Federal Statistical Office.

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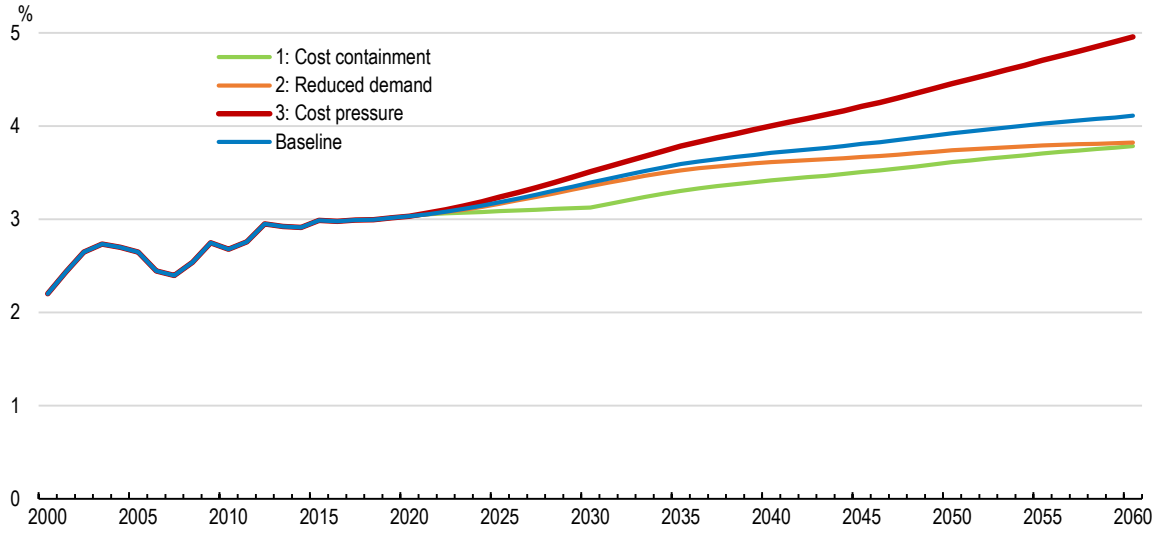
Simplified projections for public health expenditure that take into account the elderly population share and non-demographic trends suggest that it will increase by 0.4 percentage points of GDP by 2030 and 1.1% by 2060 (Figure 2.28). These projections are lower than more detailed national projections which project spending to grow by 0.7 percentage points of GDP by 2030 (Brändle and Colombier, 2017). Stronger reforms to enhance the cost-efficiency of care in line with past efforts or reduce demand would further curb public spending and reduce pressure on households (Scenarios 1 and 2). By contrast, weaker productivity growth in health care relative to the overall economy would raise the burden of health care spending (Scenario 3). These scenarios highlight the importance of policies to contain the demand and cost of care by putting Switzerland on a healthy ageing path.

Figure 2.28. Public health spending will rise and cost containment is key

Public health and long-term care spending as a percentage of GDP



Note: Scenarios for health care spending use a combination of the old-age population share, income growth and a time trend to capture technological progress. In Scenario 1, real spending per capita growth is contained to 0.8% per year for 10 years (compared to 1.5% average structural growth achieved in some high-spending countries over 2010-13 (Lorenzoni et al., 2018a). In Scenario 2, the elasticity of spending to income growth is lower. In Scenario 3, costs increase in line with the Baumol scenario of Brändle and Colombier (2017).
Source: Simulations based on the OECD Economics Department Long-term Model.

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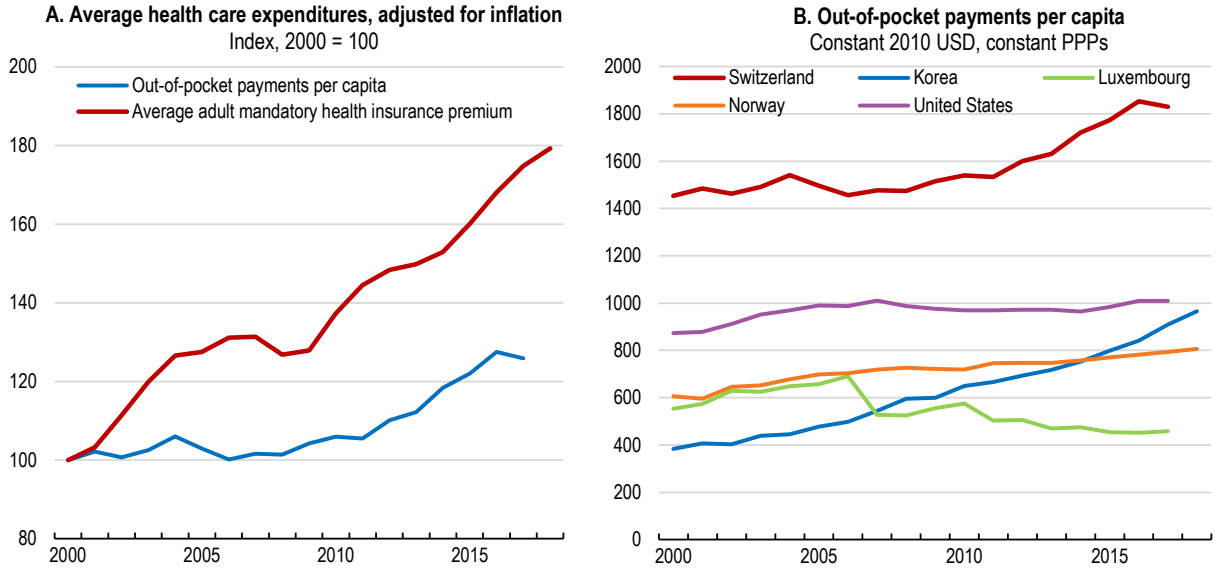
Cost containment is becoming more critical because rising costs are increasing financial pressure on households. Average mandatory health insurance premia and out-of-pocket payments have long outpaced inflation (Figure 2.29, Panel A). Mandatory health insurance premia rose to 8.4% of household consumption in 2017. Out-of-pocket payments reached 6.8% of household consumption in 2016, and until 2017 had risen faster than in other countries where these payments are also high (Panel B). High costs affect access: 22% of Swiss respondents reported having a cost-related problem to access medical care in the previous year, compared to 17% of French and 7% of German respondents (Schneider et al., 2017). Among those on low incomes, the share was 30%. Similar shares of Swiss skipped dental care or check-ups because of cost; dental care is not covered by mandatory health insurance. However, national survey data suggest that for those who needed care, the rates were much lower with 3.3% of respondents being deprived of necessary medical or dental care for financial reasons. Nonetheless, skipping check-ups and treatment can in turn worsen health and widen inequality later in life, especially if work is affected (OECD, 2017d). Later detection of illness also adds to cost pressures.

Figure 2.29. Insurance premia and out-of-pocket payments have risen substantially



Note: In Panel A health insurance costs are deflated by the consumer price index. The average mandatory health insurance premium is the average amount paid by adults aged 26 years or more.
Source: Federal Statistical Office; OECD, *Health Statistics* database; Federal Office of Public Health, *Statistique de l'assurance-maladie obligatoire 2017* [Mandatory health insurance statistics 2017].

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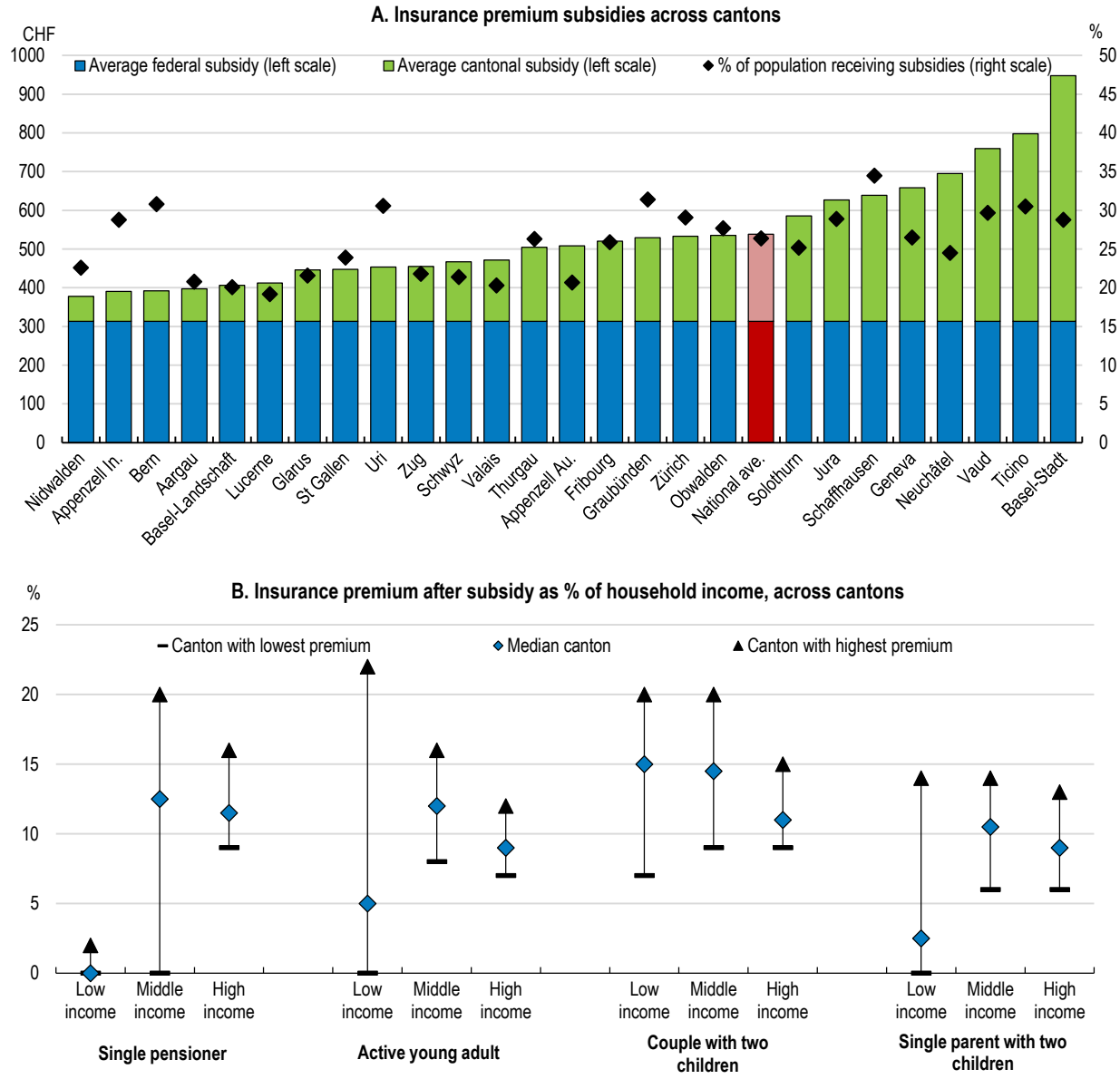
Mandatory health insurance premia worsen inequality because they are a flat rate and therefore impose a larger burden on low- and middle-income households, even after subsidies (Ecoplan, 2018). The cost of insurance premia outpaced subsidies over 2011-17. The Household Budget Survey indicates that an average household spent 6.2% of its income on mandatory insurance. However, simulations by Ecoplan (2018) suggest that the share is much higher for a household on modest income without social assistance. By law, cantons subsidise social assistance recipients, children and young adults in education but have considerable freedom in deciding the subsidy level as well as eligibility criteria, leading to stark differences in average subsidies (Figure 2.30, Panel A). Low-income pensioners are protected in all cantons but insurance can cost a middle-income pensioner up to one-fifth of their income (Panel B). Crivelli and Salari (2014) also show that the system is regressive within cantons, to varying degrees depending on the canton. Since 2011 the burden on those with modest incomes appears to have risen (Ecoplan, 2018). Some cantons have reduced their subsidies in response to their own financial strains. However, in early 2019 the Federal Court prevented Lucerne from lowering its subsidies further because it made health care unaffordable.

Figure 2.30. Cantonal policies lead to large differences in insurance costs



Note: In Panel B low, middle and high income correspond to the 25th, 50th and 75th household gross salary percentiles. "Middle income" is CHF 50 567 for a young adult, CHF 33 050 for a single pensioner, CHF 65 465 for a single parent with two children and CHF 100 016 for a couple with two children. In 2019Q1 the franc was at parity with the US dollar. See Ecoplan (2018) for full details, including three other sample household types.

Source: Federal Office of Public Health, *Statistique de l'assurance-maladie obligatoire 2017* [Mandatory health insurance statistics 2017]; Assurance-maladie : Monitorage de la réduction des primes *[Health insurance: monitoring the reduction of premiums].*

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Recognising the burden of rising health care costs, the government plans many cost containment measures, discussed in the following section. Individuals' premia would be reduced by improving the market for health insurance. Managed care insurance plans, which restrict patients' choice of service provider, expanded from 7% of the market in 2000 to 64% in 2017. This system has already reduced over-use of health care and generated substantial cost savings (Kauer, 2016). A risk equalisation mechanism transfers money between insurance companies to adjust for selection effects but it does not take into account many risk factors (OECD, 2015b). Including more factors would foster genuine and fair competition. More generally, insurance premia could be reduced by narrowing the benefit basket using stricter cost-effectiveness criteria. For example, most OECD countries do not cover alternative medicines like homeopathy. This can, however, be difficult to implement. To reduce the regressivity of the system, cantons should work with the federal government towards a national framework that links subsidies to taxable income and adequately protects the poor. A simpler system would also be cheaper to administer (OECD/WHO, 2011).

Cost containment is a priority in the health care sector

Past OECD reviews of Switzerland's health sector have emphasised the considerable scope for increasing efficiency and cost-effectiveness without sacrificing quality, by improving cost effectiveness of treatments, reducing fragmentation and duplication, and through prevention (OECD/WHO, 2011; OECD, 2015b). Recent cross-country empirical work suggests that fee-for-service models and user choice – characteristics of the Swiss system – are associated with higher spending (Lorenzoni et al., 2018b; de la Maisonneuve et al., 2016; Fall et al., 2014). Hospital prices are almost twice the OECD average (92% higher) (Lorenzoni and Koechlin, 2017). Improving pricing and incentives is crucial. Recent reforms partly tackle these issues. For instance, from 2019 insurance coverage for some standard procedures is limited to outpatient treatment (for example, tonsillectomies are only insured as day surgery). In 2017 triennial price comparisons of pharmaceuticals prices resumed, incorporating cost-benefit comparison with other products along with (existing) international price comparisons. This led to price cuts.

In response to the findings of a commissioned expert group, the government plans two further packages of cost-containment reforms. The first package aims to reduce hospital costs, strengthen price incentives in outpatient care and lower prices of specialists and pharmaceuticals. Because insurers must reimburse procedures at any cantonal-approved hospital, plans to give insurers a right of appeal against cantonal decisions may mitigate the problem that cantons do not always take costs into account when approving hospitals (OECD, 2015b). The government also plans to establish an independent body to set specialist tariffs. A reference price system for reimbursing generic drugs is proposed (previously recommended by the OECD). These reforms should be pursued. An additional proposal aims to harmonise the financing of inpatient and outpatient care costs. Under the current system inpatient care costs are shared between cantonal governments and insurers but cantonal governments do not contribute to hospital outpatient costs. The proposal would reduce incentives for cost-shifting.

A second package of reforms is likely to include cost targets for growth in mandatory health care expenditure. The aim is to provide incentives for improving efficiency through greater responsibility for costs for key players including insurers and service providers. Budget caps and cost targets have been associated with more effective expenditure control in some countries, including Germany and the Netherlands, and some circumstances (Brändle et al., 2018; de la Maisonneuve et al., 2016; Pisu, 2014). However, cross-country evidence is mixed (de la Maisonneuve et al., 2016). This, with the potential for queuing and cost shifting, highlights the importance of design. Involving stakeholders in the design of the system is likely to be important in Switzerland (Brändle et al., 2018).

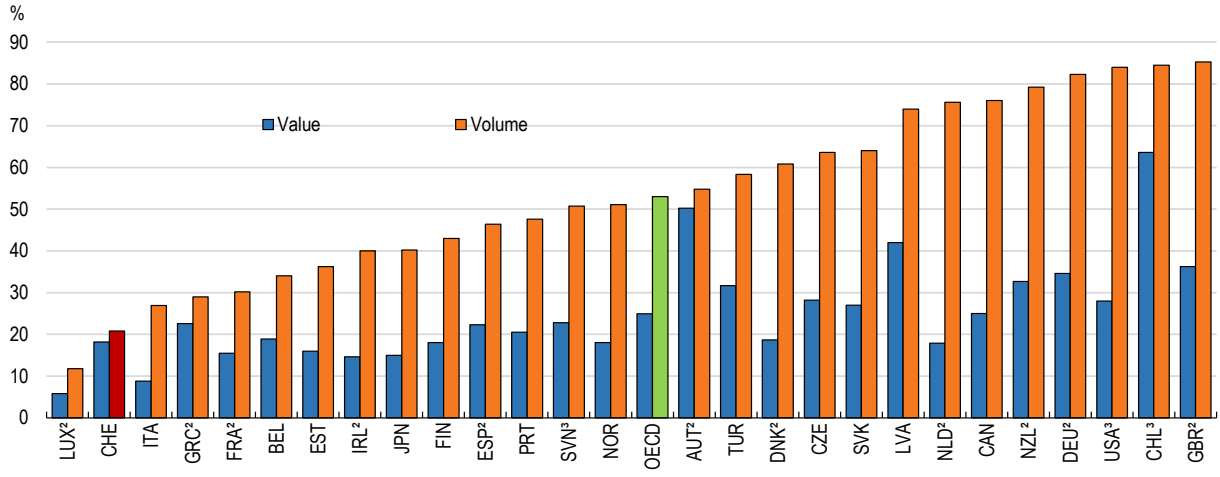
Proposed reforms to curative care and pharmaceuticals spending will strengthen price signals in the system. Curative care has been a driver of rising spending over 2011-16. There is still scope for more reform. Switzerland has more hospital beds per thousand inhabitants than most OECD countries – 4.6 compared to the OECD median of 3.8. In two cantons the ratio is twice the national median. There have

also been considerable differences across cantons in whether the same procedure is treated as inpatient or outpatient care (Obsan, 2019). This suggests further shifts toward outpatient care are feasible. Encouraging patients to seek treatment outside of their canton would strengthen competition and flexibility in the system. Promoting the consolidation of hospitals and increasing co-operation between cantons could bring about economies of scale and scope. Likewise, greater benchmarking of hospital procedures, as previously recommended (OECD, 2015b), would narrow the large differences within the system and cut costs.

The low use of generics and biosimilars points to considerable scope for savings in pharmaceuticals spending without compromising patient welfare (Figure 2.31). Pharmaceuticals spending per capita is the second-highest in the OECD (after the United States). Santésuisse/Interpharma (2018) finds that generic drug prices were double those in comparable countries in 2017. It estimates that allowing insurers to reimburse a fixed price based on active ingredients could have saved CHF 400 million in 2017 (3.6% of total spending on pharmaceuticals and therapeutic goods). A recent impact assessment estimated that savings of CHF 190-480 million (depending on the model) could be realised (Polynomics/Interface/University of Basel, 2018). The reference price system should be finalised. Doctors should be encouraged to prescribe medication using international non-proprietary names, as in the Netherlands.

Figure 2.31. The use of generics is still low

Share of the total pharmaceuticals market, 2017 or latest[1]



1. Including medical non-durables.
2. Reimbursed pharmaceutical market.
3. Community pharmacy market.
Source: OECD, *Health Statistics* database.

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Health care data can improve co-ordination in care as well as efficiency but Switzerland lags other countries in its usage (Oderkirk, 2017). Electronic patient dossiers are currently being rolled out after delays. These could reduce duplication of tests and improve treatment, which is more important as the number of patients with multiple chronic diseases or dementia rises (OECD/EU, 2013). Cantons are responsible for implementation, subject to meeting national protocols for interoperability. The federal government should strengthen financial incentives to join larger existing networks ("communities") to reduce duplication of IT infrastructure. A recent data breach highlighted the need for greater oversight of data storage.

Participation in the new system is compulsory for hospitals and nursing homes. But it is voluntary for most health professionals and patients and pilot studies have highlighted the risk that the outpatient care providers do not participate (De Pietro and Francetic, 2018). This risks undermining the usefulness of the system. Financial incentives should be used to encourage health care providers to join, as in other OECD countries (Oderkirk, 2017). Likewise, penalties should be used to guarantee data quality. If this is ineffective, electronic dossiers may need to be mandatory. The government should promote the system to health professionals and patients and ensure their trust, particularly by ensuring that data are secure. Making better use of the available data for monitoring and evaluation would bring Switzerland more in line with best practice (Oderkirk, 2017).

Preventive care forms part of a strategy to ensure healthy ageing, to contain costs and prevent ageing unequally (OECD, 2017d). The government's 2018 strategy to prevent non-communicable diseases aims to better link prevention into other health care, improve co-operation and increase funding. Diseases like Alzheimer's disease and other forms of dementia entail huge human and financial costs (OECD, 2018k). Dementia is projected to affect 9% of those over 60 in 2060, one of the highest rates in Europe (OECD/EU, 2018). There is growing evidence that risk factors are similar to those for other non-communicable diseases – including obesity, lack of physical activity, hypertension, smoking – and that prevention can be effective (OECD, 2018k).

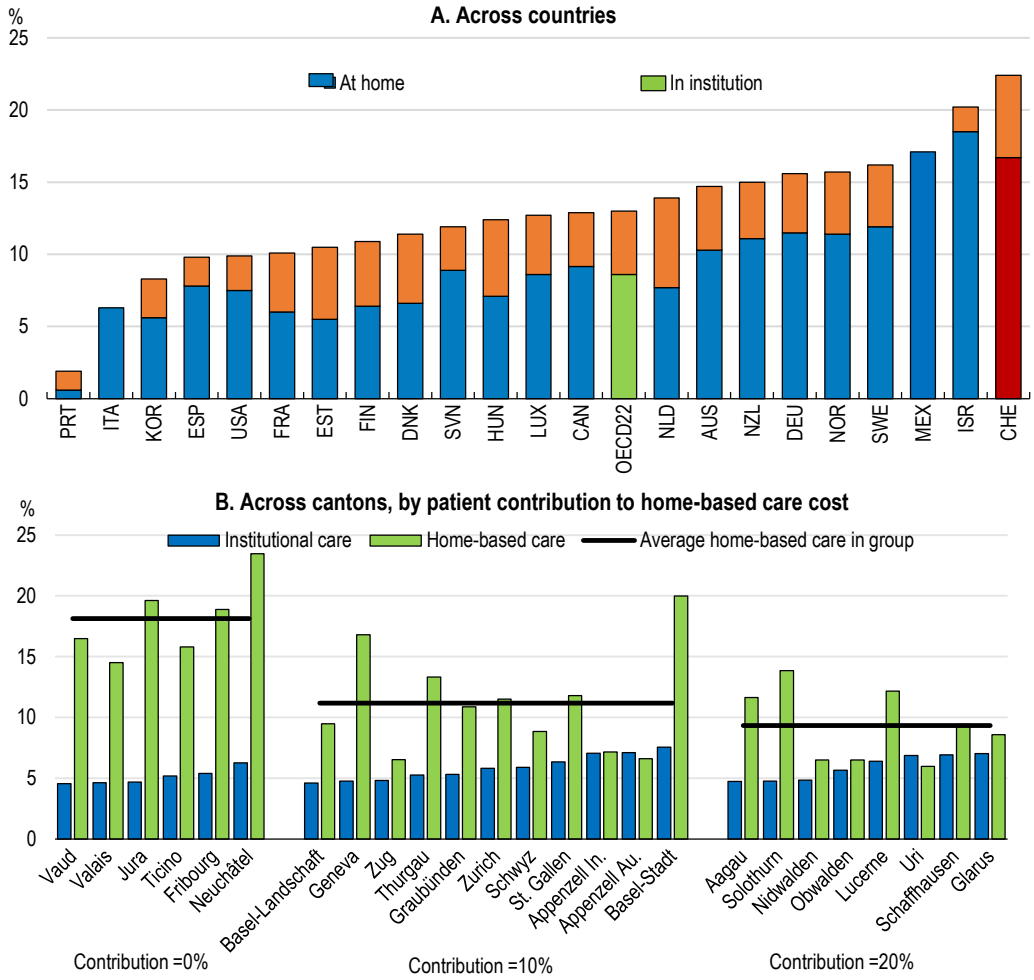
The health prevention budget is small and its effectiveness is hampered by decentralisation, even though some good local programmes exist (OECD, 2015b). Given the potential savings, spending should be expanded and targeted, including on those at higher risk of adverse labour market outcomes (OECD, 2017d; Devaux and Sassi, 2015). Securing the supply of general practitioners is also important given upcoming retirements. Narrowing remuneration gaps with other specialties and easing working time constraints in general practice could help (OECD, 2017g). Raising the tobacco excise could help reduce the relatively high smoking rate.

Fragmentation in the long-term care system leads to inequalities and inefficiencies

Formal long-term care at home and in nursing homes is well developed, with 22% of Swiss aged 65 years or more receiving formal long-term care in 2017. This was the highest amongst OECD countries with comparable data (Figure 2.32, Panel A). Three-quarters of these patients received home-based care, usually through "Spitex", an umbrella association of care and support providers. Over the past two decades, there has been a shift from institutional care, which was previously comparatively high in Switzerland, toward home-based care. A 2011 reform changed the financing of care prescribed by a doctor. Insurance coverage, however, remained unchanged. Furthermore, the reform increased access to supplementary benefits for nursing home patients and provided a "helplessness allowance" to those with "mild" needs (previously only available for more severe needs).

Figure 2.32. Long-term care is mostly home-based but varies across cantons

Recipients as a percentage of the population aged 65 years or over, 2017



Note: Data on institutional long-term care are not available for Italy and Mexico. Institutional care in Denmark is for 2014. Panel B follows the methodology outlined in L. Dutoit, S. Füglister-Dousse and S. Pellegrini (2016), *Soins de longue durée dans les cantons: un même défi, différentes solutions: Evolutions 2006–2013*, Swiss Health Observatory, Table 9.2. The contribution is based on the legislated cost to the health insurer rather than the total cost (cantons pay a residual). Bern is not shown because the patient's contribution varies by age and income. In Glarus the contribution varies across municipalities and is below 20% in some municipalities.
Source: OECD, *Health Statistics* database.

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The need for greater co-ordination is well recognised (Federal Council, 2016). The financing of long-term care is more fragmented than that of other kinds of health care because support services extend beyond health (Box 2.8). Financing comes primarily from sub-national governments, mandatory health insurance and households (Table 2.7). Means-tested supplementary benefits to the old-age pension finance a significant share of institutional care. The federal and sub-national governments also subsidise providers such as Spitex and community organisations. Financial support is provided via a "helplessness allowance" based on three levels of care and means-tested supplementary benefits to the old-age pension to finance accommodation and board at a nursing home. Not-for-profit and profit-oriented organisations are also active in providing care. Proponents of extending the abovementioned uniform funding reform (of inpatient and outpatient care) to long-term care argue that this would help make the system more integrated and reduce cost growth (CDS, 2019).

Table 2.7. Financing of long-term care is fragmented

Per cent of total long-term care expenditure, 2017

	Institutional care	Home-based care
Cantons	16.3	10.0
Municipalities	7.9	7.2
Mandatory health insurance	14.2	35.5
Social insurance (old age pension and invalidity pension)	4.0	21.8
Supplementary benefits, supplementary invalidity pensions to the old-age pension and other social aid	21.0	1.3
Households	35.5	19.9
Other, including private insurance	1.0	4.2
Memo item: Annual spending, millions of Swiss francs	13,376	2,566

Note: These data do not take into account the insurance premium subsidy paid to households by the federal and cantonal governments.
Source: Federal Statistical Office.

Box 2.8. Types of long-term care and institutions

Long-term care comprises a range of medical, personal care and assistance services provided to alleviate pain and manage the deterioration in health status for people with some long-term dependency.

In Switzerland the health insurance law distinguishes between nursing-type care and other support. Palliative care, long-term nursing care, and personal care services (eating, washing, dressing) that are prescribed by a doctor and provided by a nurse are covered by mandatory health insurance. Other long-term care such as assistance with tasks like cooking, cleaning and taking medication ("instruments of daily living") are not covered by health insurance but may be subsidised by the canton. These definitions broadly correspond to "health" and "social" long-term care in the system of health accounts.

Long-term care institutions are nursing and residential care facilities that provide accommodation and long-term care as a package. These include specially designed institutions, assisted-living facilities where people may live in private apartments, or hospital-like settings. The predominant service component must be long-term care. Data limitations constrain comparability across countries somewhat. Data for long-term care institutions in Switzerland only include nursing homes.

Source: OECD (2018), *OECD Health Statistics 2018: Definitions, Sources and Methods*; national sources.

The level of financial support for home-based care varies across cantons. For care services covered by the health insurance law, such as assistance with dressing and eating, insurers pay a fixed contribution, depending on care, set in the law. The final cost to the patient is capped at 20% of the insurer's contribution, and cantons or municipalities pay the residual. In cantons with lower patient contributions take-up of home-based care is higher (Figure 2.32, Panel B). It is hard to disentangle the causal relationship as history and local preferences also play a role, with institutional-based care more common in German-speaking regions (Dutoit, Füglister-Dousse and Pellegrini, 2016; Cosandey and Kienast, 2016). There has been some convergence in care: over 2014-17 the use of institutions fell most in cantons where it was highest. Other types of care, such as assistance preparing food or cleaning, are out-of-pocket expenses in the first instance.

Under the current system home-based care can quickly become unaffordable. This is partly because long-term care patients with low to moderate needs would require care that is not insured. For a hypothetical pensioner in Zurich with moderate needs (defined in Cravo Oliveira Hashiguchi, Ortega Regalado and Llena-Nozal, 2020), benefits would cover around 60% of home-based care costs, which is similar to France but less generous than many other systems. Coverage appears lower in Basel. In this example, high out-of-pocket costs relative to disposable income imply that without access to informal care or selling financial assets, home-based care would be unaffordable for most pensioners in these two case studies. This creates incentives to move into a nursing home where financial support is greater.

Unaffordable home-based care can push low-needs patients into nursing homes. In 2014, half of all nursing home patients received supplementary benefits (Cosandey and Kienast, 2016). But 30% of patients needed less than an hour of care a day. The share ranged from 9% in Geneva to 39% in Zurich and 49% in Glarus (*ibid*). Given that people often prefer to stay at home for as long as possible and the higher cost of institutional care, this points to scope to jointly improve patient welfare and cost-effectiveness.

Broadening financial assistance to include some support services could help delay entry to nursing homes and improve early detection of health problems, making the system more efficient and people-centred. Experience from Sweden, Denmark, Germany and Luxembourg suggests that including some support services in the basic care package avoids more expensive care (Colombo et al., 2011). In 2011 total spending on long-term care not covered by health insurance amounted to around 15% of total long-term care costs, or 0.25% of GDP (Federal Council, 2016). One option is to provide vouchers for social care services, as in Nordic countries. The towns of Lucerne and Bern have piloted such projects. This could allow local governments to negotiate better rates with providers (OECD/WHO, 2011). Another option is to adopt a standardised scale of care needs, replacing the different assessment systems for institutional and home-based care. Cash benefits could be matched to the level of support and a co-ordination point could help navigate the system. This would give patients some choice and could improve the functioning of the market. One lesson from the Netherlands is that careful design is crucial for containing total costs. Means testing and co-payments are important in containing cost growth, as highlighted by Japan's experience (OECD, 2019f).

Other countries' experiences provide insights into how to deliver better quality care more efficiently. Tasks of care professionals are currently demarcated depending on whether the care is insured. Reassessing these would also improve flexibility. One feature of the Netherlands' Buurtzorg model – now being piloted in Zurich – is that nurses perform a wider range of tasks (Box 2.9). Experimentation to search for local solutions should be encouraged by the federal government, as in Sweden. A framework for sharing these lessons should then be established. Widespread adoption of electronic patient dossiers and linking these across cantons and providers, as in Portugal, could help improve care and efficiency.

Box 2.9. Examples of innovations to provide more integrated long-term care

The **Netherlands'** Buurtzorg model of decentralised home care has grown rapidly. It relies on self-governing teams of nurses to look after all aspects of care for a pool of patients. The teams work with patients, their families and primary care providers and aim to enhance patients' independence. Nurses are supported by coaches. Administration is minimised and centralised. Patients, their families and staff all report high levels of satisfaction. The model was found to be more cost-effective than other providers for home care (adjusting for the case mix) but around average when curative care was included.

Sweden has sought innovative ways to improve collaboration between hospital, primary health care and social services. National grants were awarded to 19 local demonstration projects. In one approach mobile teams provide proactive early interventions at home. In Lidköpin county, hospitalisation rates decreased by 90% after a common political board was implemented across counties and municipalities to deliver co-ordinated care for older people.

Portugal implemented a National Network of Integrated Continuous Care in 2007. It is decentralised but co-ordinated using an integrated information system that is accessible by hospital discharge management teams, primary health care centres, and co-ordination teams at national and sub-national level. Strengths include that the online system allows updating of need assessment, monitoring of patients and benchmarking of results at national, sub-national and unit levels. Funding is jointly provided by the ministries of health and social affairs.

Source: OECD/EU (2013), *A Good Life in Old Age? Monitoring and Improving Quality in Long-term Care*, OECD Health Policy Studies; B. Gray, S.O. Sarnak and J. Burgers (2015), "Home Care by Self-Governing Nursing Teams: The Netherlands' Buurtzorg Model", Case Study, The Commonwealth Fund

Planning is still centred on nursing homes, which implies a substantial increase in coming years. Currently governments apply a rule of thumb that around one-fifth of over 65-year-olds will need institutional care. However, this approach will drastically overstate the need for beds if other forms of assistance are found (Credit Suisse, 2018). The current division of financing responsibilities between cantons and municipalities in home-based and institutional care hinders access to inpatient services at institutions but this could be alleviated through better contract design (Cosandey and Kienast, 2016). Encouraging cantons and municipalities to share access to institutions within, for example, a regional market could also improve flexibility, efficiency and patient access to services. Some cantons, such as Basel-Landschaft, offer financial incentives for municipalities to construct assisted-living facilities rather than nursing homes. Geneva provides supplementary benefits for assisted living, which reduces demand for nursing homes. Assisted-living facilities could be more cost-effective than home-based care in some cases because professional caregivers are onsite (Polynomics, 2018). Enriching statistics, by including assisted living facilities for example, would improve planning.

Adapting housing options to an ageing population could also help delay entry to nursing homes for those with low needs. In the Netherlands, those aged 80 or over with physical limitations are significantly less likely to need to move to a nursing home when they live in more accessible housing (Diepstraten, Douven and Woutsere, 2019). A survey of Swiss cities identified housing as a particular concern (Ecoplan, 2014). Support for minor adaptations of homes could be piloted with their cost effectiveness evaluated. The city of Opfikon helped finance construction of apartments in a co-operative that were adapted for older residents (Ecoplan, 2014). The Union of Swiss Cities is promoting sharing of local experiences. In Finland residents aged 50 to 80 years in the Kotisatama housing community share tasks like cooking the evening meal (Forum Virium Helsinki, 2016). In France, the Pari Solidaire programme arranges for young adults to live with an older person, simultaneously tackling housing costs and loneliness and safety issues (Kesselring et al., 2014).

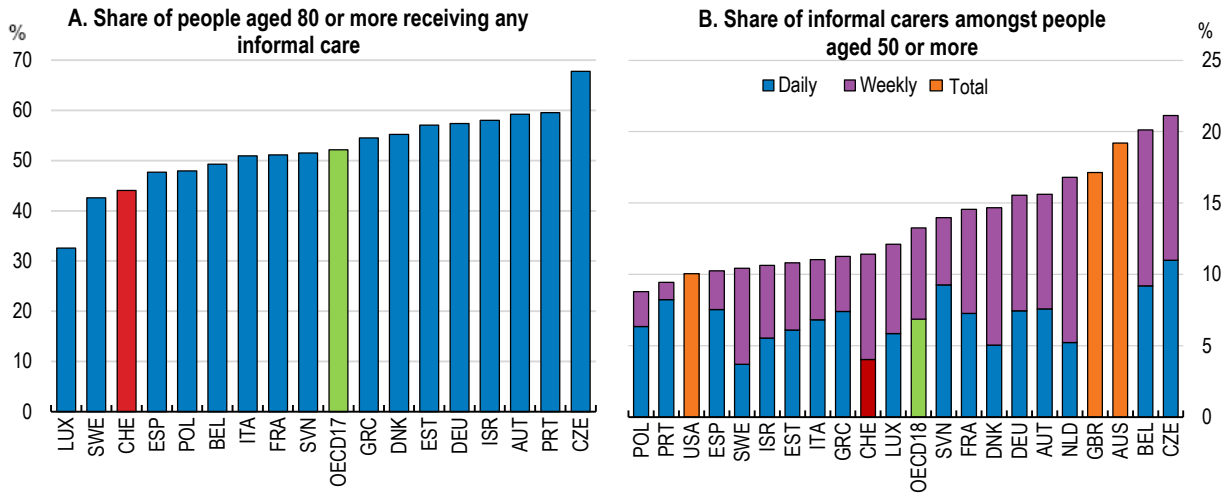
Greater transparency in pricing and performance could raise cost effectiveness and quality in home-based and institutional care. This will become more pressing as demand increases. Efficient provision of home-based care is inhibited by a range of factors, including that some cantons act as providers and purchasers of services, pricing is opaque and there is no link between the patients' co-payment and the actual cost for insured care (Cosandey and Kienast, 2016). The consumer price watchdog found that the pricing of accommodation and board in institutions varies widely within and across cantons in ways that do not reflect costs but likely cross-subsidies (Surveillance des Prix, 2018). Financial pressures on cantons and municipalities are also building because the hourly rate payable by health insurers has not changed since 2011. In addition, the price paid by cantons and municipalities for home-based care often reflects cost structures rather than services provided (Cosandey and Kienast, 2016).

Governance would be improved by a single accounting standard nationally and better supervision by cantons, as called for by the consumer price watchdog (Surveillance des Prix, 2018). To better allocate costs, the hourly rate paid by health insurers and patients should be updated regularly following the advice of an independent panel such as that envisaged for specialist fees. Improving performance-related data could also enhance the functioning of the system and facilitate benchmarking. Such data are currently lacking. Other decentralised countries such as the United States and Canada use data from standardised assessment instruments to measure user needs and generate indicators of care (OECD, 2017d). Administrative databases, registry data and ad-hoc surveys can also be used. Switzerland has lagged other OECD countries in making such information available, but from 2019 some quality indicators will be collected by the federal government. These should be developed further.

Expanding the supply of long-term care will require overcoming shortages in care workers. The Swiss Health Observatory projects that 47 000 additional long-term care workers will be needed by 2030 (Merçay, Burla and Widmer, 2016). Retention of existing workers will also be important: factors such as emotional and physical strain, lack of autonomy and feeling underpaid have been associated with lower job satisfaction (Schwendimann et al., 2016). The federal government has introduced a mandatory requirement for long-term care institutions to offer training places within the vocational education system or pay a penalty. It is also encouraging workers to retrain in long-term care. Japan has successfully attracted young people and women returning to work after a break by offering financial incentives to train as long-term care workers (ILO/OECD, 2019). Governments should also experiment with financial incentives for training in care professions and policies to bolster job satisfaction. Technological advances in monitoring technologies, assistive technologies, remote care, self-management and data collection could also help improve the quality of care and reduce its labour-intensity (ILO/OECD, 2019; OECD, 2014a). Nonetheless, the labour force will likely continue to rely on foreign workers; their immigration should be facilitated.

Expanding the supply of care will also rely on greater recourse to informal care. Switzerland currently relies less on informal care than other countries (Figure 2.33). National policies are less generous than in some other OECD countries: legislated leave entitlements are unpaid, although there are bonuses in the pension system for time spent caring for others. Two-thirds of companies provide paid leave and a few cantons provide financial support for informal care. The government plans to provide carers with a small amount of paid leave, bringing Switzerland more in line with other OECD countries. This may help during transitions or times of elevated need. To better support regular care, the government is extending the bonuses in pension entitlements to carers of those with mild needs. Whether these benefits will expand the supply of informal care as needs grow remains to be seen.

Figure 2.33. Informal care is less common than elsewhere and typically low intensity



Note: Data are for 2015 or nearest year. Care recipients relate to the previous year. Carers are those who gave care at least weekly.
Source: Wave 6 of the Survey of Health, Ageing and Retirement in Europe (SHARE) 2015; OECD (2017), *Health at a Glance 2017.*

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If greater use is made of informal carers, respite care (temporary care to relieve carers) will need to expand. Lucerne has begun offering a full day care service which begins by helping the patient get ready (OECD, 2018j). Respite is particularly important for carers of patients with dementia and access should be generalised. For example, Germany offers a legal entitlement to a minimum amount of respite.

Looking further ahead, with the population of Swiss aged over 80 expected to double, strains on the current financing system will undoubtedly build. For example, rising health costs together with declining replacement rates of pensions may mean more pensioners qualify for supplementary benefits. A 2016 government report considered a range of options for financing long-term care, including: maintaining the status quo, with additional funding from general revenues; expanding mandatory health insurance to include support services; and creating mandatory long-term care insurance (as in Germany, Korea and the Netherlands) (Federal Council, 2016). It concluded that the challenges related to financing of long-term care will become increasingly critical by the year 2030 and consequently future financing must be discussed early. A future reform should tackle the fragmentation in financing that leads to cost inefficiency, duplication and uncoordinated patient care. Given the risk that reform takes longer than expected, and the demographic change already underway, the government should begin work on a proposed solution.

FINDINGS (main findings in bold)	RECOMMENDATIONS (key recommendations in bold)
Preparing the pension system for a soaring number of retirees	
The lack of change in the statutory retirement age despite rising life expectancy will contribute to a rapid rise in the ratio of retirees to employment. The capital of the public first-pillar pension scheme is expected to be exhausted in the mid-2030s.	**Fix the retirement age at 65 for both sexes as planned, then raise it gradually to 67 and thereafter link it to life expectancy.**
Indexing pension benefits in the first pillar to the average of wages and inflation pushes down the replacement rate at retirement.	Link the first-pillar pension at retirement with wages, and during retirement, index pensions to inflation.
Women are well protected by the current system thanks to generous survivor pensions whereas they have lower individual entitlements. This discriminates against singles and adds to the cost of the system.	In the medium term, shift towards a system of individual entitlements in the old-age pension (first pillar) and review the need for survivor pensions.
Accessing information about pension entitlements is difficult with little information available online. In the first pillar, accessing pension rights is through written procedures and takes time.	Improve access to information on pension entitlements in the first and second pillar by providing the information via a single website.
Replacement rates from the mandatory pension system are currently high. However, in the second pillar the rate at which accumulated assets are converted to a pension is set by law. The rate is too high, resulting in substantial redistribution within the second pillar from younger to older workers and retirees.	**Lower the parameter used to calculate annuities ("minimum conversion rate") and make it a more flexible technical parameter set by ordinance.**
Broadening the system will improve pension adequacy. Contributions to the second pillar start at age 25 while the employment rate is already 70% for the 20-24 age group.	Lower the age to participate in occupational pensions (the second pillar) and lower the earnings threshold to participate.
In 2018 5% of pension funds used a discount rate above 3% while 20% applied a rate below 2%.	Implement a framework to regulate technical interest rate assumptions to reduce variation and increase accuracy.
Pension assets can be withdrawn early to buy a house or create a business, raising the risk of insufficient pension income. About a third of new retirees withdraw their wealth as a lump sum.	Limit the possibilities to withdraw pension wealth as a lump sum at and before retirement.
Extra-mandatory second-pillar contributions provide tax advantages that mostly benefit high earners.	Lower the maximum benefit from tax incentives in the second pillar.
Lengthening working lives	
Few Swiss work beyond the statutory retirement age, in part due to strong financial disincentives for employers and employees. Older jobseekers have more difficulty finding work.	**Use the existing annual conference on older workers to find ways to introduce greater flexibility into the wage-setting system and reduce seniority wages.**
Participation in lifelong learning is high. But participation falls below leading countries for workers with low educational attainment and those who are not employed.	**Expand spending on training for jobseekers, including those on social benefits.** **Use subsidies to encourage continuing education and training for groups who are most at risk from the effects of digitalisation.** Reconsider planned cash benefits for jobseekers aged over 60 or attach conditions such as training or job search.
Switzerland is the only OECD country that does not prohibit age discrimination and costs to employers increase with age.	**Prohibit age discrimination and establish enforcement mechanisms.**
The minimum contribution rate in the second pillar increases with age, and is 2.5 times higher for an older worker. This accentuates seniority wage settings, making senior workers more expensive.	**Flatten the age-related progressivity in pension contribution rates.**
All levels of government rely on labour-related taxation for revenue but this creates disincentives to work and is more likely to come under pressure from ageing.	**Reduce personal income taxation (at all levels of government) by lowering tax rates at low incomes and removing the disincentive for second-earners, financed by greater use of value-added tax, recurrent tax on immovable property and environmental taxes.**

Coping with rising demand for health care and long-term care	
Ageing will increase health-related expenditure, which is already high. Through mandatory health insurance and out-of-pocket expenses, rising costs also pressure household budgets. Electronic patient dossiers can improve the quality of care and lower costs but there is a risk that low take-up prevents these benefits from being fully realised.	**Proceed with cost containment programmes, particularly for curative care and pharmaceuticals.** **Introduce financial incentives and penalties to encourage the take-up of electronic patient health dossiers by health professionals and the input of quality data.** Expand the data available for monitoring and benchmarking services with responsibilities given to the national statistical office or Swiss Health Observatory.
Demand for long-term care is high and will rise as the population ages. However, affordability of home-based care varies across cantons. Eligibility rules for financial support can push patients with low needs into nursing homes.	**Use innovative tools such as vouchers or individual budgets based on a level of care needs, with co-ordinators helping to navigate the system, to develop the system in a cost-effective way.** Experiment with innovative local ways of providing cost-effective and integrated long-term care and share best practices.
Decentralisation means that access to, and costs of, long-term care services vary considerably across the country. The pricing of long-term care is not transparent or linked to cost.	Increase accountability and transparency in long-term care by establishing national pricing schedules for non-insured services, publishing more information on pricing and quality and stepping up oversight. Offer incentives to plan health and long-term care infrastructure over larger areas and give patients access to institutional care beyond their local area.
Rising health care costs have pushed up mandatory health insurance premia. The system is regressive despite subsidies.	More systematically link subsidies for mandatory health insurance to income.

References

Acemoglu, D. and P. Restrepo (2018), "Demographics and Automation", *NBER Working Paper*, No. 24421.

Akgun, O., D. Bartolini and B. Cournède (2017), "The capacity of governments to raise taxes", *OECD Economics Department Working Papers*, No. 1407, OECD Publishing, Paris.

Akgun, O., B. Cournède and J. Fournier (2017), "The effects of the tax mix on inequality and growth", *OECD Economics Department Working Papers*, No. 1447, OECD Publishing, Paris.

Arnold, J. et al. (2011), "Tax policy for economic recovery and growth", *The Economic Journal*, Vol. 121/550, pp. F59-F80.

Bauman, R. and J. Koller (2018), *La Prévoyance Professionnelle dans le Cadre de Taux d'Intérêt Bas: Droits aux Prestations, Solidarités et Orientation Future [The Occupational Pension System in a Low Interest Rate Environment: Benefit Entitlements, Solidarity and Future Direction]*, c-alm.

Bonoli, G. (2017), *ESPN Thematic Report on Access to Social Protection of People Working as Self-Employed or on Non-Standard Contracts - Switzerland*, European Social Policy Network.

Brändle, T. et al. (2018), "Budgetary Targets for Growth in Healthcare Expenditure: Selected Experiences and Findings for Switzerland", *Federal Finance Administration Working Paper*, No. 22, Berne.

Brändle, T. and C. Colombier (2017), *Health Care Expenditure Projections up to 2045*, Federal Finance Administration, Bern.

Brändle, T., C. Colombier and A. Philipona (2016), *2016 Report on the Long-term Sustainability of Public Finances in Switzerland*, Federal Finance Administration, Bern.

Brülhart, M. et al. (2016), *Taxing Wealth: Evidence from Switzerland*, National Bureau of Economic Research, Cambridge, MA.

Buchs, H. and A. Gnehm (2018), *Rapport sur les Limites d'Âge dans les Offres d'Emploi de 2010 à 2017 [Age Limits in Job Advertisements over 2010-17]*, University of Zurich.

Bütler, M. (2009), "Switzerland: High Replacement Rates and Generous Subsistence as a Barrier to Work in Old Age", *The Geneva Papers on Risk and Insurance: Issues and Practice*, Vol. 34/4, pp. 561-577.

Bütler, M. and A. Ramsden (2017), "How taxes impact the choice between an annuity and the lump sum at retirement", *University of St. Gallen Economics Working Paper Series*, No. 1701.

CDS (2019), *Financement Uniforme des Prestations Ambulatoires et Stationnaires - Intégrer les Soins ! [Uniform financing of outpatient and inpatient benefits – integrate care!]*, Conférence suisse des directrices et directeurs cantonaux de la santé, January.

Colombo, F. et al. (2011), *Help Wanted?: Providing and Paying for Long-Term Care*, OECD Health Policy Studies, OECD Publishing, Paris.

Cosandey, J. and K. Kienast (2016), *Neue Massstäbe für die Alterspflege [New Age Care Standards]*, Avenir Suisse, Zurich.

Cournède, B., J. Fournier and P. Hoeller (2018), "Public finance structure and inclusive growth", *OECD Economic Policy Papers*, No. 25, OECD Publishing, Paris.

Cravo Oliveira Hashiguchi, T., J. C. Ortega Regalado and A. Llena-Nozal (2020), "Measuring effective public social protection for long-term care in old age", *OECD Health Working Papers*, forthcoming.

Credit Suisse (2018), *Heime: Leere Betten im Wachstumsmarkt [Homes: Empty Beds in the Growth Market]*.

Crivelli, L. and P. Salari (2014), "The inequity of the Swiss health care system financing from a federal state perspective", *International Journal of Equity in Health*, Vol. 13.

Daniele, F., T. Honiden and A. Lembcke (2019), "Ageing and productivity growth in OECD regions: combatting the economic impact of ageing through productivity growth?", *OECD Regional Development Working Papers*, No. 2019/08, OECD Publishing, Paris.

de la Maisonneuve, C. et al. (2016), "The drivers of public health spending: Integrating policies and institutions", *OECD Economics Department Working Papers*, No. 1283, OECD Publishing, Paris.

De Pietro, C. and I. Francetic (2018), "E-health in Switzerland: The laborious adoption of the federal law on electronic health records (EHR) and health information exchange (HIE) networks", *Health Policy*, Vol. 122/2, pp. 69-74.

Devaux, M. and F. Sassi (2015), "The Labour Market Impacts of Obesity, Smoking, Alcohol Use and Related Chronic Diseases", *OECD Health Working Papers*, No. 86, OECD Publishing, Paris.

Dorn, D. and A. Sousa-Poza (2005), "The determinants of early retirement in Switzerland", *Swiss Journal of Economics and Statistics*, Vol. 141/2.

Diepstraten, M., R. Douven and B. Woutsere (2019), "Can your house keep you out of a nursing home?", *CPB Discussion Paper*, Central Planbureau.

Dufouil, C., et al. (2014), "Older age at retirement is associated with decreased risk of dementia", *European Journal of Epidemiology,* Vol. 29/5.

Dutoit, L., S. Füglister-Dousse and S. Pellegrini (2016), *Soins de Longue Durée dans les Cantons: Un même Défi, Différentes Solutions: Evolutions 2006–2013 [Long-term Care in the Cantons: The Same Challenge, Different Solutions: Evolutions 2006-2013]*, Swiss Health Observatory.

Ecoplan (2018), *Wirksamkeit der Prämienverbilligung – Monitoring 2017 [Effectiveness of Premium Reductions - Monitoring 2017]*, Federal Office of Public Health, Bern.

Ecoplan (2014), *Politique de la Vieillesse dans les Villes Suisses [Ageing Policies in Swiss Cities]*, Union des Villes Suisse.

Egger, Dreher & Partner AG (2019), *État de la Situation des Mesures du Marché du Travail Destinées aux Demandeurs d'emploi de Plus de 50 Ans dans les Cantons [Situation Regarding Labour Market Programmes for Unemployed Aged above 50 in Cantons],* Report to State Secretariat for Economic Affairs, April.

Fall, F. et al. (2014), "Vulnerability of social institutions", *OECD Economic Policy Papers*, No. 11, OECD Publishing, Paris.

Federal Council (2016), *Etat des Lieux et Perspectives dans le Secteur des Soins de Longue Durée [State of Play and Perspectives in the Long-term Care Sector]*, Swiss Confederation, Bern.

Federal Social Insurance Office (2019), *Le Besoin Financier de l'AVS après l'Acceptation de la RFFA [Financing Needs of AVS after TRAF Approval]*, Federal Social Insurance Office, Bern.

Federal Social Insurance Office (2018), *Statistiques des Assurances Sociales 2018 [2018 Social Insurance Statistics]*, Federal Social Insurance Office, Bern.

Federal Statistical Office (2018), *Does the Inclusion of Assets Resolve Apparent Contradictions between Income Poverty and Other Indicators on the Standard of Living?*, United Nations, Expert meeting on measuring poverty and inequality 29-30 November 2018, Vienna, Austria.

Forum Virium Helsinki (2016), Kotisatama: Housing Community for Elderly People, (accessed on 19 April 2019).

Gratton, L. and A. Scott (2016), *The 100-year Life*, Bloomsbury Information, London.

Guillemette, Y. and D. Turner (2018), "The long view: Scenarios for the world economy to 2060", *OECD Economic Policy Papers*, No. 22, OECD Publishing, Paris.

Helvetia (2018), *Le Taux de Conversion [The Conversion Rate]*, Helvetia Prévoyance professionnelle.

ILO/OECD (2019), *New Job Opportunities in an Ageing Society*.

IMF (2019), *Switzerland: Financial Sector Assessment Program*, Country Report No. 19/183, Washington D.C.

ITF (2018), *Policy Priorities for Decarbonising Urban Passenger Transport*, OECD/ITF, Paris.

Kauer, L. (2016), "Long-term effects of managed care", *Health Economics*, Vol. 26/10, pp. 1210-1223.

Keuschnigg, C. (2018), "Aging, Taxes and Pensions in Switzerland", in R. Holzmann and J. Piggott (eds), *The Taxation of Pensions*, MIT Press, Cambridge.

Kesselring, A. et al. (2014), *Social Innovation for Active and Healthy Ageing – A Case Study Collection*, King Baudouin Foundation, Brussels.

Lee, R. (2016), "Macroeconomics, Aging, and Growth", in *Handbook of the Economics of Population Aging*, Vol. 1, Elsevier.

Leisibach, P., C. Schaltegger and L. Schmid (2018), *Arbeitsanreize in der Sozialen Sicherheit [Work Incentives in Social Security]*, State Secretariat for Economic Affairs, Bern.

Lorenzoni, L., et al. (2019), "Health spending projections to 2030: New results based on a revised OECD methodology", *OECD Health Working Papers*, No. 110, OECD Publishing, Paris.

Lorenzoni, L., et al. (2018a), "Cyclical vs structural effects on health care expenditure trends in OECD countries", *OECD Economics Department Working Papers*, No. 1507, OECD Publishing, Paris.

Lorenzoni, L. et al. (2018b), "Which policies increase value for money in health care?", *OECD Health Working Papers*, No. 104, OECD Publishing, Paris.

Lorenzoni, L. and F. Koechlin (2017), *International Comparisons of Health Prices and Volumes: New Findings*, Health Division.

Lüske, M. (2015), *Social Security Design and Individual Retirement Decisions*, Doctoral thesis.

Merçay, C., L. Burla and M. Widmer (2016), *Personnel de Santé en Suisse [Health Personnel in Switzerland]*, Swiss Health Observatory.

Mercer (2018), *Melbourne Mercer Global Pension Index*, Australian Centre for Financial Studies.

Mudrazija, S. and B. Butrica (2017), "Homeownership, social Insurance, and old-age security in the United States and Europe", *Center for Retirement Research Working Papers,* No. 15.

Nerlich, C. and J. Schroth (2018), "The economic impact of population ageing and pension reforms", *ECB Economic Bulletin*, No. 2.

Occupational Pension Supervisory Commission (2019), Rapport sur la Situation Financière des Institutions de Prévoyance 2018 *[Report on the Financial Situation of Pension Funds 2018]*, Occupational Pension Supervisory Commission, Bern.

Obsan (2019), *Le Développement de l'Ambulatoire dans une Perspective Cantonale [The Development of Ambulatory Care in a Cantonal Perspective]*, Swiss Health Observatory.

Oderkirk, J. (2017), "Readiness of electronic health record systems to contribute to national health information and research", *OECD Health Working Papers*, No. 99, OECD Publishing, Paris.

OECD (2019a), *Measuring the Digital Transformation: A Roadmap for the Future*, OECD Publishing, Paris.

OECD (2019b), *Fiscal Challenges and Inclusive Growth in Ageing Societies*, Background paper to the G20.

OECD (2019c), *Getting Skills Right: Future-Ready Adult Learning Systems*, Getting Skills Right, OECD Publishing, Paris.

OECD (2019d), *OECD Employment Outlook 2019: The Future of Work*, OECD Publishing, Paris.

OECD (2019e), Working Better with Age, Ageing and Employment Policies, OECD Publishing, Paris

OECD (2019f), *OECD Economic Surveys: Japan 2019*, OECD Publishing, Paris.

OECD (2018a), *OECD Pensions Outlook 2018*, OECD Publishing, Paris.

OECD (2018b), *Taxation of Household Savings*, OECD Tax Policy Studies, No. 25, OECD Publishing, Paris.

OECD (2018c), *Financial Incentives and Retirement Savings*, OECD Publishing, Paris.

OECD (2018d), *Working Better with Age: Japan, Ageing and Employment Policies*, OECD Publishing, Paris.

OECD (2018e), *Key Policies to Promote Longer Working Lives in Denmark*, OECD Publishing, Paris.

OECD (2018f), *OECD Economic Surveys: Finland 2018*, OECD Publishing, Paris.

OECD (2018g), *Ageing and Employment Policies: United States 2018: Working Better with Age and Fighting Unequal Ageing*, Ageing and Employment Policies, OECD Publishing, Paris.

OECD (2018h), *Key Policies to Promote Longer Working Lives in Spain*, OECD Publishing, Paris.

OECD (2018i), *Consumption Tax Trends 2018: VAT/GST and Excise Rates, Trends and Policy Issues*, OECD Publishing, Paris.

OECD (2018j), *The Role and Design of Net Wealth Taxes in the OECD*, OECD Tax Policy Studies, No. 26, OECD Publishing, Paris.

OECD (2018k), *Care Needed: Improving the Lives of People with Dementia,* OECD Health Policy Studies, OECD Publishing, Paris.

OECD (2017a), *Health at a Glance 2017: OECD Indicators*, OECD Publishing, Paris.

OECD (2017b), *OECD Economic Surveys: Switzerland 2017*, OECD Publishing, Paris.

OECD (2017c), *Investing in Climate, Investing in Growth*, OECD Publishing, Paris.

OECD (2017d), *Preventing Ageing Unequally*, OECD Publishing, Paris.

OECD (2017e), *Pensions at a Glance 2017: OECD and G20 Indicators*, OECD Publishing, Paris.

OECD (2017f), *OECD Environmental Performance Reviews: Switzerland 2017*, OECD Environmental Performance Reviews, OECD Publishing, Paris.

OECD (2017g), *Health Policy in Switzerland*.

OECD (2016a), *OECD Core Principles of Private Pension Regulation*.

OECD (2016b), "Israel's green tax on cars: lessons in environmental policy reform", *OECD Environment Policy Papers*, No. 5, OECD Publishing, Paris.

OECD (2015a), *Regulation of Insurance Company and Pension Fund Investment*, OECD Report to G20 Finance Ministers and Central Bank Governors.

OECD (2015b), "Raising public spending efficiency", in *OECD Economic Surveys: Switzerland 2015* OECD Publishing, Paris.

OECD (2014a), *The Silver Economy as a Pathway for Growth: Insights from the OECD-GCOA Expert Consultation*.

OECD (2014b), *Vieillissement et politiques de l'emploi : Suisse 2014: Mieux travailler avec l'âge* [Ageing and Employment Policies: Switzerland 2014: Working Better with Age], Vieillissement et politiques de l'emploi, Éditions OCDE, Paris.

OECD (2014c), *Mortality Assumptions and Longevity Risk: Implications for Pension Funds and Annuity Providers*, OECD Publishing, Paris.

OECD (2012), "Making the tax system less distortive", in *OECD Economic Surveys: Switzerland 2015*, OECD Publishing, Paris.

OECD (2004), *Babies and Bosses - Reconciling Work and Family Life (Volume 3): New Zealand, Portugal and Switzerland*, OECD Publishing, Paris.

OECD (2000), *OECD Economic Surveys: Switzerland 2000*, OECD Publishing, Paris.

OECD/EU (2018), *Health at a Glance: Europe 2018: State of Health in the EU Cycle*, OECD Publishing, Paris/European Union, Brussels.

OECD/EU (2013), *A Good Life in Old Age?: Monitoring and Improving Quality in Long-term Care*, OECD Health Policy Studies, OECD Publishing, Paris.

OECD/KIPF (2014), *The Distributional Effects of Consumption Taxes in OECD Countries*, OECD Tax Policy Studies, No. 22, OECD Publishing, Paris.

OECD/WHO (2011), *OECD Reviews of Health Systems: Switzerland 2011*, OECD Reviews of Health Systems, OECD Publishing, Paris.

Ollivaud, P. (2019), "Insights into Switzerland's high household saving ratio", forthcoming.

Pisu, M. (2014), "Overcoming Vulnerabilities of Health Care Systems", *OECD Economics Department Working Papers*, No. 1132, OECD Publishing, Paris.

Polynomics (2018), *Abschätzung der Kostenwirkung desWohn und Pflegemodells 2030 [Estimation of the Cost Impact of Housing and Care Models 2030]*.

Polynomics/Interface/University of Basel (2018), Regulierungsfolgenabschätzung zur Einführung eines *Referenzpreissystem in der Schweiz* [Reference Price System in Switzerland].

Roten, N. (2019), Vers un Libre Choix de la Caisse de Pension ? *[Towards a Free Choice of Pension Fund?]*, Avenir Suisse, (accessed on 15 April 2019).

Santésuisse/Interpharma (2018), *Medikamenten-Auslandpreisvergleich 2017 [International Drug Price Comparison 2017]*, (accessed on 1 April 2019).

Schaltegger, C. (2018), *Gefährliche Flexibilisierung [Dangerous Flexibilisation]*, Finanz and Wirtschaft, 20 September.

Schneider, E. et al. (2017), Mirror, Mirror 2017: International Comparison Reflects Flaws and Opportunities for Better U.S. Health Care, The Commonwealth Fund.

Schüpbach, J. et al. (2018), *Occupational Pensions: Lump Sum or Annuity?*, Credit Suisse.

Schwendimann, R. et al. (2016), "Factors associated with high job satisfaction among care workers in Swiss nursing homes – a cross sectional survey study", *BMC Nursing*, Vol. 15/1.

SECO (2019), *Indicateurs de la Situation des Travailleuses et Travailleurs Agés sur le Marché Suisse du Travail [Indicators of the Situation of Older workers in the Swiss Labour Market]*, Documents for the 2019 Annual Conference on Older Workers, State Secretariat for Economic Affairs, Bern.

Surveillance des Prix (2018), *Newsletter*, No 6/18, Swiss Confederation, Bern.

Swiss Federal Audit Office (2007), *Lower Value Added Tax Rates as a Tax Subsidy: Evaluation of the Reduced rate for Food and Related Sectors*, Swiss Federal Audit Office, Bern.

Swisscanto (2018), *Étude sur les Caisses de Pension en Suisse en 2018 [Study on Pension Funds in Switzerland in 2018]*, Swisscanto Prevoyance SA.

Thévenon, O. (2013), "Drivers of female labour force participation in the OECD", OECD Social, *Employment and Migration Working Papers*, No. 145, OECD Publishing, Paris.

van Dender, K. (2019), "Taxing vehicles, fuels, and road use: Opportunities for improving transport tax practice", *OECD Taxation Working Papers*, No. 44, OECD Publishing, Paris.

Vöhringer, F. (2017), *Assessing the Impacts of Climate Change for Switzerland: Final Report,* École Polytechnique Fédérale de Lausanne, Lausanne.

Woodland, A. (2016), "Taxation, Pensions, and Demographic Change", in *Handbook of the Economics of Population Aging*, Elsevier.

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