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BETTER POLICIES FOR BETTER LIVES

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Foreword

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

The economic situation and policies of Denmark were reviewed by the Committee on 8 November 2023, with participation from representatives of the Danish authorities. The draft report was then revised in light of the discussions and given final approval as the agreed report of the whole Committee on 11 December 2023. The Secretariat's draft report was prepared for the Committee by Caroline Klein and Jonathan Smith with valuable inputs from Sara Ornstrup and under the supervision of Sebastian Barnes. Statistical research assistance was provided by Damien Azzopardi and Anne Legendre, and editorial support by Elodie Lormel. Support from the government of Denmark is gratefully acknowledged. The previous Survey of Denmark was issued in December 2021.

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BASIC STATISTICS OF DENMARK 2022[1]

(Numbers in parentheses refer to the OECD average)[2]

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	5,9		Population density per km	147,6	(38,8)
Under 15 (%)	16,1	(17,2)	Life expectancy at birth (years, 2021)	81,4	(78,7)
Over 65 (%)	20,5	(18,0)	Men (2021)	79,6	(75,9)
International migrant stock (% of population, 2019)	12,5	(13,2)	Women (2021)	83,3	(81,7)
Latest 5-year average growth (%)	0,5	(0,4)	Latest general election	Nov-2022	
ECONOMY					
Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	400,9		Agriculture, forestry, and fishing	0,9	(2,8)
In current prices (billion DKK)	2 831,6		Industry including construction	23,7	(28,3)
Latest 5-year average real growth (%)	2,1	(1,7)	Services	75,4	(68,8)
Per capita (thousand USD PPP)	74,9	(57,4)			
GENERAL GOVERNMENT					
Per cent of GDP					
Expenditure (OECD: 2021)	45,0	(45,9)	Gross financial debt (OECD: 2021)	34,9	(106,7)
Revenue (OECD: 2021)	48,3	(38,7)	Net financial debt (OECD: 2021)	-17,9	(68,5)
EXTERNAL ACCOUNTS					
Exchange rate (DKK per USD)	7,06		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	6,40		Chemicals and related products, n.e.s.	23,8	
In per cent of GDP			Machinery and transport equipment	23,8	
Exports of goods and services	70,0	(33,4)	Food and live animals	14,9	
Imports of goods and services	58,9	(34,8)	Main imports (% of total merchandise imports)		
Current account balance	13,5	(-1,0)	Machinery and transport equipment	29,5	
Net international investment position	62,9		Miscellaneous manufactured articles	16,0	
			Manufactured goods	14,3	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over, %)	60,6	(57,5)	Unemployment rate, Labour Force Survey (aged 15 and over, %)	4,4	(5,0)
Men	64,5	(65,4)	Youth (aged 15-24, %)	10,5	(10,9)
Women	56,8	(50,1)	Long-term unemployed (1 year and over, %)	0,5	(1,2)
Participation rate (aged 15 and over, %)	63,2	(60,9)	Tertiary educational attainment (aged 25-64, %)	42,1	(40,7)
Average hours worked per year	1 372	(1 752)	Gross domestic expenditure on R&D (% of GDP, 2020)	3,0	(3,0)
ENVIRONMENT					
Total primary energy supply per capita (toe)	2,6	(3,8)	CO2 emissions from fuel combustion per capita (tonnes, 2021)	4,9	(7,9)
Renewables (%)	42,6	(12,0)	Water abstractions per capita (1 000 m, 2021)	0,2	
Exposure to air pollution (more than 10 g/m of PM 2.5, % of population, 2019)	36,4	(61,7)	Municipal waste per capita (tonnes, 2021, OECD: 2020)	0,8	(0,5)
SOCIETY					
Income inequality (Gini coefficient, 2019, OECD: latest available)	0,268	(0,315)	Education outcomes (PISA score, 2022)		
Relative poverty rate (%, 2019)	6,5	(11,4)	Reading	489	(476)
Median disposable household income (thousand USD PPP, 2019)	33,6	(27,4)	Mathematics	489	(472)
Public and private spending (% of GDP)			Science	494	(485)
Health care	9,5	(9,3)	Share of women in parliament (%)	43,6	(32,5)
Pensions (2019)	12,1	(9,5)	Net official development assistance (% of GNI, 2017)	0,7	(0,4)
Education (% of GNI, 2021)	6,2	(4,4)			

[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, United Nations, World Bank.

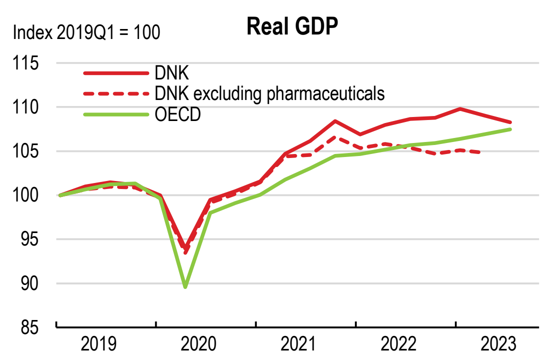
Executive summary

Growth and inflation have slowed

After a strong recovery, economic activity has slowed on the back of higher energy prices and cost of living. Inflation has fallen significantly since its peak in October 2022, but underlying price pressures have remained high.

The economy has been running at two speeds and growth has decelerated (Figure 1). Activity in the pharmaceutical sector has been buoyant, contributing alongside shipping exports to the current account surplus reaching 13.4% of GDP in 2022. Excluding this sector, GDP dropped in the first half of 2023. Employment has continued to grow albeit at a slower pace. Consumption and investment have decelerated as strong inflation has hit household purchasing power and financial conditions have tightened. Higher borrowing costs have contributed to the weakening of the housing market.

Figure 1. GDP growth has decelerated



Source: DORS (2023); and OECD Analytical Database.
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Inflation receded in the first half of 2023, but at 3% in November, core inflation remains elevated. Soaring energy prices pushed inflation in 2022 to its highest level since the 1980s as in most OECD countries, despite a relatively low energy dependency. Domestic price pressures from wages have increased but remain contained so far.

Growth will remain subdued (Table 1). Wages will continue to adjust to higher prices, sustaining consumption. Exports will remain relatively strong as the economic situation improves in main trading partners, but the contribution of the pharmaceutical sector may fade. Higher interest rates will keep the housing market weak and investment low. Headline inflation is expected to fall to 2.5% by 2025.

Risks to the outlook relate to more persistent inflation. This could result from stronger than expected wage growth. Monetary policy is bound by the peg to the euro and the central bank is expected to follow decisions of the European Central Bank. Fiscal policy will need to be tightened if inflationary pressures continue or intensify relative to the euro area.

Table 1 Macroeconomic projections

Annual growth rates, %, unless specified	2022	2023	2024	2025
Gross domestic product (GDP)	2.7	1.3	1.2	1.5
Unemployment rate (%)	4.5	5.0	5.8	5.8
Consumer price index	7.7	3.6	2.8	2.5
Current account balance (% of GDP)	13.4	11.5	11.4	11.3
Government gross debt, Maastricht definition (% of GDP)	29.8	29.5	28.7	30.3

Source: OECD Economic Outlook 114 database.

The financial sector has been resilient so far. Credit losses have remained low, despite fast rising interest rates. The banking sector is well capitalised with adequate liquidity buffers, but medium-sized banks are exposed to commercial real estate risks, where activity has declined sharply. Household gross debt has declined, real and financial household assets are significant, but indebtedness remains among the highest in the OECD. The share of variable-rate mortgages has risen, and loan-to-value ratios are high, increasing the risk of defaults, although the capacity to repay is strong. While the housing market is currently adjusting, macroprudential policies should be strengthened to manage the cycle in the medium term.

The public finances are robust. The government budget has been in surplus since 2017, public debt is low and a strong budgetary framework is in place. Public support to households and firms in response to rising energy prices has been limited but appropriate overall. Measures targeted to the most vulnerable helped to cushion the increase in the cost of living, but the deferred indexation of social benefits to wages induced large temporary losses in purchasing power for those out of work.

Reforms can help to address long-term risks to Denmark's social model

Despite successful pension reforms and rising employment rates among older workers, population ageing poses risks to the Danish social model. Public spending on welfare services will increase, while the working age population will decline. While fiscal space is currently significant, further meeting the fiscal rules will imply achieving savings after 2030.

Reducing the regulatory burden on local governments, as planned, can help to achieve efficiency gains. The impact of the reform on the quality of services across territories needs to be carefully monitored. Other policy avenues for efficiency gains include improving public procurement, deepening cooperation across municipalities and reforming public employment services.

Long-term fiscal sustainability plans rely on relatively large increases in effective retirement ages and private pension schemes. Strict indexation of the legal retirement age is projected to increase it to the highest level in the OECD and risks inducing a wider likelihood to use disability-based early retirement schemes. Reform of early retirement schemes should ensure people with reduced work capacity remain in the labour market as far as possible.

The economy has to adapt to trade shocks and the green transition

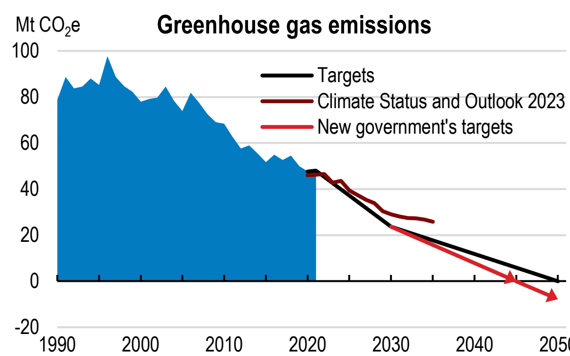
Denmark is highly dependent on trade and on a few firms and sectors. Diversifying economic activity would reduce risks and help to benefit from new opportunities, including those presented by the climate transition.

Denmark's deep integration into global value chains has large economic benefits but exposes the country to international risks. Denmark has a large and persistent current account surplus and the concentration of exports in a few sectors increases dependence on sector-specific trade policies and regulations abroad.

Improvements in business conditions can help a wide range of firms to thrive in the digital and green transitions. Digitalisation is reshaping competitive dynamics and competition policy needs to be adapted. There is room to increase the weight of young firms in the economy. The entrepreneurial ecosystem generates innovative businesses, but more could be done to support R&D, facilitate cooperation between universities and businesses, and make entrepreneurship more inclusive.

Denmark has put in place ambitious greenhouse gas emission reduction targets and made significant strides in achieving efficient climate change mitigation policies. However, further action is needed to encourage technological advancements and greater emission reductions across sectors (Figure 2). The green tax reform expands the coverage and sets a path for wide-ranging carbon pricing from 2025 onwards. Consistency with the EU Emission Trading Scheme II needs to be ensured.

Figure 2. Meeting climate targets entails further progress



Source: Danish Energy Agency Climate Status and Outlook 2023.
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The green tax reform needs to be completed to accelerate emission reductions and avoid distortions across sectors and technologies. Introducing a tax on emissions from agricultural production as currently under discussion could help achieve this in a cost-efficient way. Tax revenues could be used to compensate socio-economic costs in emission-intensive activities.

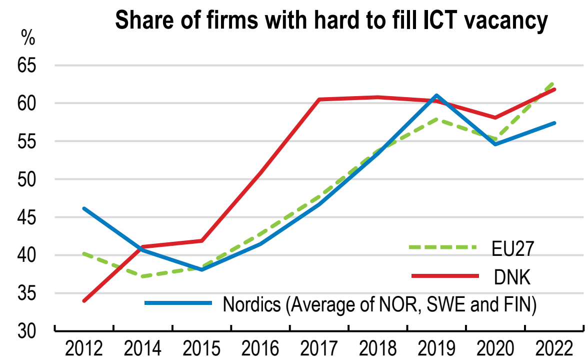
Moving to a carbon neutral economy entails accelerating electrification of the energy mix and further expanding green power production capacity. This requires finding agreements at the local level and reducing administrative barriers to investment and infrastructure development. Legislation to simplify planning and approval procedures and prioritise energy infrastructure over local concerns could significantly speed up the deployment of renewable energy sources.

Labour market and education policies need to become more agile

Population ageing and the digital and green transitions are transforming jobs and skills requirements, calling for agile labour and education policies. Persistent labour shortages are holding back growth and complicating the provision of welfare services.

Despite the economic slowdown and rising labour force participation and migration, recruitment difficulties persist and remain elevated in many sectors, such as long-term care and ICT (Figure 3). The labour force is not fully mobilised due to structural factors, including late labour market entry by the young and early retirement.

Figure 3. ICT vacancies are hard to fill



Source: Eurostat.

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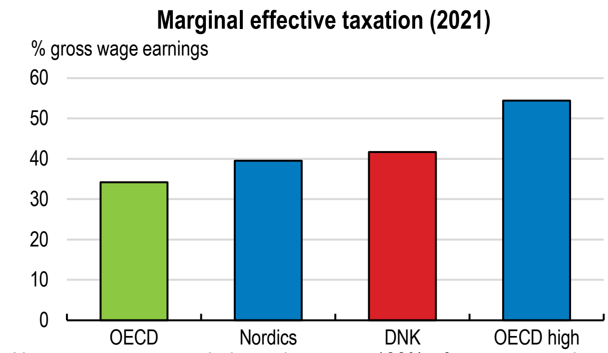
Activation policies have proved effective in helping workers in transitions and during economic shocks. The government announced a reform of public employment services to reduce the cost of activation policies. Ineffective programmes should be phased out. Contracting out employment services to private providers and enhancing the digitisation of services could be considered, but careful monitoring of the reform is needed.

Moving taxation further away from personal income to housing would bolster work incentives. The planned cut of the personal income tax is a step in the right direction, but more needs to be done to reduce the fiscal burden on work effort (Figure 4). Lessening the favourable tax treatment of owner-occupied housing would improve the functioning of the housing market and create an opportunity to lower labour taxes further.

Figure 4. Financial disincentives to work remain relatively high for middle earners



Note: two-earner married couple, one at 100% of average earnings and the other at 67%, with two children.
Source: OECD Taxing wages.

StatLink https://stat.link/qnut2x

There is room to facilitate the recruitment of foreign-born workers where there are shortages. Several relaxations of migration policies have been or are expected to be actioned. Further easing eligibility requirements in shortage areas, as well as streamlining and reducing administrative burdens, can contribute to addressing acute recruitment issues.

Education reform can speed up youth entry into the labour market. Limiting the duration of very generous student allowances as planned will help to reduce graduation ages. Replacing grants by income contingent loans for master's degrees and targeting the voluntary tenth year in lower secondary education to students with the greatest learning needs should also be considered.

While it has the potential to address skills needs, too few students opt for vocational education and training. Lack of mobility between vocational and academic tracks deters students, calling for developing programmes across tracks. Case-based teaching can increase awareness of the opportunities offered by vocational education.

Second-generation migrants are often concentrated in the same schools, with a greater probability to leave school early. Raising awareness of different school enrolment options among immigrant parents and more effective second-chance programmes could improve school diversity and reduce dropouts.

MAIN FINDINGS	KEY RECOMMENDATIONS
Preserving macroeconomic stability and fiscal sustainability	
High inflation is expected to moderate but risks of persistent price pressures are high due to labour market tightness. Monetary policy is bound by the peg to euro. Fiscal policy has been prudent with the government balance in a surplus since 2017.	Tighten fiscal policy should inflationary pressures on the Danish economy persist or intensify relative to the euro area. Maintain the peg to the euro and continue to adjust interest rates as needed.
Long-term fiscal sustainability relies on relatively large increases in effective retirement ages. This could lead to greater than expected use of early retirement options.	Strengthen conditions to access senior disability benefits to ensure people who can work are encouraged to stay in the labour market.
Population ageing will increase spending on welfare services, calling for savings and efficiency gains at the local level. Municipalities have a strong spending autonomy and the government plans to ease regulation for local governments. Disparities in quality of public services risk increasing.	Give more flexibility to municipalities on how to provide welfare services as planned. Carefully monitor the impact of deregulation on the quality of services across municipalities and regions.
A reform initiated in 2023 will reduce the taxation of labour income. People, including those receiving social assistance, would still face high effective tax rates. The new property taxation system planned for 2024 will restore the link between the tax level and market values, but interest deductibility and low property tax rates that unduly support housing investment will be maintained.	Further decrease the tax burden on labour and capital income and increase property taxation once the housing market has stabilised.
Household debt remains among the highest in the OECD, alongside high housing and financial assets. A relatively large share of mortgage lending is high loan-to-value above 60%, and the share of variable-rate mortgages has increased.	Strengthen macroprudential policies in the medium term to address structural vulnerabilities, including by limiting access to interest-only mortgages when the borrower has a loan-to-value ratio above 60%, introducing a debt-to-income limit and an interest rate stress test on loan applications.
Promoting an innovative and green economy	
Greenhouse gas emissions reduction targets will not be met under current policies. The agreement on the green tax reform that expands carbon taxation has not been legislated yet and how it will be combined with EU climate policies needs to be defined.	Clarify and complement planned policy action to reach the 2030 emissions reduction target, including by enacting the green tax reform and ensuring consistency with the EU ETS II from 2027.
Administrative barriers hamper the development of onshore wind and solar energy.	Streamline and accelerate procedures for the allocation of permits, notably for the construction of grid infrastructure by private stakeholders.
Postponing action in the agriculture sector would make climate objectives harder to reach and increase the abatement burden on other sectors.	Introduce a low carbon tax on agricultural production and compensate those most affected.
Digitalisation poses challenges to competition and requires adapting the regulatory framework for competition law enforcement.	Give the Competition Authority more flexibility to investigate competition infringements in the digital markets, by revising the merger control regime and allowing for market investigations.
Addressing labour and skills shortages	
Youth tend to graduate relatively late, delaying entrance on the labour market. Student grants are very generous by international norms. Around 30% of pupils opt for an additional optional school year before starting upper secondary education (tenth grade).	Reduce the duration of student allowances to the length of the course as planned. Consider introducing an income-contingent loan system for students in master's degrees. Target the tenth grade to students with greater learning needs.
A reform of public employment services is planned to achieve large efficiency gains and savings but has not been detailed yet.	Increase digitisation of services and phase out ineffective programmes. Consider contracting out services to private providers, while ensuring high-quality support to job seekers.
Second-generation migrants from disadvantaged socio-economic backgrounds are often concentrated in the same schools and are more likely to leave school early.	Raise awareness of different school enrolment options to immigrant parents via outreach and publicity campaigns.
Immigration rules, heavy administration, and limited transferability of skills acquired abroad hamper the recruitment of qualified foreign workers to address shortages.	Streamline and reduce administrative burdens on work permit schemes and create assessments of non-formalised skills in shortage areas.
Enrolment in vocational education is declining, despite the strong potential of vocational education to provide skills needed now and in the future. Low mobility between vocational and academic education is a cause for students opting out of vocational education.	Increase permeability between academic and vocational tracks by developing programmes across both tracks.

1 Key policy insights

Caroline Klein

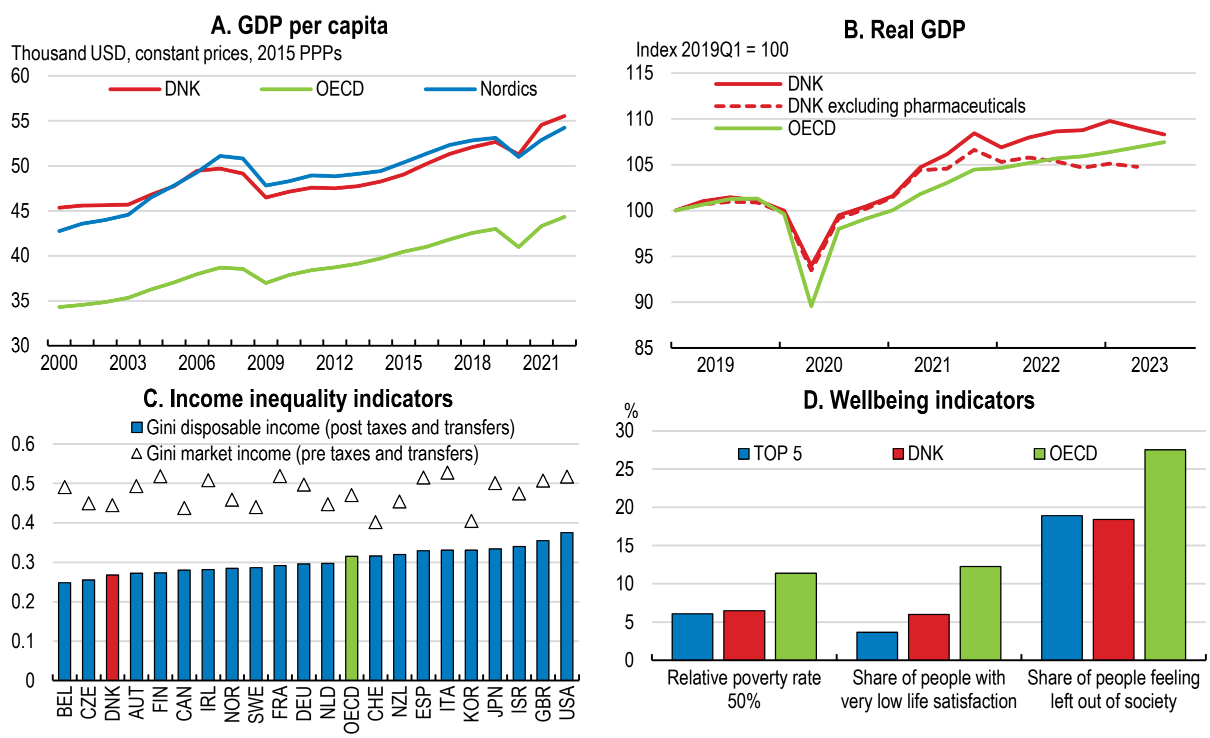
Jonathan Smith

Following a robust recovery from the COVID-19 shock, Denmark's GDP growth has slowed and the economy has been running at two speeds between domestic and specific international activities. Headline inflation has fallen, but underlying price pressures remain high. While the public finances are robust with a budget surplus and low public debt, population ageing poses long-term risks to the Danish social model as long-term care spending increases and the working-age population declines, calling for efficiency gains at the local level. Denmark has put in place ambitious greenhouse gas emission reduction targets and made significant strides in achieving efficient climate change mitigation policies. Further policy reforms to advance the green transition can help to reduce dependence on fossil fuel energy and achieve ambitious targets.

Maintaining high living standards requires structural reforms

Denmark's economy recovered swiftly from the COVID-19 crisis and proved resilient to disruptions following the energy crisis and Russia's war of aggression against Ukraine in 2022, although growth is now slowing (Figure 1.1). Despite surging commodity prices and weaker activity in main trading partners, industrial growth has been strong, driven by a small number of high value activities and services have fully recovered from the pandemic. Living standards remain high. Employment reached a record level, including for groups that historically have had integration difficulties. Decisive and targeted policy responses contributed to this good performance, while keeping public finances sound. Policy initiatives contributed to preventing energy shortages by diversifying supply sources, encouraging savings, and supporting green investment.

Figure 1.1. Denmark's economy performed strongly after the COVID-19 shock but has slowed



Source: OECD National accounts database; DORS (2023) Danish Economy, Autumn 2023; OECD Analytical Database; OECD Income and Distribution database; and OECD Wellbeing indicators.

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The current slowdown of the economy should reduce risks of overheating and dampen inflation, but it also masks large disparities. The Danish economy has been running at two speeds, with most of GDP growth driven by the pharmaceutical sector (Figure 1.1, Panel B). Productivity growth has been uneven across sectors and supported by multinational firms producing abroad. Ambitious targets for the decarbonisation of the economy have been set out, including reaching net neutrality by 2045. While Denmark made substantial progress in the design of efficient climate change mitigation policies, further action is needed to encourage technological advancements and greater emission reductions across sectors.

The new government programme includes a package of structural reforms to address these challenges and, in the tradition of consensus- and evidence-based policy making, expert commissions have been appointed on a range of priority areas (Box 1.1). Complementary reforms will be needed to sustain high living standards and progress. Against this background the main messages of the Survey are:

- Long-term sustainability of public finances relies on future increases in effective retirement ages and lower use of early retirement schemes. Fiscal space is significant, but in the medium run, continuing to meet fiscal rules while maintaining high quality public services requires achieving savings and efficiency gains.
- Adapting the labour market to demographic, technological and environmental changes entails reducing disincentives to work, changing the education and training systems to match evolving skills needs, and removing unnecessary obstacles to international recruitment in shortage areas.
- While Denmark achieved significant strides in climate change mitigation, meeting ambitious targets and strengthening climate adaptation entails further policy action, with a particular focus on accelerating the deployment of green electricity production capacity and pricing agricultural greenhouse gas emissions.

Box 1.1. Key recent and planned structural reforms

The “2030 plan” and past “Denmark can do more” agreements encompass a vast range of reforms and investment in priority areas, such as employment, health, education, defence and climate. DKK 32 billion (1.1% of GDP) and DKK 21.2 billion (0.8% of GDP) will be allocated to welfare services and the green transition by 2030 respectively. After a temporary rise in military support to Ukraine, spending on defence will be maintained at 2% of GDP. Some measures are part of the Recovery and Resilience Plan revised in November 2023, which entails DKK 12.1 billion in grants (0.5% of GDP) whose disbursement is conditioned on the achievement of 93 milestones and targets, mainly in the green, digital and heath fields. Expert groups were appointed to formulate policy recommendations including on the future of welfare institutions and elderly care, climate change policies in the agriculture sector, and the healthcare and education systems.

Raising labour supply

Policy measures since 2021 aimed at strengthening work incentives by restricting unemployment benefits for graduates, relaxing means-testing rules for pensioners, and easing international recruitment including by reducing the pay limit to recruit non-EU workers. Reforms of the personal income tax, cash assistance, student allowances, master’s programmes, and the abolishment of a public holiday are expected to increase participation and employment rates by 2030.

Fostering green investment and research

Favourable depreciation rules for green investment and generous tax credits for R&D spending were introduced in 2020 (accelerated depreciation, increased ceiling for depreciation, deduction for R&D investment to 130% with a DKK 50 million cap). Large investments on public infrastructure (DKK 106 billion, 4% of GDP) and R&D for the green transition (DKK 10.7 billion, 0.4% of GDP) are planned between 2022 and 2035. In 2022, around DKK 2.4 billion was dedicated to green public research (0.1% of GDP).

In 2022, a political agreement for increasing the carbon tax and expanding its scope in 2025 aimed to create a predictable framework for investment in emission mitigation for industry. Plans to introduce a kilometre-based and CO_2 differentiated toll for trucks by 2025, a passenger tax on domestic air travel, accelerate investment in the energy transmission network and interconnection with neighbouring countries, and develop district heating while eliminating individual gas heating by 2035 have also been approved.

Improving public healthcare services

In 2022, a political agreement was reached to strengthen the integration of healthcare services at the local level and quality assurance, develop digital technologies and address shortages of GPs in some regions. An emergency plan of DKK 0.8 billion in 2023 and DKK 1 billion in 2024 was approved to reduce waiting lists and treatment backlogs in hospitals. The "2030 Plan" includes a DKK 5 billion health package and allocates DKK 3.25 billion to mental healthcare by 2030. Funds in the Recovery and Resilience Plan have been allocated to strengthen pharmaceutical preparedness and prevent shortages of critical drugs.

Source: Danish Government (2023a and 2023b), Danish Ministry of Finance (2023b).

The Danish economy has weathered economic shocks but has slowed

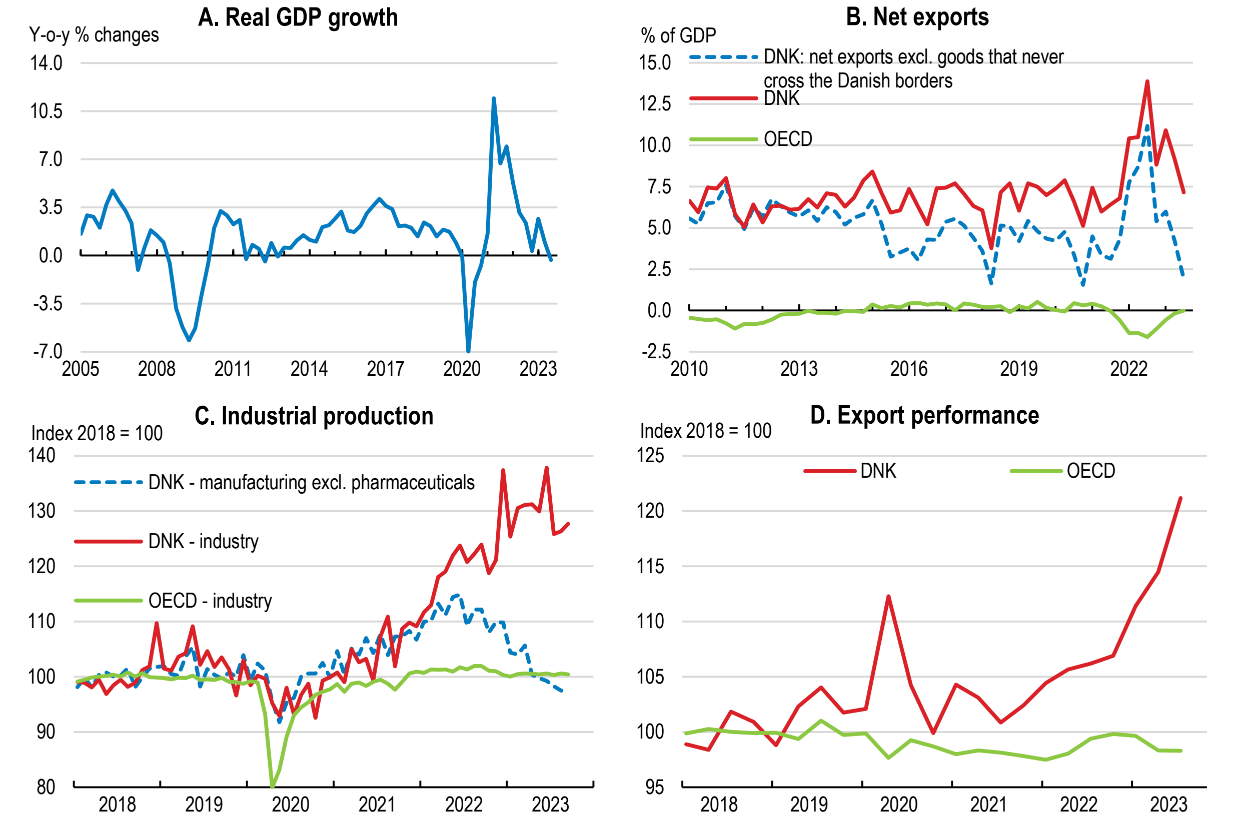
High inflation has weighed on economic activity

While Denmark's GDP and trade outcomes have been relatively strong since 2020, growth has lost momentum and the economy has been running at two speeds over the past year (see Figure 1.1, Panel B, Figure 1.2, Panel A). Economic growth decelerated from 6.8% in 2021 to 2.7% in 2022 as large spikes in energy and food prices pushed up inflation and dampened domestic demand. Industrial production and export performance have increased significantly in the aftermath of the COVID-19 crisis and are well above 2019 levels but have been mostly driven by buoyant activity in the maritime transport and pharmaceutical sectors (Figure 1.2, Panel B, C and D). Other manufacturing industries have been affected by the slowdown in international trade (Danmarks Nationalbank, 2023a). In the first half of 2023, GDP was 0.5 per cent lower than in the same period in 2022 when excluding the pharmaceutical industry (Statistics Denmark, 2023). At the same time, the current account surplus reached 13.4% of GDP in 2022, among the highest in the OECD, due to strong performance by international sectors, notably of pharmaceuticals and shipping, and net income surpluses.

Employment growth has been strong, considering the recent slowdown in economic activity (Figure 1.3). After a short-lived drop in 2020, employment recovered fast, exceeding its pre-pandemic level by 3% in 2022. The unemployment rate fell from 6.4% at its peak in mid-2020 to 4.5%, and labour shortages were reported in almost all sectors of the economy (see Chapter 2). While tensions have eased since early 2023 and unemployment increased moderately, recruitment difficulties remain stronger than before the pandemic, with more than 30% of employers reporting labour shortages as a barrier to doing business in the construction and services sectors. Good labour market outcomes have coincided with a drop in productivity growth since 2022, when excluding Danish companies producing abroad (Danmarks Nationalbank, 2023a).

Labour immigration has supported the strong expansion of employment and contributed to mitigating shortages. The number of international employees increased by 31% from December 2019 to May 2023 (Danish Ministry of Economics, 2023), due to improved employment rates of foreign-born residents, an acceleration of international recruitments and boosted by Ukrainian refugees since 2022 (see Chapter 2). Around 30 000 residence permits were attributed to Ukrainians under the special programme (Special Act) and around half of displaced adults from Ukraine were employed in mid-2023.

Figure 1.2. The Danish economy has been resilient



Source: Statistics Denmark; OECD Analytical Database; and OECD Production and sales (MEI) database.

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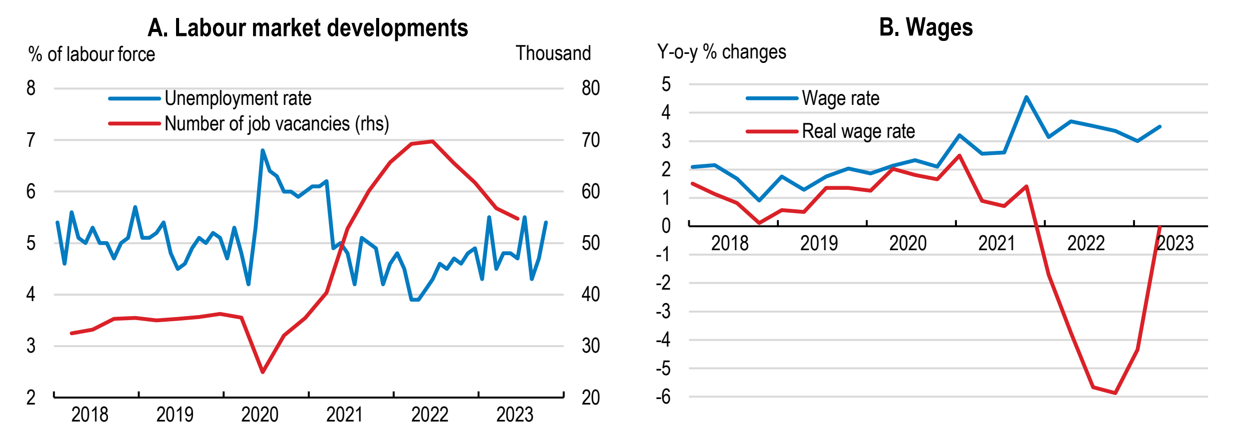
Figure 1.3. The labour market has remained tight



Source: OECD Short term labour market statistics; and OECD Analytical Database.

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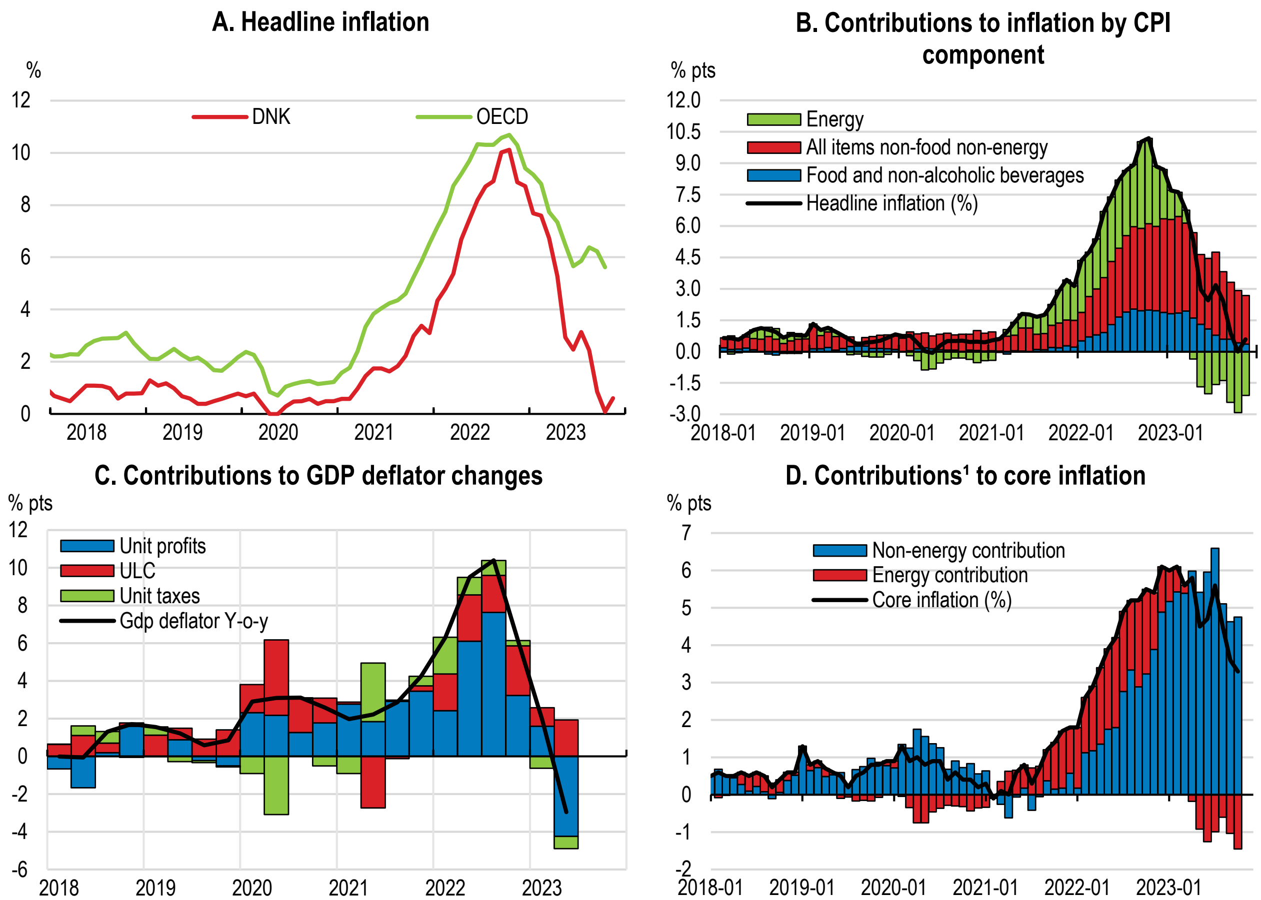
Inflation started to pick up during the post-pandemic recovery due to supply bottlenecks and strong demand (Danmarks Nationalbank, 2023b; Harr and Spange, 2023). It was driven higher by soaring energy prices triggered by the war in Ukraine, leading to the highest inflation seen since the 1980s (Figure 1.4, Panels A and B). After reaching a peak of 10% in October 2022, headline inflation declined fast to 0.6% in November 2023, as commodity prices normalised. Food price growth has decelerated by more than 10 percentage points, while electricity and gas prices fell by around 45% and 50% respectively from their peaks in autumn 2022.

Core inflation peaked in February 2023 (6.7%) and has dropped since, as falling producer prices are being progressively passed to consumers. Lower energy prices have contributed by diminishing the cost of intermediate inputs and non-energy costs have started to recede in mid-2023 (Figure 1.4, Panel D). Still, at 3% in November, core inflation remained high, standing well above its pre-crisis level (around 1% in 2021). Sticky core inflation was mainly driven by inflation in services that has been running at around 5% since the first half of 2023. Unit labour costs have contributed to price growth but have remained contained (Figure 1.4, Panel C). By contrast, the contribution of profits has declined since the end of 2022 and was negative in the second quarter of 2023. Large increases in the GDP deflators were mainly driven by selected industries, such as transport, utilities, mining and quarrying and agriculture (Danmarks Nationalbank, 2023a).

Figure 1.4. Headline inflation is falling, but core inflation remains high



1. Panel D shows estimates using information on the energy intensity of production across industries from input-output tables to statistically decompose core inflation (harmonized definition) into an energy component and a residual component attributable to wages and profit margins. The energy component accounts for higher direct energy costs and higher indirect energy costs embodied in energy-intensive intermediate inputs.

Source: OECD Consumer prices indices (CPIs) database; OECD National accounts database; Eurostat; and OECD calculations.

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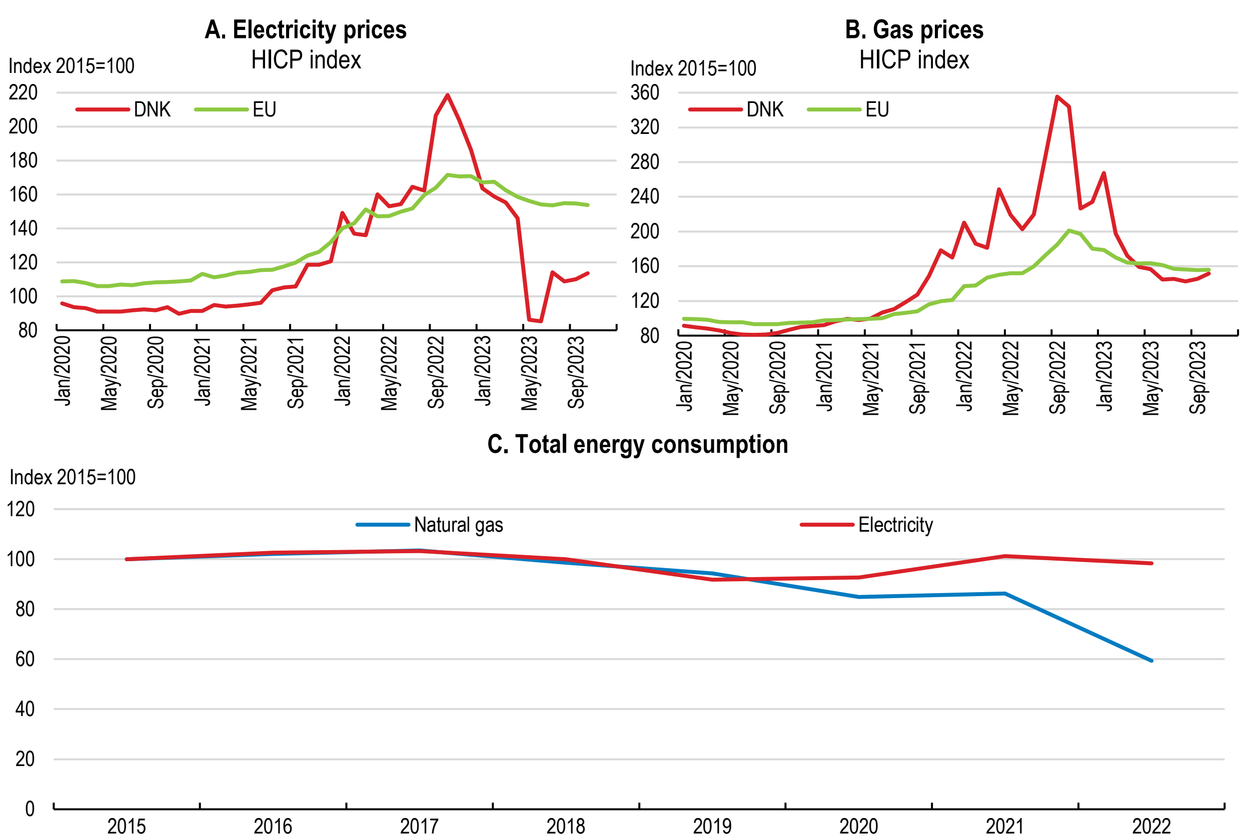
With a flexible wage bargaining system in the private sector characterised by general sector-level agreements with substantial room for firm-level negotiations, real wages declined significantly in 2022 as nominal wages picked up much less than inflation (see Figure 1.3, Panel B). In 2023, wage growth has remained limited, but has accelerated in the second half of the year. Following the latest collective agreements in Spring 2023, nominal wages are expected to increase by at least around 9-10% over the next two years, partly compensating for losses in purchasing power.

Electricity and gas prices were already among the highest in the EU due to elevated taxation, but almost doubled in a few months in 2022 (Figure 1.5). Despite a relatively low dependence on energy, energy imports, and gas compared to other EU countries, inflation was comparable to the level seen in the EU in 2022. Firms passed rising production costs quickly onto consumer prices (Danmarks Nationalbank, 2022a). Relatively modest but appropriate measures were implemented to support households and firms affected by soaring energy prices (Box 1.2), while switching to alternative sources of energy supply. Measures were taken to reduce dependency on Russian natural gas, including the diversification of energy supply sources with the delivery of Norwegian gas via the new Baltic Pipe, the prolongation of fossil fuel fired power plants, and financial support to phase out gas for heating. Denmark should become a net exporter of gas from 2024 with the reopening of the Tyra gas field and the development of biogas production.

Figure 1.5. Energy prices and consumption have dropped



Source: OECD Consumer prices indices (CPIs) database; and Statistics Denmark.

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Policy action in response to the energy crisis helped to maintain a strong price signal, while partly protecting the most vulnerable. Together with the mild winter in 2022/23, and investment in energy efficiency, it contributed to reducing energy consumption (see Figure 1.5). At the same time, the untargeted cut of the electricity tax rate between January and June 2023 to the EU minimum, while electricity prices were already on a declining trend, weakened price incentives for energy savings. As stressed in the previous Economic Survey, excessive electricity taxation undermines the electrification of energy consumption (OECD, 2021a). While the electricity tax should be reduced to support green investment, it should be maintained at a level that encourages energy savings.

Box 1.2. Energy support measures

Support measures in response to surging energy prices have been modest by international comparison and are estimated to amount to around 0.4% of GDP (OECD, 2023a) .

Temporary measures targeted at households using gas for heating, families, and low-income pensioners accounted for around half of the total fiscal cost.

- A means-tested DKK 6 000 tax-free heating cheque supported around 400 000 households among the hardest hit by the energy price surge in 2022. Households were eligible if their heating source was particularly exposed to rising energy prices. The total cost of the measure is estimated at around DKK 2.4 billion. Subsidies for the replacement of individual gas heating systems were also introduced and access to loans for energy savings investment facilitated.
- Two tax-free cheques summing up to DKK 10 000 were allocated to low-income retirees in 2022 and 2023.
- In 2023, the child benefit was increased by DKK 660 per child and DKK 300 million was allocated to low-income families as lump sum payments. Financial support was also provided to students receiving a disability allowance or a family allowance as single parents.

Measures to reduce the energy bill and encourage the electrification of energy consumption included a 6-month cut of the electricity tax to the EU minimum rate in 2023 for an estimated cost of DKK 3.5 billion, around a third of the total cost of the energy measures.

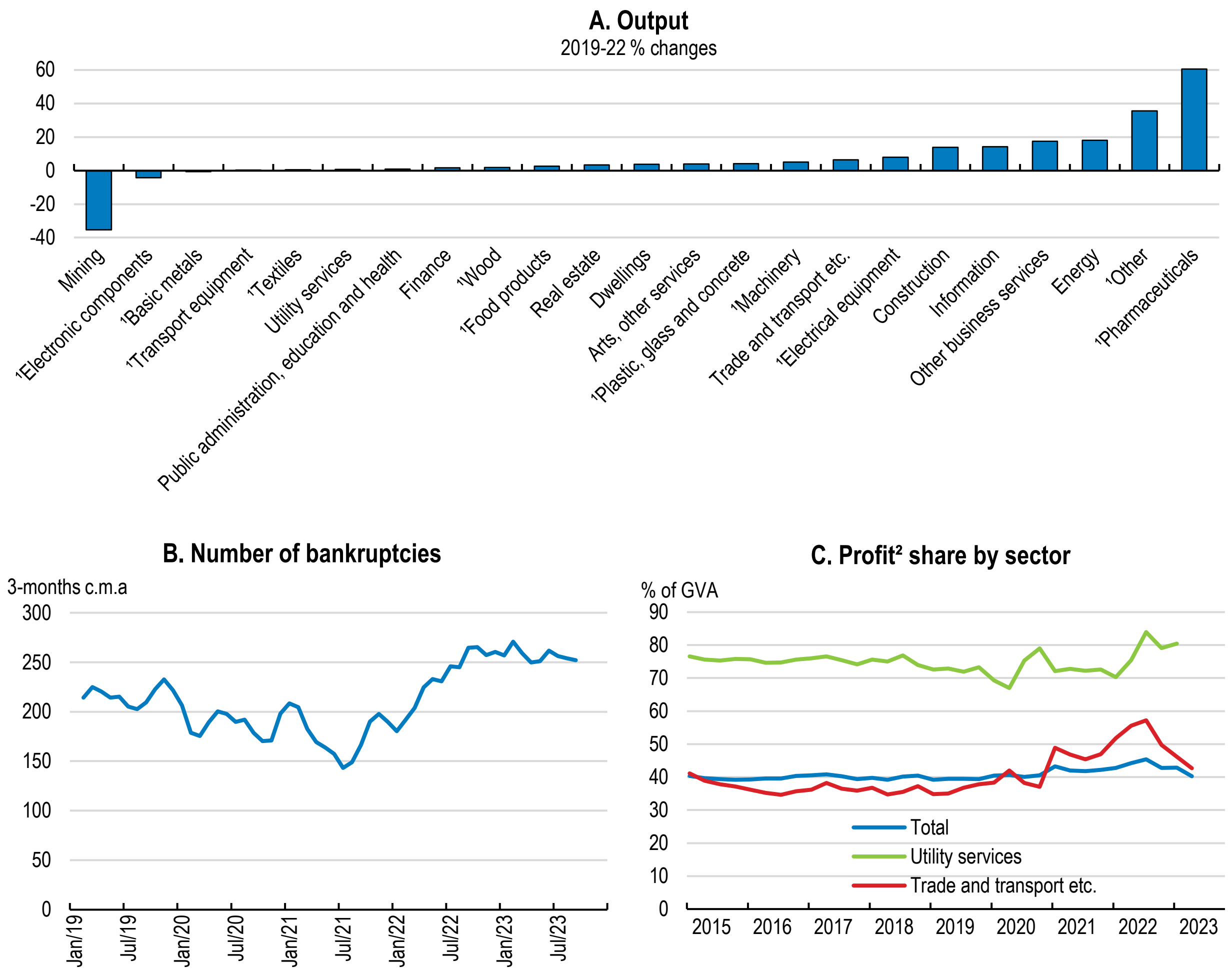
In 2022 and 2023, energy consumers could postpone the payment of their energy bill above a ceiling up to 5 years with a low interest rate. The government offered state guarantees for households' frozen debt to the energy companies and state loans for energy companies, as compensation, but the uptake has remained low.

In 2023, companies could postpone the payment of the withholding tax and labour market contributions. Small grocers and other energy-exposed food stores in small towns are eligible to subsidies to compensate for increased energy costs and for energy improvements up to DKK 100 000.

Source: Ministry of Finance.

Businesses coped well with the COVID-19 crisis and the rising production costs, but there are signs of weakening activity in the domestic economy. Only a few sectors saw output decline between 2019 and 2022 (Figure 1.6, Panel A) and employment growth was broad-based (see Chapter 2). At the same time, since 2022, industrial production growth was primarily sustained by the pharmaceutical sector whose production is mostly done abroad, highlighting the growing importance of multinational companies in exports and as a growth driver. The number of bankruptcies increased surpassing the pre-crisis level but fell in the first half of 2023 (Figure 1.6, Panel B). After a moderate increase, mostly sustained by rising energy and freight prices in transport and utilities, the share of profits in total value added has been returning to its long-term average since mid-2022 (Figure 1.6, Panel C).

Figure 1.6. Most sectors coped well with recent economic shocks



1. Output measured by industrial production. Other sectors measured by real output.
2. Profit is proxied by Gross operating surplus.
Source: Statistics Denmark; and OECD calculations.

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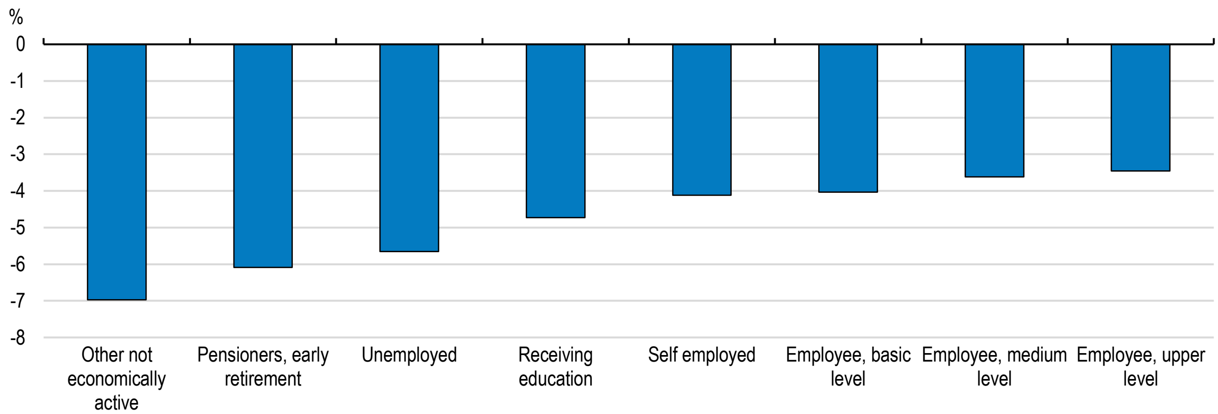
High inflation and low confidence have weighed on domestic demand. Despite the large pandemic-related excess savings, private consumption volumes dropped as purchasing power fell and savings increased. Real wages were down by 6% compared to a year earlier in the last quarter of 2022. Low-income households and out-of-work people have been the most affected by inflation (Danmarks Nationalbank, 2023c; Figure 1.7). Income losses of social assistance recipients were large, as benefits are indexed to wage growth with a two-year delay. This indexation mechanism is generous and works as an automatic stabiliser when inflation is low but fails to protect social benefit recipients in a timely way during high inflationary episodes. A more rapid benefit indexation would have improved the protection of the poorest households compared to ad hoc measures, although this would still have implied some decline in living standards and would have added to inflationary pressures. Vulnerability to rising energy prices has also been higher for those unable to switch to cheaper sources (such as district heating) or to invest in energy savings. People living in rural areas and renters are more exposed, the former relying more on individual heating sources (as opposed to district heating) and the latter on property owners for energy efficiency investments (such as housing refurbishment, or changes in the heating system).

Figure 1.7. Inflation has weighed on households purchasing power

Real disposable income, 2021-22 growth



Source: Danish Ministry of Finance

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Uncertainty around the economic outlook remains high

Economic growth is projected to decelerate to 1.3% in 2023 and 1.2% 2024, the lowest annual rates since 2014 except 2020 (Table 1.1). High inflation, weak global demand, and tightening monetary policy have hit activity in 2023. A slow recovery will follow, with GDP growth reaching 1.5% in 2025. Lower energy prices will sustain demand from Denmark's main trading partners and consumers. In line with the wage negotiations in spring 2023, real wage growth will resume and underpin households' purchasing power. At the same time, stricter lending standards and high borrowing costs will weigh on investment. Construction activity is expected to decelerate on the back of weakening housing markets. Inflation is projected to recede from 7.7% in 2022 to 2.5% in 2025. Falling energy and food commodity prices will progressively be reflected in retail prices, but underlying inflation will remain modestly above normal levels with risks that it could prove more persistent.

Uncertainty around the outlook is high and mostly relates to trade prospects and future price developments (Table 1.2). Denmark is a small open economy exposed to trade developments in its main trading partners (Box 1.3). So far, demand for Danish exports has remained strong, but could be affected by growing restrictive trade policies in non-EU trading partners slowing international exchanges and freight activity. On the upside, an acceleration of green investment in Europe would sustain foreign demand for Danish environmental goods (notably wind turbines). Domestically, persistent tensions in the labour market could trigger stronger wage growth than suggested by the latest wage negotiations, slow the decline in inflation and boost activity. Still, as inflation expectations have remained well anchored, a wage-price spiral affecting macroeconomic stability is considered a tail risk. By contrast, employment and hours worked could fall faster than expected, notably in sectors where productivity has declined, leading to reduced domestic demand and activity.

Table 1.1. Macroeconomic indicators and projections

	2019	2020	2021	2022	2023	2024	2025
	Current prices DKK billion	Percentage changes, volume (2010 prices)					
GDP at market prices	2 311.0	-2.4	6.8	2.7	1.3	1.2	1.5
Private consumption	1 085.0	-1.4	5.5	-1.4	0.6	1.1	1.2
Government consumption	557.6	-1.7	4.6	-2.8	0.9	2.0	0.9
Gross fixed capital formation	490.9	4.3	6.6	3.2	-5.2	-1.3	-0.2
Final domestic demand	2 133.4	-0.2	5.5	-0.6	-0.8	0.7	0.8
Stockbuilding[1]	14.1	-0.1	1.8	0.4	-1.0	0.0	0.0
Total domestic demand	2 147.6	-0.4	7.3	-0.2	-1.7	0.8	0.8
Exports of goods and services	1 355.3	-6.1	7.7	10.8	7.7	3.3	3.3
Imports of goods and services	1 191.9	-2.8	8.8	6.5	4.3	2.7	2.5
Net exports[1]	163.4	-2.1	-0.1	3.0	2.9	0.7	0.8
Memorandum items							
GDP deflator	_	2.9	2.9	8.1	-1.5	2.5	2.3
Consumer price index	_	0.4	1.9	7.7	3.6	2.8	2.5
Core inflation index[2]	_	1.0	1.2	4.0	4.5	3.2	2.5
Unemployment rate (% of labour force)	_	5.8	5.2	4.5	5.0	5.8	5.8
Household saving ratio, net (% of disposable income)	_	5.8	3.2	9.7	9.2	8.1	6.8
General government financial balance (% of GDP)	_	0.4	4.1	3.3	2.8	2.0	1.4
General government gross debt (% of GDP)	_	59.0	49.2	34.9	34.5	33.8	35.3
General government debt, Maastricht definition (% of GDP)	_	42.3	36.0	29.8	29.5	28.7	30.3
Current account balance (% of GDP)	_	8.1	9.1	13.4	11.5	11.4	11.3

1. Contributions to changes in real GDP, actual amount in the first column.
2. Consumer price index excluding food and energy.
Source: OECD Economic Outlook 114 database.

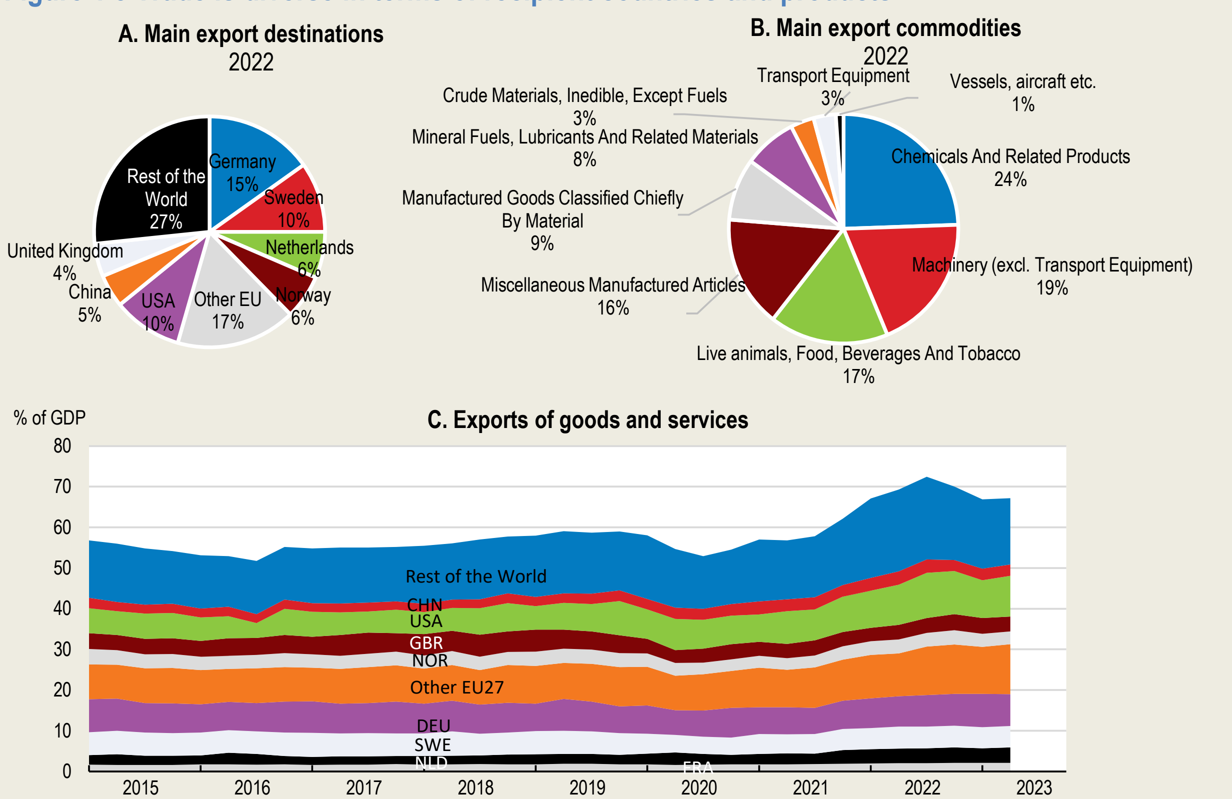
Table 1.2. Events that could lead to major changes in the outlook

Risks	Possible outcomes
Intensification of global trade tensions and increased protectionism at the global level	Increases in trade barriers and trade distorting measures would reduce external demand and trigger supply bottlenecks, undermining activity in industries highly integrated in international supply chains.
More persistent inflation	Stronger than anticipated wage increases, or higher profits could lead to higher inflation and negatively affect price competitiveness of exports.
Steep tightening of international financial conditions	Rising interest rates, larger falls in house prices and stricter conditions for credit would weaken demand and increase pressure on financial balance sheets.
Energy supply disruptions due to gas rationing in Europe	Gas rationing in Europe would increase energy prices in Denmark, including electricity prices. High energy prices would reduce household spending capacity and weigh on business profitability in energy intensive sectors, negatively affecting domestic demand.
Highly disruptive extreme weather events, such as storm surges and heavy rainfalls, entailing severe floodings.	Floods can threaten the provision of basic goods and service by damaging or destroying water and transport infrastructure and undermine activity in ports and coastal areas.

Box 1.3. Trade composition

Denmark's exports accounted for almost 70% of GDP in 2022, among the highest in the OECD. Exports are largely made up of goods with a relatively less elastic demand (Danmarks Nationalbank, 2020a). The main export industries include transport and shipping (including maritime transport, which accounts for around a fifth of total exports), chemical products (including pharmaceuticals), agriculture, green technologies, and machinery. Danish exports are primarily to Europe, but the share of trade to non-European countries has been growing in recent years, particularly to the US and China (Figure 1.8). Measured by foreign value added, China was the fifth largest supplier of inputs to Danish exports in 2020 and just over 3% of Danish employment in the private sector and 7% of export-related employment were linked to final Chinese demand in 2018 (Zhuang et al., 2023).

Figure 1.8 Trade is diverse in terms of recipient countries and products



Source: Statistics Denmark.

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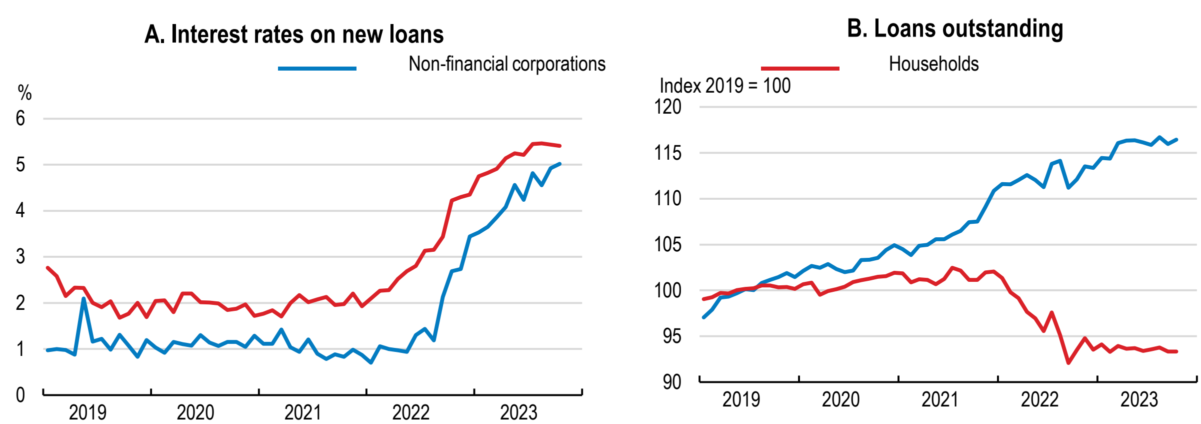
Maintaining a sound macroeconomic policy mix

Tightening monetary policy has helped to manage strong demand

Monetary policy has tightened fast, with policy rates increasing from -0.6% in June 2022 to 3.60% in September 2023. The monetary policy stance is linked to ECB decisions since the Danish krone is pegged to the euro. The Danish central bank does not have an inflation target. Its primary mandate is to keep the Danish krone stable vis-à-vis the euro. Since 2022, the spread to the ECB policy rate widened by thirty basis points following appreciation pressures on the Danish krone. While the long-standing fixed-exchange regime remains the foundation of macroeconomic stability and reduces uncertainty arising from exchange rate volatility, it is important that domestic demand is managed to ensure macroeconomic stability. Inflation was largely in line with inflation in the euro area in 2022 but has dropped faster in the first half of 2023, suggesting the macroeconomic policy mix has been broadly appropriate. The central bank should continue to maintain the peg in line with its mandate and adjust interest rates as needed. Should monetary policy conditions step out of line with the Danish business cycle, fiscal and macroprudential policies will need to react.

Monetary policy tightening has contributed to stabilising inflation. Rising borrowing costs and interest rate expenses have dampened domestic demand, especially construction. The interest rate pass-through on new loans has been relatively high in Denmark as mortgage loans are closely linked to capital market financing conditions due to strict matching rules between mortgage loans and the bonds that fund them. The pass-through from higher market rates to borrowers' interest payments has been gradual, due to fixed interest rate periods on loans, with most of it expected to materialise in 2023 (Danmarks Nationalbank, 2023d). By August 2023, more than half of homeowners with variable-rate mortgage loans have had their interest rates adjusted one or more times since 2022, with 27% of homeowners' mortgage debt adjusted within the last 12 months (Danmarks Nationalbank, 2023e). The average interest rate on new business and household loans has increased significantly, contributing to the fall in the credit-to GDP ratio, and the significant deceleration of credit growth (Figure 1.9).

Figure 1.9. Credit growth has decelerated



Source: Statistics Denmark.

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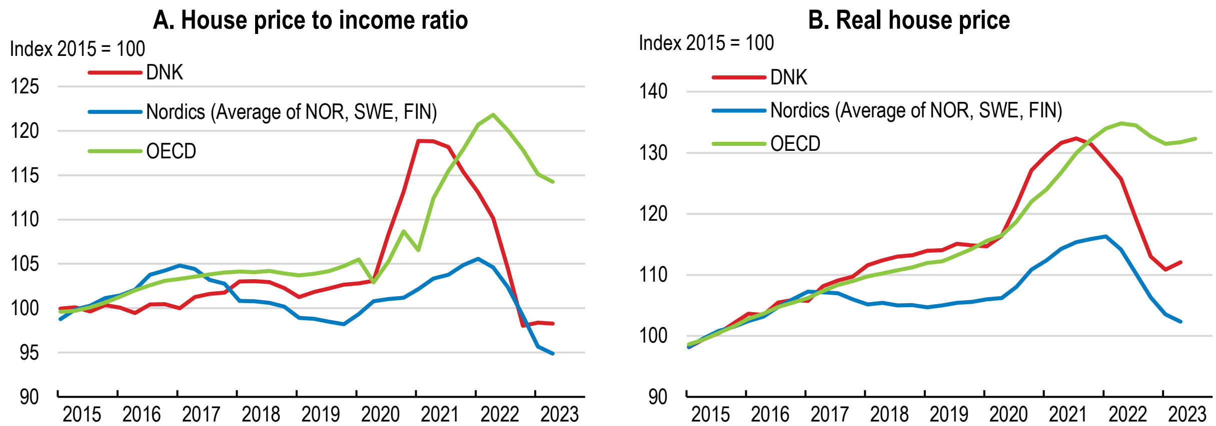
Together with reduced household purchasing power, rising interest rates have slowed housing market and commercial real estate activity significantly (Figure 1.10). House prices and transactions have improved since early 2023, but both the number of transactions and nominal prices have declined by almost 50% and 8% respectively between their peak in the first half of 2022 and the second quarter of 2023. Between 2020 and 2022, house price growth was the second highest in the Nordic region, exceeding income growth. The persistent supply-demand gap in the housing stock played a role, with insufficient supply particularly in major cities such as Copenhagen. The drop in house prices should mitigate the housing affordability issues in these main cities that has accentuated since 2020 (OECD, 2021a). At the same time, the drop in house prices reduces the capacity of homeowners with large mortgages to repay their debt when selling their house, although homeowners with fixed rate mortgages would benefit from some home equity protection due to the lower market value of their mortgage debt. Among homeowners who bought after 2021, one in ten could have debt exceeding home value by the end of 2023, with the effect strongest for first-time buyers (Danmarks Nationalbank, 2022b).

Figure 1.10. House prices have dropped



Source: OECD STI Short term indicators database.

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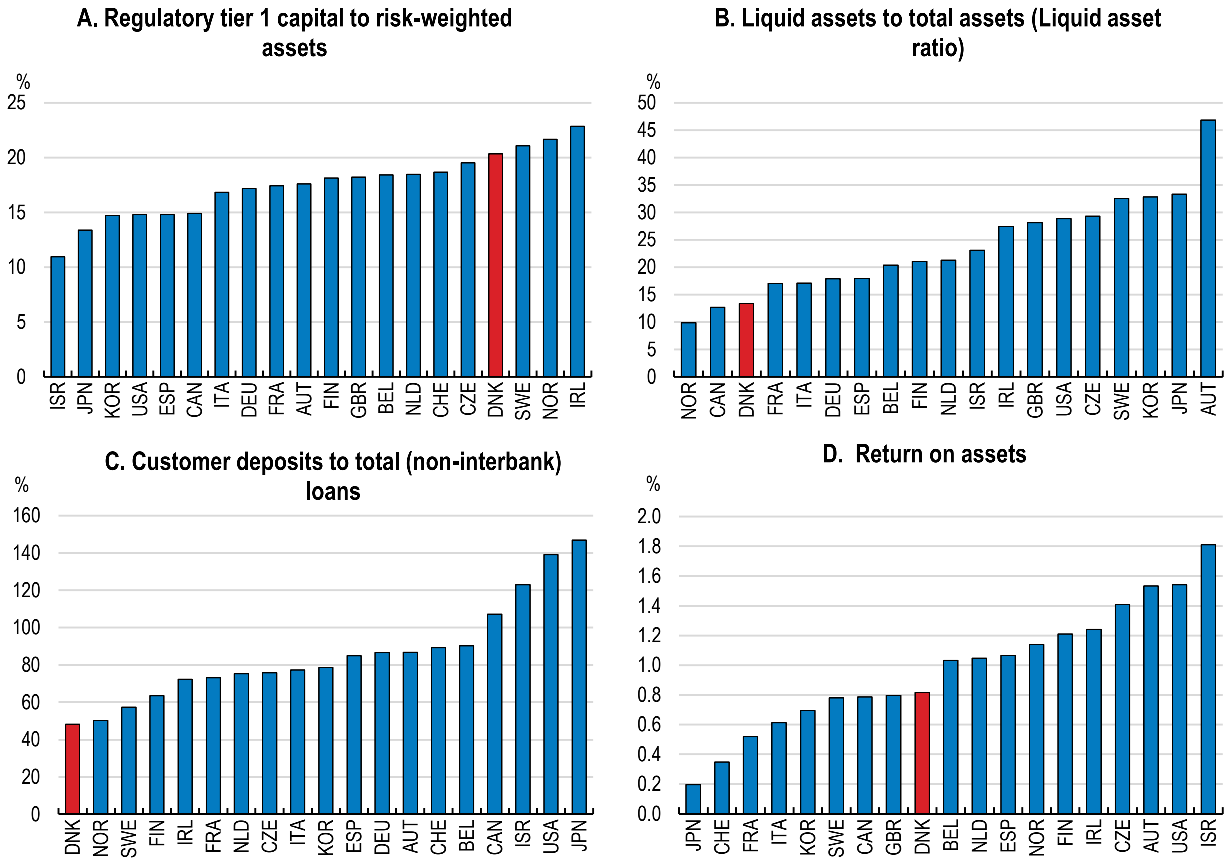
Evolving financial risks call for strengthened supervision

Fast increases in interest rates, slower growth, and financial market volatility have underlined risks to financial stability. Banks are in a good position to adjust, with capital significantly above regulatory requirements (Danmarks Nationalbank, 2022b, Figure 1.11, Panel A). Danish banks had adequate liquidity buffers to handle the market turmoil in the US and Swiss banking sectors in early 2023 and to meet the increasing demand for liquidity. Recent stress tests suggest that banks are well prepared for a medium-to-severe recession, but a severe recession would leave some institutions close to breaching their capital buffer requirements (Danmarks Nationalbank, 2022c). After a drop in 2022, profitability in the financial sector reached the OECD average in the first quarter of 2023 (Figure 1.11, Panel D). At the same time, the liquidity ratio has fallen since the beginning of 2023 and the Danish banking sector is the most highly leveraged in the OECD (Figure 1.11, Panel B and C). A narrow deposit base, heavy reliance on wholesale funding and shorter maturity of new issuances raises liquidity and rollover risks. Close supervision of banks' assessments of risk and impairment charges, capital adequacy planning, and liquidity management is thus warranted. Participation in the European Banking Union could improve prudential supervision via wider and deeper cooperation and provide access to the Single Resolution Fund (Table 1.3).

While non-performing loans have remained at a low level (1% in first half of 2023), tighter financing conditions and high inflation have affected the debt service capacity of borrowers and increased the risk of business and personal failures for the most leveraged. Bank lending to the corporate sector rose by 20% over 2022, and credit growth to businesses has remained high, suggesting that corporate customers needed additional financing on an ongoing basis (Danmarks Nationalbank, 2022b). Medium-sized banks are particularly exposed to corporate customers vulnerable to interest rate rises and falling property prices, including real estate companies and small businesses that account for 65% of their total corporate lending (Danmarks Nationalbank, 2022c). Commercial real estate lending has accounted for the largest share of impairment charges in recent economic crises and is particularly at risk (Danmarks Nationalbank, 2023d). Banks' return requirement on such lending has increased, and commercial real estate activity has dropped in 2023, compared to a period of extremely high activity in 2021 and 2022, raising concerns for further price drops. Lower rental income and higher vacancy rates as activity slows would also reduce debt servicing capacity in this sector.

Figure 1.11. The financial sector is well capitalised, but highly leveraged

2023Q2 or latest available



Source: IMF Financial Soundness Indicators (FSI) database.

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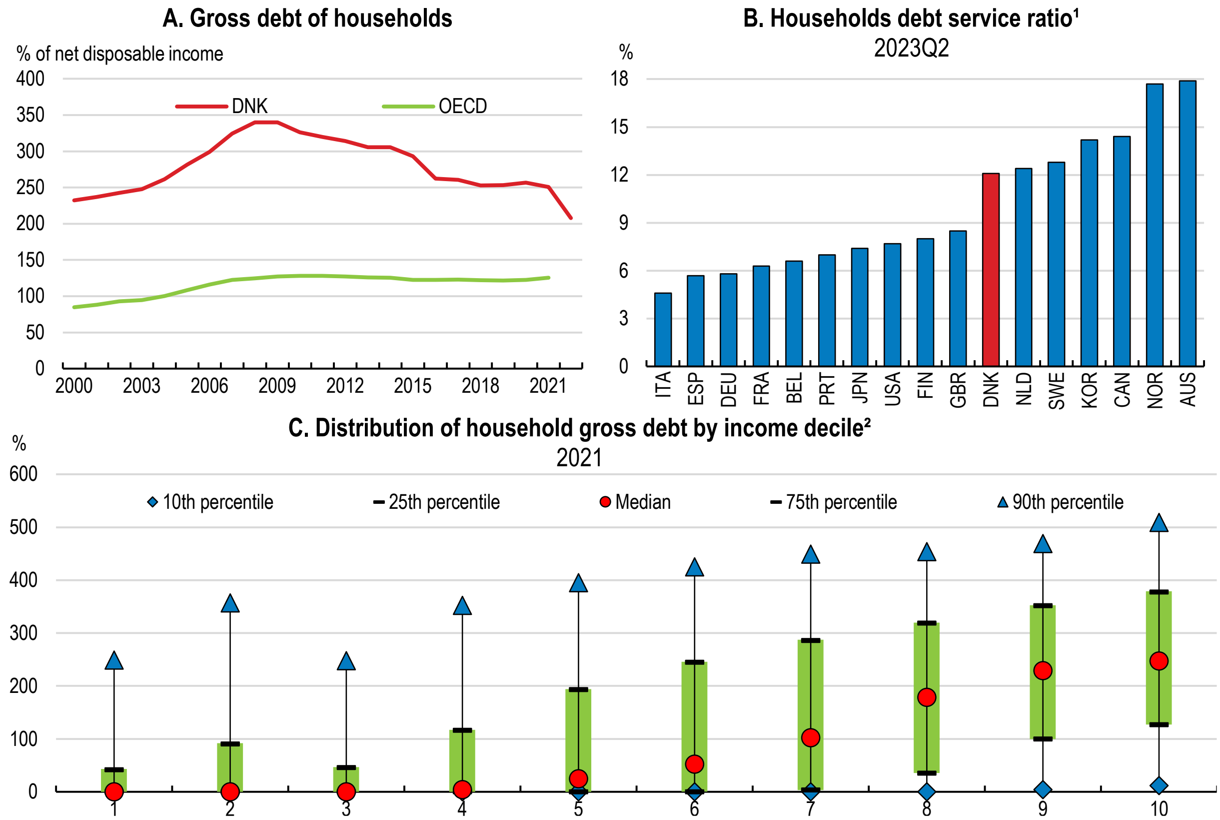
Despite declining in recent years, household gross debt continues to be among the highest across all OECD countries (Figure 1.12). This partly reflects the high level of mandatory pension savings and the unique Danish mortgage system, by which mortgage loans are funded through the issuance of bonds and priced at the capital market rate, which allows for cheaper mortgages. The elevated level of debt, together with the relatively large and increasing share of variable-rate mortgages, accentuates the impact of monetary policy on households' balance sheets. Homeowners are increasingly repaying fixed-rate loans and refinancing existing mortgages by taking out variable-rate loans, on the expectation of declining interest rates in the years to come (Figure 1.13). Refinancing existing fixed-rate mortgages can reduce outstanding debt due to the reduction in bond prices underlying mortgages. At the same time, as interest rate rises pass through to variable mortgage rates, rising debt servicing costs can reduce disposable income and increase the risk of loan default. In August 2023, almost a sixth of homeowners' mortgage debt received a new and higher interest rate, with the average rate on this new debt at 5.52%, including fees. This contributed to increasing the average interest rate on all mortgage debt to 3.1%, including fees, double the record low set in 2021. At the same time, because interest payments are deductible from personal income tax, the increase in interest rates will be partly compensated by higher deductions. For now, mortgage defaults are not rising, and credit institutions' impairment rates remain low (European Commission, 2023). Loan defaults are projected to increase only moderately, as households' capacity to repay their loans is estimated to be large (Danmarks Nationalbank, 2022b). Risks are also reduced by the distribution of debt, which is mostly held by high income earners and households with substantial asset holdings (Figure 1.12). The Danish central bank expects that 36,000 more households will be in deficit in

2023 compared to the estimated 85,000 households in 2021, with income being insufficient to cover modest living standards, pay fixed costs, and service debt (Danmarks Nationalbank, 2023d).

Figure 1.12. Gross debt and the debt service ratio are high



1. Panel B shows the ratio of interest payments plus amortisations to income. The debt service ratio compares the flow of debt service payments divided by the flow of income.
2. The self-employed households or households with zero or negative tax have been removed.
Source: OECD National Account at a Glance; BIS; and Danmarks Nationalbank.

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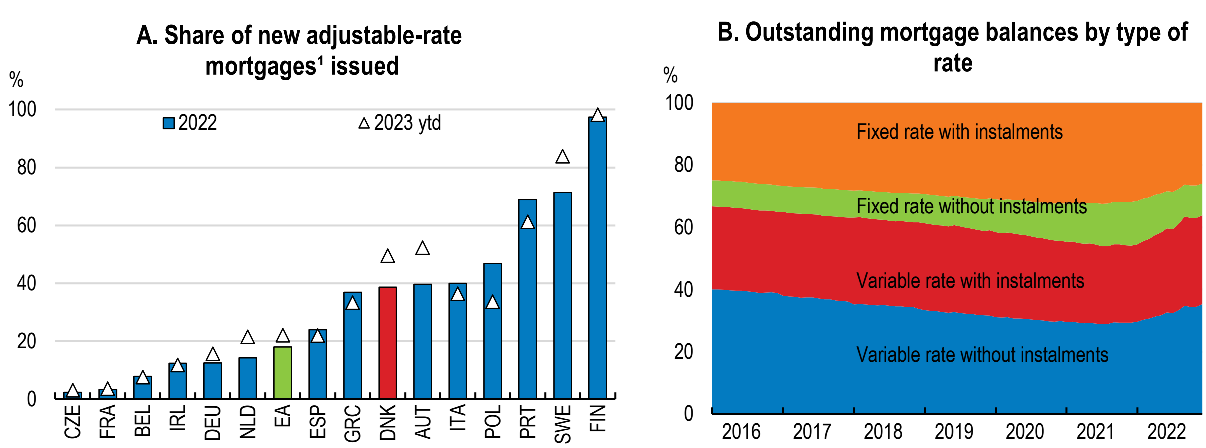
Figure 1.13. The increasing share of variable rate mortgage raises vulnerability



1. Adjustable-rate mortgage loans are new loans issued at variable rate, with an initial interest rate fixed for a period of up to 1 year or with an initial interest rate regulated at regular intervals (up to 5 years).
Source: ECB; and Danmarks Nationalbank.

StatLink https://stat.link/iamxs8

Denmark should take measures to reduce structural vulnerabilities in the housing market over time and consider strengthening macroprudential measures in the medium term once the housing market stabilises. Reforms of housing taxation should lower housing demand and prices in the short run (Box.1.4). A sizeable proportion of the new lending taken out as variable rate with deferred amortisation has a high loan-to-value (LTV) ratio above 60% (37%, Danish Systemic Risk Council, 2022). Consideration should be given as the housing market recovers to tightening LTV restrictions, such as subjecting new mortgages for highly indebted households to lower LTV limits than the current 95%. The Danish requirement is low relative to other Nordic countries, and most first-time buyers borrow up to the threshold. The Systemic Risk Council recommendation in June 2021 to limit access to interest-only loans for borrowers with LTV ratios above 60% has not been taken up. Complementary restrictions on debt-to-income can also ensure households' ability to sufficiently service their debt at high valuations, with tighter limits on interest-only and floating rate mortgages as recommended in past Surveys (Table 1.3). Credit assessments of borrowers are based on their ability to service a mortgage loan at current interest rates. Introducing an interest rate stress test based on income as used by lenders in the United Kingdom and being considered in Canada should be envisaged given the use of floating-rate debt.

Box.1.4. Reform of the property tax system

The property tax reform currently underway aims at restoring the link between the real estate taxation and property values without affecting the level of total revenues from recurrent taxes on immovable property. The new tax system replaces the long-standing nominal tax freeze (in place since 2002) with proportional taxation, maintaining a progressive element for the most valuable homes. The effective tax rate is estimated at 0.41% on property values up to 11.5 million DKK and 1.12% for values above (1% of all properties). New valuations will be updated every second year. After being approved in 2017 and delayed several times, the reform should become effective from January 2024.

A new automatic and complex valuation system based on a number of indicators has been developed and first estimates of property values were provided to households in autumn 2023. Due to the level of uncertainty as for the assessment of the property value, a principle of prudence has been implemented and property owners are taxed based on a value set 20% below the assessment. Preliminary assessments will be amended, with a final valuation expected in 2025.

In the medium run, property tax will rise in the largest urban areas, such as Copenhagen and Aarhus, where house prices have increased faster than in less densely populated areas. The reform will improve the fairness of property taxation as it should level out taxes relative to valuations and ultimately help to narrow the substantial price differences between small towns and large cities.

The new tax system affects the housing market and property prices. Homeowners who bought their property before the introduction of the new system will be entitled to a tax subsidy if the level of property tax increases following the reform. This subsidy is not available to new homeowners from 1 January 2024. As a result, market activity will likely intensify before the reform comes into place and could stagnate as the new taxes kick-in. Analysis suggests that apartment prices in the major cities will need to fall around 5-10% for the total costs (mortgage plus tax) to be unchanged versus the previous system (Nykredit, 2023). The subsidy helps to gain acceptance of a challenging reform and will effectively fade as its real value depletes over time. Nevertheless, it is generous and it will temporarily affect mobility and disadvantage first-time buyers should property prices not fully adjust to the changes in property tax levels.

The green transition poses a challenge to financial stability. Denmark is relatively exposed to climate risks, especially floods, and the implementation of drastic measures to achieve climate targets could result in capital shortfalls relative to requirements (Danmarks Nationalbank, 2020b). However, transparency about how banks manage these risks could be improved. Lack of regulatory standards hinder the ability to integrate these risks into the supervisory framework. Standardised regulatory guidance can lead to a significant increase in the disclosure of climate-related risks (Acosta-Smith et al., 2023). Denmark could take inspiration from the UK that became the first country to establish a mandatory financial sector disclosure regime in 2022 to improve the quantity and quality of climate-related reporting.

Table 1.3. Past recommendations and actions taken on financial and housing regulation

Recommendations	Action taken since 2021 survey
Be ready to tighten macroprudential regulation if risks continue to build, for example by introducing general debt-to-income limits.	No action taken.
Consider extending some of the locally targeted "Best practices" introduced by the regulator for granting a mortgage in hotspot areas to the whole country.	No action taken.
Encourage mortgage institutions to strengthen the use of debt-service-to-income ratios.	No action taken.
Improve prudential supervision and international collaboration by joining the European Banking Union.	No action taken.
Support a bigger private rental housing market by easing rent regulation while striking a balance between landlord and tenant protection. Establish a commission to investigate the scope for developing a bigger private rental market.	No action taken.
Remove favourable conditions for parents to buy-to-let flats to their children.	Since 2021, parents who use the company income tax scheme must pay an interest rate compensation when renting to their children.
Strengthen disclosure requirements for listed companies based on the EU taxonomy of environmentally sustainable economic activities. Update monetary and macroprudential policy to reflect unpriced systemic risks associated with climate change.	No action taken.

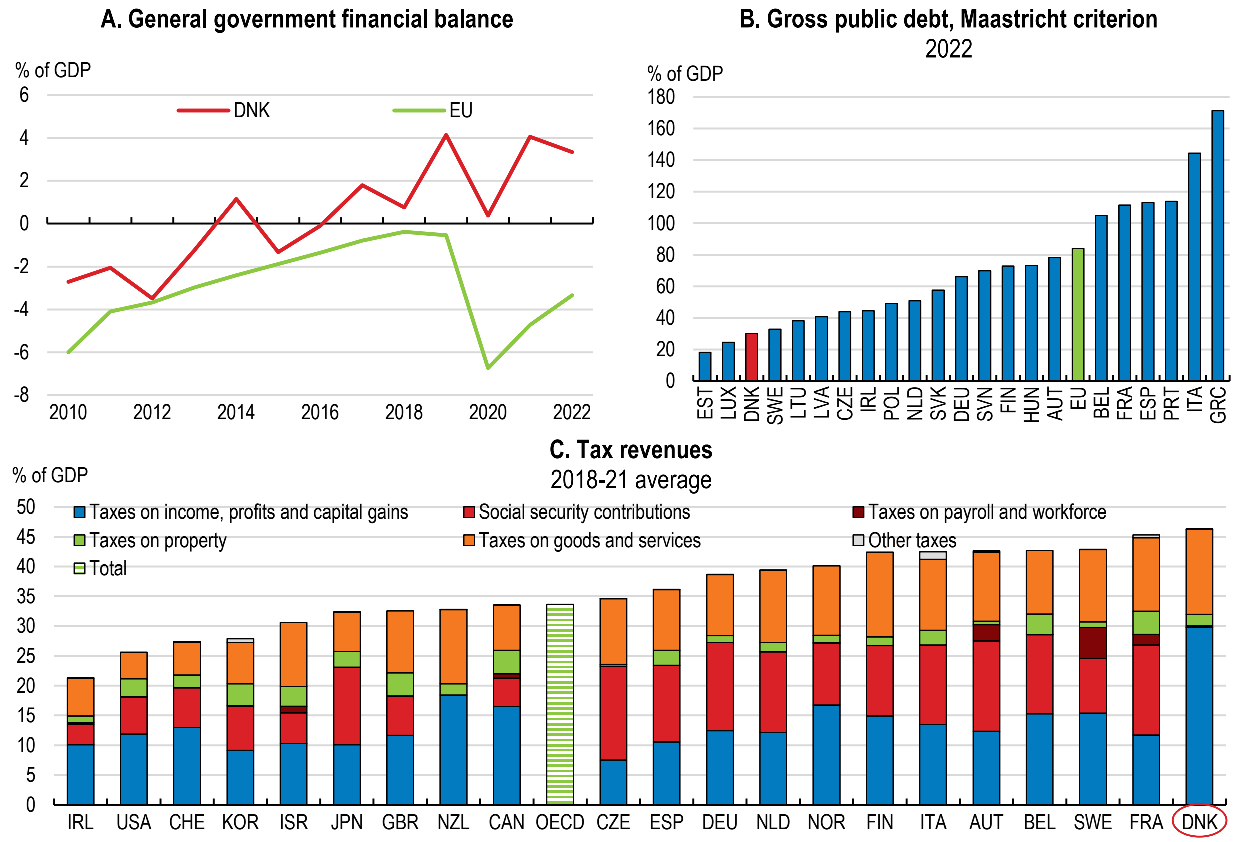
Fiscal policy needs to manage population ageing and the green transition

Fiscal policy is sound, but there are risks to sustainability in the longer term

The public finances have proved robust and fiscal policy rightly adapted to fast-changing economic conditions over recent years. Gross public debt is around 30% of GDP and the government balance has been in a surplus since 2017 (Figure 1.14, Panels A and B). After a sharp deterioration due to the COVID-19 crisis, the headline budget surplus has been substantial, partly due to the fast economic recovery and high tax revenues on labour and capital income. A generous system of social support and public spending is financed through relatively high taxes (Figure 1.14, Panel C).

Fiscal policy has been prudent as the economy reached full employment and pressures on capacities increased. Support measures following the energy crisis in 2022 have been modest compared to other OECD countries (at around 0.4% of GDP, see Box 1.2). New public spending related to the energy crisis, defence and the acceleration of the green transition have been financed to a significant extent by restraining other spending lines. The impact of fiscal policy on GDP growth is estimated to be broadly neutral in 2024, partly because increased spending on defence will have a moderate impact on domestic activity and support measures will be fully phased out. Fiscal policy may need to be tightened if inflationary pressures do not recede as expected and persist relative to the euro area.

Figure 1.14. Public finances have proved resilient and sound, relying on high tax revenues



Note: Panel C, in Denmark almost all social benefits are subject to income taxation, implying a clawback of around 5% of GDP.
Source: OECD Analytical Database; and OECD Revenue statistics database.

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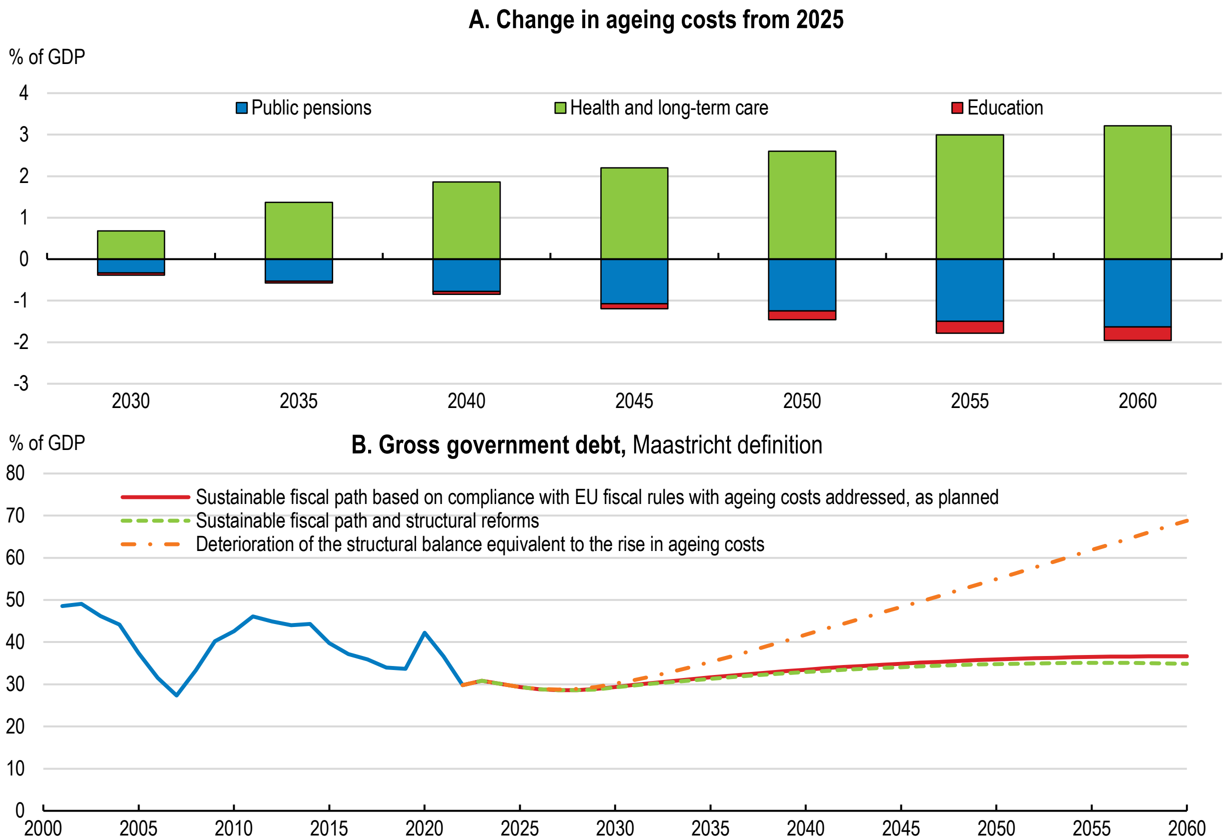
Denmark has a sound fiscal framework, including four-year expenditure ceilings, automatic sanctions for local governments in case of overspending and a structural deficit limit. In 2022, in line with past OECD recommendations, the Budget Law was revised to increase the structural deficit limit from 0.5% to 1% of GDP (Table 1.7). Relaxing the limit gives fiscal room to address demographic headwinds after 2030 and investment needs without affecting long-term fiscal sustainability. The government aims for a structural budget deficit at 0.5% of GDP by 2030. Following this approach and progressively converging to fiscal balance by 2060 would stabilise public debt at a low level (see Figure 1.15). Implementing structural measures in line with the recommendations of this Survey would modestly further reduce the debt-to-GDP ratio. The impact on public finances is found to be relatively limited, due to the low level of debt, Denmark's strong economic performance and because some recommended reforms are not included in the analysis (Box.1.5). However, while pension costs are set to fall in the coming decades due to past reforms and a further shift towards private provision that is already well-developed, net ageing costs are set to rise by around 1.1% of GDP by 2050, primarily due to higher health and long-term care costs. If these costs were allowed to rise without being offset by spending adjustments in other areas or higher tax revenues, debt would be on a sustained rising trend.

Figure 1.15. Ageing cost and other fiscal pressures will weigh on the public finances



Note: In the “Sustainable fiscal path based on compliance with EU fiscal rules with ageing costs addressed" scenario, the structural balance is projected to gradually converge to -0.5% of GDP by 2030 and to progressively converge to zero by 2060. The "Deterioration of the structural balance equivalent to the rise in ageing costs" scenario adds to the structural balance European Commission projections for net total ageing costs (net public pensions, long-term care, health, and education). The ageing costs are estimated to increase by 1.1% of GDP to annual public spending in 2050 compared to 2025. The “Sustainable fiscal path and structural reforms” scenario assumes that GDP growth increases following the implementation of structural reforms and a structural balance converging to zero after 2030.

Source: Adapted from OECD (2023), OECD Economic Outlook: Statistics and Projections (database), June; Guillemette, Y., D. Turner (2018), "The Long View: Scenarios for the World Economy to 2060", OECD Economic Policy Paper No. 22., OECD Publishing, Paris and European Commission (2021), "The 2021 Ageing Report - Economic and budgetary projections for the 28 EU Member States (2016-2070)" Directorate-General for Economic and Financial Affairs".

StatLink https://stat.link/2p7xoe

Projections from the Danish Ministry of Finance that include increasing ageing costs suggest the government fiscal target is achievable and point to room for extra spending or tax initiatives within the objective of a structural budget balance of -0.5% of GDP amounting to around 2% of GDP by 2030 (Danish Ministry of Finance, 2023a). However, these projections are based on a set of assumptions of significantly higher labour market participation of older workers following reforms and stable working hours. In addition, after 2030, the retirement of the baby boomer generation and the gradual indexation of the retirement age to life expectancy gains are projected to temporarily push the fiscal deficit above the 1% limit defined in the law for more than 10 years (Danish Ministry of Finance, 2023a).

Maintaining the generous social system while keeping the public finances on a sustainable path will be challenging. Costs related to demographic changes are expected to increase significantly and put pressure on the government budget (Figure 1.16). The population aged 75 and more is expected to increase by 25% by 2030, raising demand for long-term care services that are mostly provided and financed by municipalities. At 3.6% of GDP, spending on long-term care is already among the highest in the OECD after the Netherlands and Norway, reflecting the advanced development of formal care services and the high costs per person (de Biase and Dougherty, 2023).

Box.1.5. Estimated impact of structural reforms recommended in the Economic Survey

This box summarises potential medium-term impacts of selected structural reforms included in this Survey on GDP (Table 1.4) and fiscal balance (Table 1.5). The quantification impacts are illustrative. The estimated fiscal effects include only the direct impact and exclude potential behavioural responses that might occur due to a policy change. While recommended reforms in this Survey have budget and GDP implications, not all can be quantified due to model limitations. The impact of the recommendations on early retirement schemes, education, competition enforcement, and environmental policies are not or only partially evaluated.

Table 1.4. Estimated impact on GDP level

Policy	Measure	10-year impact, %
Tax reform	Reducing the top marginal tax rates on wages, dividends, and capital gains by 5 ppts.[1]	0.2
R&D business support	Increasing business R&D by 0.25 ppt of GDP by 2025 to halve the gap to the OECD average and assuming a 1.4 elasticity to public support.	0.05
Migration	Increasing net migration flows by 50% compared to the baseline projections (to 18 500 people in 2025 and 17 000 in 2050).	0.8
Early childhood education and care	Increasing spending on early childhood and education by 0.2 ppt of GDP to reach the Nordic average by 2025 and to achieve more flexible hours.	0.2
Total		**1.3**

Source: OECD long-term model, otherwise 1. OECD 2021 Economic Survey

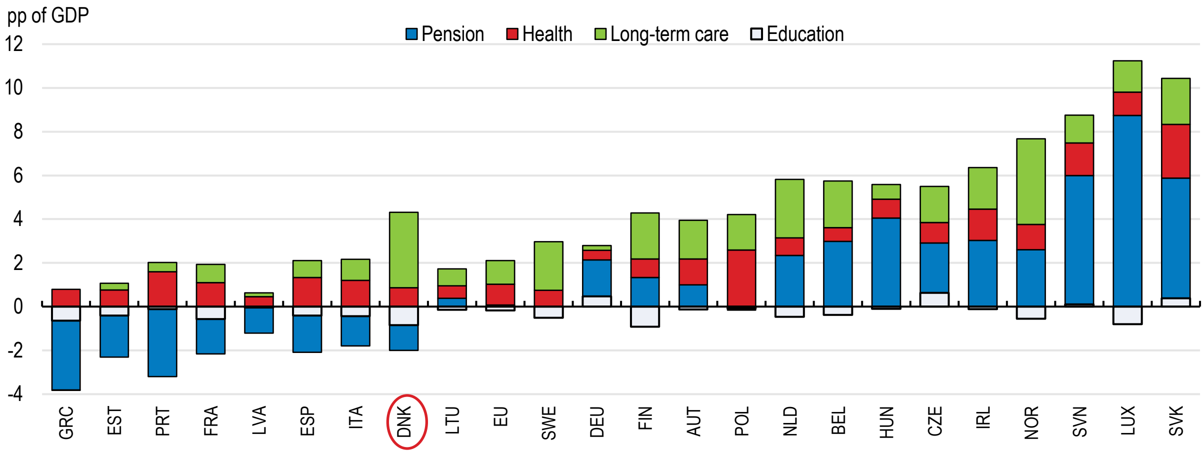
Table 1.5. Estimated impact on the government balance

Policy	Measure	% of GDP
Tax measures		**-0.15**
Tax reform[1]	Reducing the top marginal tax rates on wages, dividends, and capital gains by 5 ppts while allocating further revenue to reducing high effective marginal tax rates for social benefit recipients.	-0.25
Tax advantage of biomass[1]	Taxing lifecycle CO_2 emissions from solid biomass.	0.1
Revenue-neutral GHG pricing in agriculture	Pricing GHG emissions from agricultural production and using revenue to compensate emissions exposed to leakages and households.	0
Spending measures		**0.05**
R&D business support	Increasing business R&D support by 0.25 ppt of GDP by 2025.	-0.2
Early childhood education and care	Increasing spending on early childhood and education by 0.2 ppt of GDP to achieve more flexible hours.	-0.2
Active labour market policies	Reducing spending on active labour market measures per participant to the average of OECD Nordic countries.	0.3
Administrative reform	Reducing administrative costs for local governments.	0.1
Student grants	Converting student grants into loans at master level[2]	0.05
Net impact		**-0.1**

Source: OECD calculations otherwise 1. 2021 OECD Economic Survey. 2. Reform Commission (2022)

Figure 1.16. Spending on long-term care is projected to rise significantly

Change in general government expenditure between 2019 and 2070



Source: European Commission (2021), "The 2021 Ageing Report: Economic and Budgetary Projections for the EU Member States (2019-2070)", Directorate-General for Economic and Financial Affairs, Institutional Paper 079, Luxembourg.

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Amongst a large range of social services, municipalities must provide for long-term care to all citizens who need it for free. Increasing demand as the population ages, rising costs and limited room for productivity gains complicate the provision of high-quality services. Costs have already been reduced by limiting institutionalisation and offering individual rehabilitation and training to make the elderly more self-sufficient before granting home care. Nevertheless, some municipalities reported they had to cut budgets on some welfare services, especially in rural areas. This is primarily due to fast rising costs of specialised social services. Between 2018 and 2023, the gap between spending in this area and state compensation reached DKK 4.3 billion (KL, 2023). This reflects that municipalities have a responsibility to prioritise between sectors and services within the overall expenditure ceiling, based on local priorities and demands, and rising demand for public services does not automatically lead to an increase in the expenditure ceiling. Adjustments are made on an ad-hoc basis. To compensate cost pressures in the specialised social services sector, the government committed to a DKK 1.5 billion investment from 2024-2026.

Going forward, state grants to municipalities are set to adjust to demographic changes and a strong equalisation scheme helps to prevent disparities between municipalities. Additional funding will be needed to meet future demand if the provision of public services continue to grow in line with private consumption opportunities, a trend that coincides with citizens' expectations (Beck et al., 2023; KL, 2022). The government plans to allocate DKK 32 billion (1.1% of GDP) to welfare services by 2030, including DKK 19 billion to adapt to demographic changes (Danish Ministry of Finance, 2023b). In the longer term, meeting growing demand will be more challenging as the fiscal space diminishes. Reducing the administrative burden on care workers and municipalities as planned by the government can free up resources. At the same time, the impact of deregulation on the quality of public services and discrepancies across municipalities must be monitored. Should further savings be needed, cutbacks or tariff ceilings on services provided by municipalities could be considered. By contrast, a major reform of the Danish welfare model that would consist of diversifying funding sources of long-term care by adjusting public support to the means of citizens for non-essential services as is done for instance in the Netherlands would avoid restricting the provision of public services.

Despite the ageing of the population, public spending on pensions is projected to decline together with the share of pensioners relying on means-tested benefits as private pension schemes mature and working lives are prolonged (Box 1.6). The strict indexation of the legal retirement age to life expectancy gains is projected to push the legal retirement age 10 years beyond the current effective retirement rate

(Figure 1.17, Panel A). The retirement age would also be the highest in the OECD, even when compared with OECD countries that already have implemented reforms to ensure the sustainability of their pension systems. However, as the retirement age increases, so does the risk of larger inflows into early retirement schemes open to those with long careers and disability benefits, especially for those in physically demanding occupations due to higher incidence of reduced work capacity and of chronic diseases. The effective retirement age has increased in line with the statutory retirement age so far, and employment rates of older workers have improved significantly (Figure 1.17, Panel B and C). At the same time, the number of disability pension recipients has been on a rising trend since 2018, partly due to the recent increase in the retirement age and the creation of two new schemes in 2021 and 2022 (Figure 1.17, Panel D, see Chapter 2). The Ministry of Finance assumes a broadly stable share of disability recipients from 2030 as the increased inflow in disability pensions due to higher retirement age is compensated by other factors, including the higher education level. This may underestimate the future costs of ageing for public finances should the share of people with low work capacity increases. Reforms could address barriers to prolong working lives, including for those with reduced work capacity, while maintaining adequate options to protect the more vulnerable (see Chapter 2).

Box 1.6. The Danish pension system

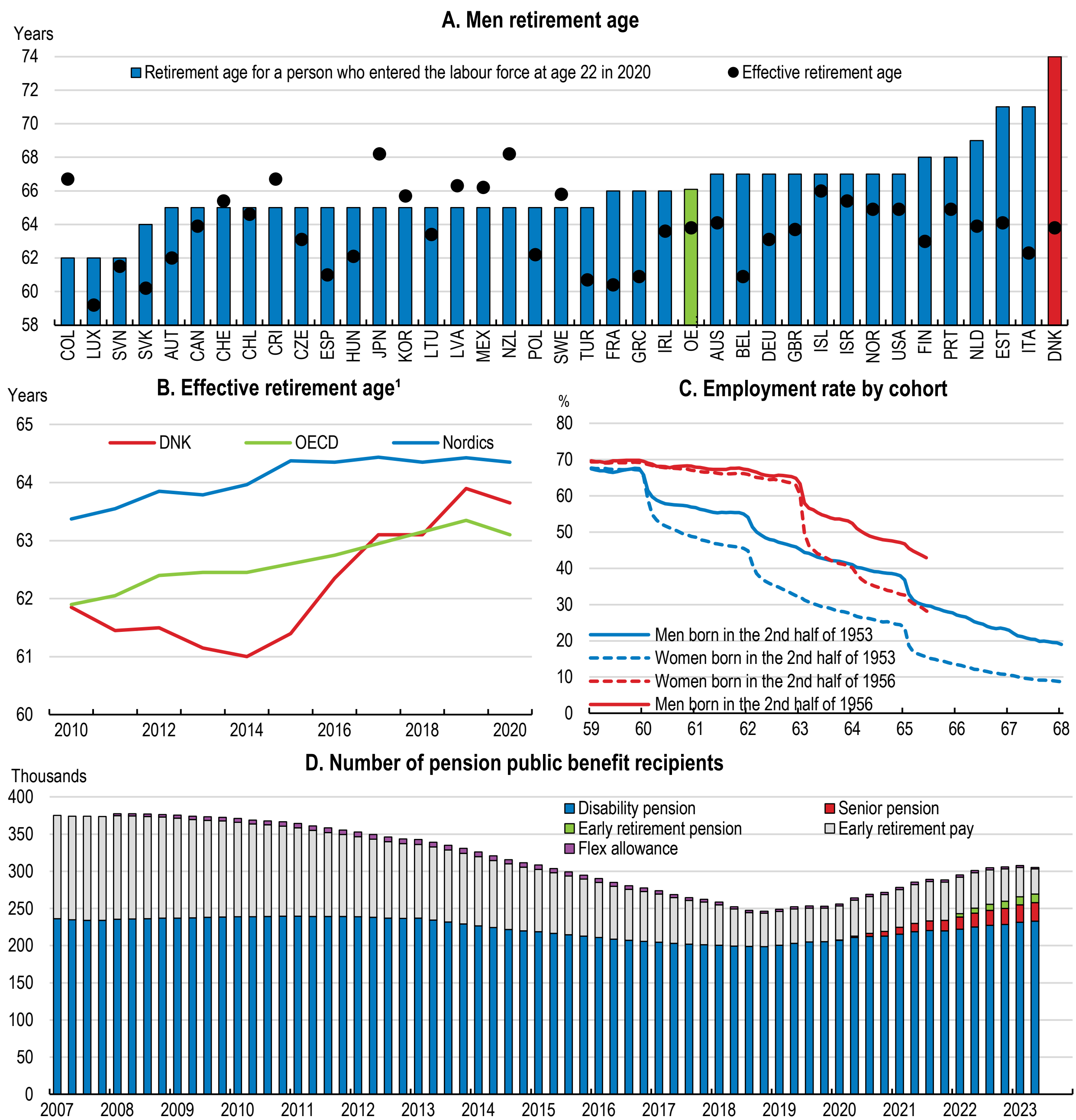
The Danish pension system consists of a mix of pay-as-you-go and defined contribution schemes:

- A tax financed and means-tested public pension, including a universal basic flat amount, a pension allowance subject to means-testing of non-labour income, and a supplementary benefit for the most disadvantaged.
- A minor mandatory defined contribution scheme (ATP) for employees and those receiving temporary social security benefits.
- Quasi-mandatory fully funded occupational schemes covering around 90% of full-time employees.
- Individual voluntary defined contribution schemes.

In 2021, public pensions accounted for around 70% of total gross pension payments and 84% of individuals older than 65 received means-tested pensions. As private pension schemes introduced in the 1990’s mature, public spending on pensions is projected to decline from around 9% of GDP in 2019 to 7% towards 2060 together with the share of pensioners relying on means-tested benefits. In 2019, total savings into labour market pension schemes and private pension plans were estimated at 120% and 29% of GDP, respectively. In 2021, the total sum of savings in occupational schemes (excluding ATP) has been valued at over DKK 4 000 billion, or approximately 1.6 times the national GDP.

Source: Ministry of Finance (2020) Pension Projection Exercise 2021, Country Fiche Denmark., OECD (2023) Pensions At A Glance: Country Profiles – Denmark

Figure 1.17. The retirement age is projected to rise sharply as the population ages



1. Average of men and women effective retirement ages.

Source: OECD Pensions at a Glance; Denmark Ministry of Finance; and Statistics Denmark.

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The climate transition will also have a significant impact on the public finances, which is not fully included in the long-term fiscal assessments. Projections from the Ministry of Finance estimate the effects of legislated climate policies on the budget, but not those of complementary measures needed to reach the national emission targets. They consider transitory revenues from the carbon tax, losses of excise duties on motor fuels as electric cars become more widespread and the cost of the Green Fund, a public financial reserve for green investment. Illustrative OECD projections suggest that the cost of the climate change transition and its impact on public finances will critically hinge on the type of abatement policies implemented (Guillemette et Château, 2023; OECD, 2021a). Fully recycling carbon-based revenue to reduce the tax burden and support affected households would offset some of the negative effects of the transition on activity and fiscal sustainability, while an extensive use of subsidies would push public debt up.

Identifying fiscal risks related to climate change, as done in the UK and in Germany would help to strengthen debt sustainability analysis (OECD, 2020a). One important risk is that the public sector might need to invest more than planned to reach the decarbonisation targets if policies aiming at fostering green investment by private stakeholders prove less effective than expected. As for adaptation, Denmark has a strong insurance system against natural disasters, but its fiscal cost, especially government liabilities, could be made more transparent (Radu, 2022). As part of the new adaptation strategy, a clear framework should be developed setting out where local and central governments are responsible for the cost of adaptation and establishing mechanisms to support local governments for which adaptation costs would be higher (Table 1.7).

Improving the efficiency of public spending

Achieving efficiency gains in the public sector should be part of the government's strategy to meet deficit targets, given that room to increase tax revenues is limited (see Figure 1.14). Structural reforms envisaged in the government programme are projected to increase fiscal space to partly finance additional defence and welfare spending (Danish Government, 2023a). The government expects that the reforms, including the education reform and the abolition of a public holiday will raise hours worked, thereby the tax revenue. Efficiency gains are projected in public employment and administrative services (Table 1.6). However, uncertainty on the impact of the measures and the level of savings that can be achieved is high.

Table 1.6. Estimated impact of selected measures envisaged in the government 2030 Plan

	Impact on government balance (% of GDP, 2023 level, by 2030)
Income tax reform (including increasing the earned income tax credit and creating a new tax bracket, see Table 1.7)	-0.2
Defence spending (reaching 2% of GDP in 2023)	-0.6
Spending on public welfare services (16 billion on top of the adjustment to demographic changes, including for improving working conditions of public sector employees)	-0.6
Green fiscal space and additional budget allocated to the green transition and welfare services	-0.2
Deficit-increasing measures	**-1.6**
Abolition a public holiday	+0.1
Education reform (including shortening master's programmes)	+0.1
Reform of public employment services (closing job centres)	+0.1
Efficiency gains by local governments	+0.1
Deficit-reducing measures	**+0.4**

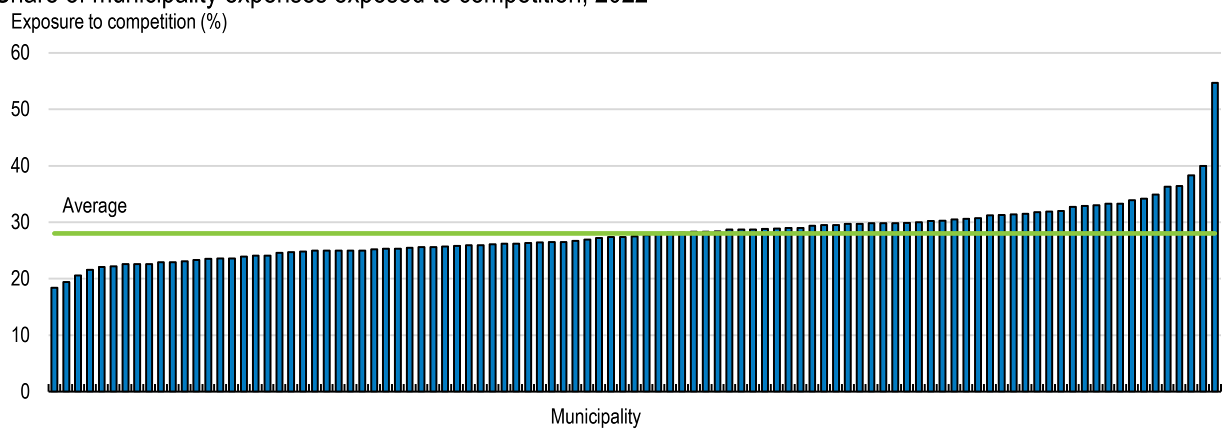
Source: Ministry of Finance (2023b), https://fm.dk/media/27334/faktaark_centrale-prioriteringer-frem-mod-2030.pdf

Savings are expected to come to a significant extent from local governments. Local governments account for around 60% of total public expenditure, the highest share in the OECD. Municipalities bear the responsibility and the financial risk for the provision of a large range of public services for which demand is set to rise significantly in the coming years, such as long-term care. They will come under increasing pressure due to rising costs that will need to be carefully managed. Municipalities have a high degree of autonomy in the allocation of funding but have annual spending limits combined with strict sanctions in case of overspending. Increasing budget flexibility by defining multiannual spending ceilings would allow them to better manage specific local needs (OECD, 2021a). The 2020 reform of the equalisation scheme reinforced redistribution across municipalities (Ornstrup, 2023). However, the system remains complex and may reduce incentives for a cost-efficient service provision (Mau Pedersen and Blom-Hansen, 2020). Regular reviews and thorough analysis of this system by an arm's length body with input from municipalities would help to identify potential loopholes, drive future adjustments, and ultimately set up mechanisms rewarding efficiency gains in case high redistribution is found to weigh on performance.

Opening more public services to competition could lead to cost savings, especially in technical areas (OECD, 2016). High competition, defined by a high number of participants in tenders, tend to reduce prices for public contracting authorities (Danish Competition Authority, 2023). Only 26% of public services go through a public tendering process, with strong discrepancies across municipalities (Figure 1.18; KL, 2023). The framework for public procurement is sound and governed by EU legislation. At the same time, implementation issues exist as illustrated by a relatively high number of cancelled tenders (one in four) and high transaction costs for small contracts and in some sectors (Danish Competition Authority, 2022). Rules could be made clearer and better applied by using more centralised procurement and professionalised procurement offices. Green procurement could also be developed by establishing strict criteria for the environmental sustainability of publicly procured goods and services like done in Germany (Table 1.7).

Figure 1.18. Competition for the provision of public services could be promoted

Share of municipality expenses exposed to competition, 2022



Note: The indicator for exposure to competition measures the sum of the expenses exposed to competition in the municipalities as a proportion of the sum of expenses that can be exposed to competition.
Source: Indenrigs- og Sundhedsministeriet.

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Inter-municipal cooperation could be strengthened to achieve efficiency gains (OECD, 2021f). A large share of municipalities has partnership arrangements for service delivery, especially in the field of healthcare and environment (KL, 2023). Expanding this practice to a broader range of local government and policy areas would help to reap economies of scale and scope. Cooperation mechanisms allow local governments to invest at the right scale, support the adoption of innovative services, and improve access to expertise, especially in remote locations that experience skills shortages (OECD, 2019b). While already used, benchmarking could be developed further to identify and share best practices. The “idea bank” - a database that provides the municipalities' inspiration to gain fiscal room – developed by KL, the interest group representing all municipal councils – is a first step. Tools to facilitate knowledge and data sharing across local government in the social and the employment areas are in place (the Social Economic Investment model and the “What works” database of the STAR employment agency). The scope of evaluation and dissemination mechanisms could be expanded (OECD, 2021b). In Australia, the central and local governments jointly produce a report on the performance of subnational service delivery. Establishing a Common Assessment Framework to assess performance like done in Germany by the Association of Local Government Management could be considered. An independent body could monitor the implementation of the regulatory reform, develop data-based evaluations, diffuse best practices across municipalities, and promote inter-municipal cooperation when relevant.

The government plans to save around DKK 3 billion (0.1% of GDP) by transforming job centres - the public bodies in charge of implementing active labour market policies and around DKK 3 billion by easing the regulatory burden for municipalities. The first measure is expected to cut the public employment services budget by more than a quarter. Some consolidation is warranted as spending on active labour market policies is remarkably high by OECD standards, especially when considering the low level of unemployment. As recommended in a previous Survey (OECD, 2019a), programmes for which evaluation does not conclude a positive impact or finds large crowding out effects should be phased out. At the same time, maintaining high-quality support to job seekers and limiting disparities in service provision across municipalities is necessary to address current and future labour market challenges (see Chapter 2). As for the second measure, significant increases, and differences in administrative costs per inhabitant across municipalities – which can vary from one to two - suggest there is room for savings (KL, 2023). However, past experiences such as the “free municipalities” programmes suggest the impact of deregulation on policy outcomes might be low (Arendt and Bolvig, 2016). Disparities in the quality of public services risk increasing with deregulation, calling for monitoring its impact across municipalities and regions.

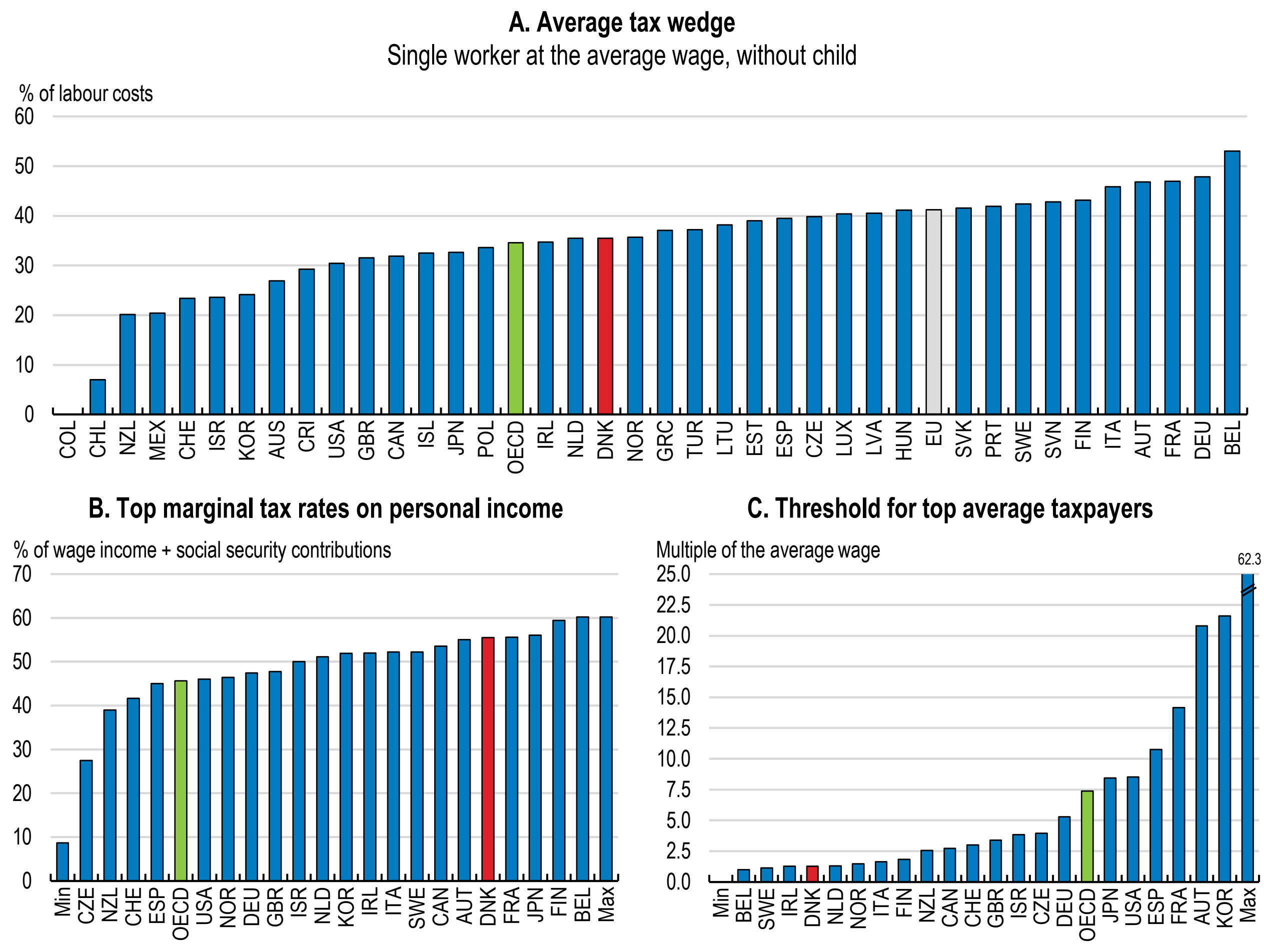
Reducing the tax burden on labour income

The Danish tax system is overall well-designed, but while the average tax wedge is close to the OECD average, labour income taxation is relatively high for upper-middle and high incomes and can discourage productive investment and longer working hours (Figure 1.19, Chapter 2). As stressed in past Economic Surveys, increasing immovable property taxation to reduce the tax burden on labour could raise Denmark’s economic potential (OECD, 2021a; Table 1.7). A reform initiated in 2023 will raise the earned income tax credit of the personal income tax, the top tax rate, and the income threshold at which the highest rate applies to DKK 2.5 million (more than five times the average wage). This would help to marginally reduce the marginal tax rates for most taxpayers, but room to increase financial incentives to work remains significant and the impact of these measures on tax optimisation should be monitored (see Chapter 2).

Reform of the tax system should strengthen tax neutrality across assets. The tax system unduly supports housing investment compared to other assets (Figure 1.20). Owner-occupied housing is taxed less than other assets, due to a generous tax relief for interest expenses and a tax exemption on capital gains (Millar-Powell, et al., 2022). This low property taxation and high interest deductibility are found to be capitalised into real house prices and to incentivise larger housing purchases and indebtedness (Gruber et al., 2021; Høj, Jørgensen and Schou, 2018). Empirical evidence also shows that mortgage interest relief does not raise homeownership rates or support new entrants into the housing market (OECD, 2022g; Gruber et al., 2021). As recommended in past Surveys, recurrent taxes on immovable property should be increased and interest rate deductibility on mortgage loans be reduced, for instance by gradually making the full amount of interest expenses subject to the lower rate of 25.5% (OECD, 2019a). This would ease housing demand and contribute to smoother housing cycles (Cournède, Sakha and Ziemann, 2019). These measures risk temporarily undermining the housing market and creating financial difficulties for some groups of households (OECD, 2022g). They should be implemented gradually, after the implementation of the property tax reform and once the housing market has stabilised. For credit-constrained households, taxation could be deferred until the owner sells the house. In addition, tax subsidies allocated to homeowners whose property tax will increase after the reform in 2024 should be progressively phased out in real terms to ensure equal treatment of taxpayers and support mobility (see Box.1.4). Besides, planned cuts to inheritance taxation of family-owned businesses should be avoided. This measure is regressive, distorts allocation of resources and risks locking in capital in poorly performing firms (OECD, 2019a).

Figure 1.19. The taxation of top labour income is relatively high

2022



Source: OECD Tax Database.

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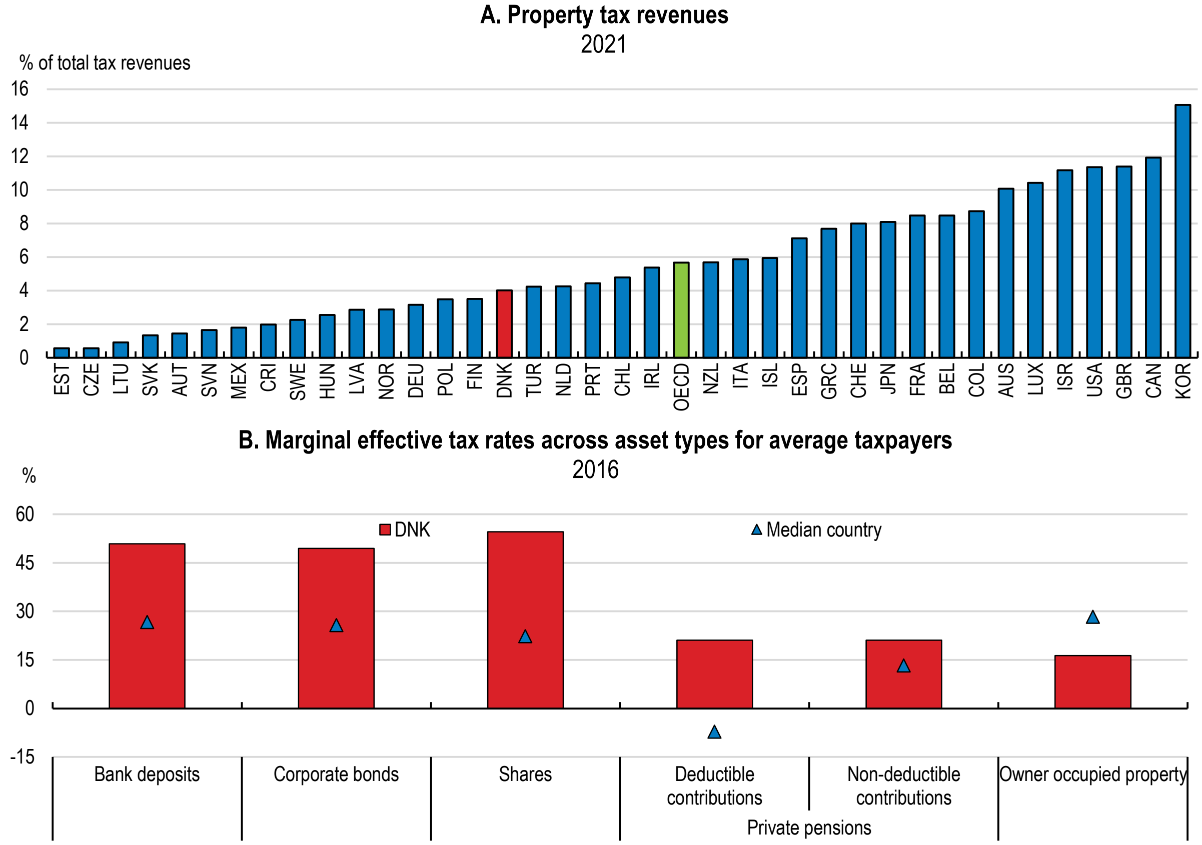
Figure 1.20. Taxation of property could increase



Note: Panel B, the marginal effective tax rate summarises the tax on investing one additional currency unit across different assets with an expected holding period of 5 years (20 years for pension funds and housing). The tax rates are adjusted for country-specific average annual inflation rates over the period 2011-16. A low-rate (high-rate) taxpayer has relatively low (high) income and wealth. Savings in private pensions are assumed not to give rise to reductions in means-tested public pensions, which can raise marginal taxes substantially.
Source: OECD Tax Database; and OECD (2018), *Taxation of Household Savings* https://doi.org/10.1787/888933898349

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Table 1.7. Past recommendations and actions taken on public finances

Recommendations	Action taken since 2021 survey
Continue to withdraw exceptional COVID-related measures in 2022, as planned. Be prepared to resume targeted support if an unexpected deterioration of the health situation threatens domestic and external demand.	Exceptional COVID-related measures have been withdrawn as planned.
Provide greater flexibility in the fiscal rule over the medium term by allowing a larger deficit, without threatening fiscal sustainability.	The structural deficit limit in the Budget Act has been reduced to 1 per cent of GDP.
Reduce top income tax rates while offsetting revenue and distributional consequences by increasing taxes on owner-occupied housing and environmental harm.	A planned reform of the personal income tax would raise the employment allowance, the top income taxation threshold and adds a new tax bracket for middle-to-high income households. It should also introduce an extra tax bracket at the very top of the income distribution.
Reduce deductibility of interest expenses in personal income taxation.	No action taken.
Review the pension and tax system and implement reform to increase transparency and ease personal financial planning.	No action taken.

Addressing longer-term challenges to sustain living standards

Productivity growth is key to maintain high living standards, especially in countries experiencing population ageing like Denmark. The country is among the most productive in the OECD and productivity growth has been relatively strong before the pandemic (Figure 1.21, Panel A). Productivity growth was driven by robust investment and substantial efficiency gains (Figure 1.21, Panel B). Investment in automation and product innovation in the manufacturing sector played a role (DORS, 2023b). Trade also sustained productivity gains with the growing weight of Danish multinational companies producing abroad and of large firms with capital intensive activities in the Danish economy (OECD, 2019a; Danish Ministry of Finance, 2022). While improving, multifactor productivity growth within services has remained lower than in manufacturing, as did investment in intangibles (Figure 1.21, Panels C and D). Since the pandemic, productivity growth has slowed and even dropped when excluding offshore production by Danish firms, mostly due to labour hoarding. This drop will likely mitigate as firms adjust the level of employment and working hours. However, subdued investment levels due to the tightening credit conditions may imply that productivity growth will stay low for longer.

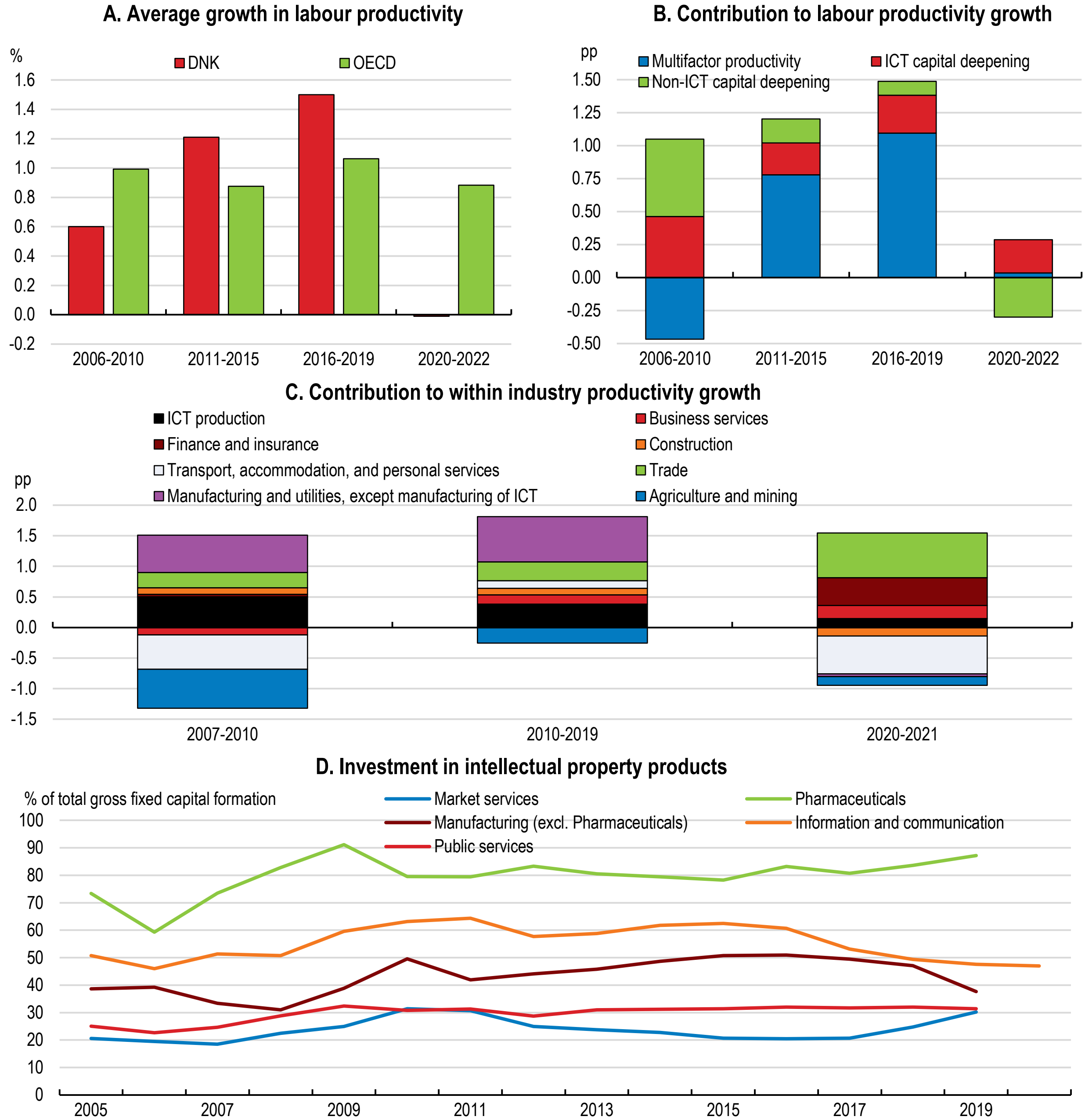
Boosting the economic potential of a small open innovative economy

Addressing trade risks

Denmark is among the most open economies in the OECD with exports accounting for 70% of GDP in 2021. Denmark is strongly integrated in European and global value chains with imports playing a key role both in meeting domestic needs, but also as an input into exports. Looking through these effects, foreign final demand drives a third of domestic value added, above the OECD average, and almost half of private employment when considering the full value chain (OECD, 2022a). Denmark has a large and persistent current account surplus that has increased dramatically since 2020, partly due to a temporary spike in sea freight rates and profits in the pharmaceutical sector (Figure 1.22). Merchanting and processing activities by large Danish multinationals play a significant role.

The Danish export industry sells high value-added products, such as in pharmaceuticals and machinery, and is well positioned in the fast-changing trade environment thanks to a sound business environment, a competition-friendly regulatory framework, and a highly educated population. This should match some long-term trends in foreign demand, including the green transition (Box.1.7). Denmark is a global leader in clean technology and renewable energy sources, such as the production and export of wind turbines.

Figure 1.21. Productivity growth was relatively strong before the COVID-19 crisis



Source: OECD Productivity database; and OECD National Accounts database.

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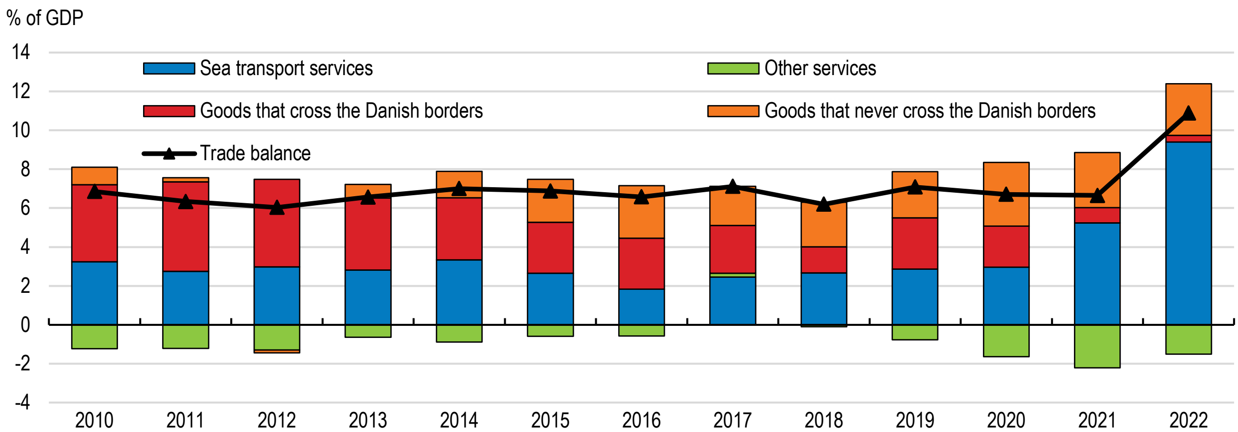
Figure 1.22. Denmark's large current account surplus further increased after the pandemic

Trade balance



Source: Statistics Denmark.

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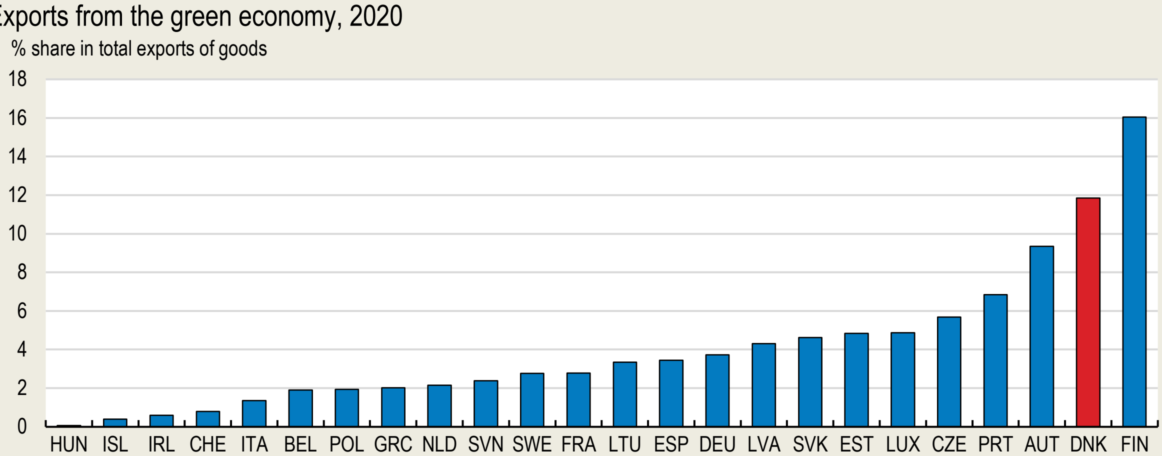
Box.1.7. The role of green goods and services

In 2020, Denmark had the second highest share of exports of environmental goods and services (goods and services aiming at the protection of the environment and the management of natural resources) among EU countries (almost 12% of total exports, Figure 1.23). It accounts for more than one-third of the world's wind technology turbine sales. Other green exports have also been growing consistently, including district heating, bioenergy, and other energy technologies. In 2021, the Danish government launched an action plan as the first step to strengthen green exports and enhance joint initiatives between Danish businesses and business organisations. The government has doubled the export loan scheme of the Export and Investment Fund (EIFO) to DKK 50 billion and extended it to 2035.

Figure 1.23. Environmental goods account for a high share of exports

Exports from the green economy, 2020



Note: The environmental goods and services sector consists of a heterogeneous set of producers of goods and services aiming at the protection of the environment and the management of natural resources.
Source: Eurostat (env_ac_egss2), (ext_tec01).

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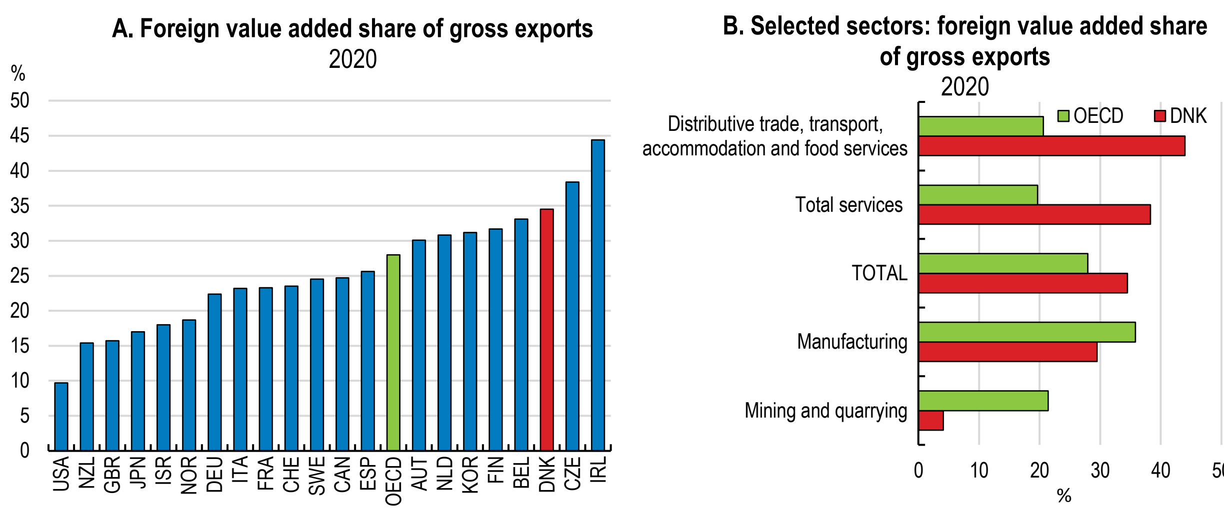
Trade openness entails large benefits but exposes the economy to international risks, including weakening global trade, geopolitical tensions, and supply chain distortions (Schwellnus et al., 2023). Denmark has one of the highest shares of foreign value-added content in exports in the OECD (Figure 1.24). Such deep integration in global value chains allows the business sector to specialise and integrate into parts of the value chain where it has comparative advantages, while bringing productivity and production price gains through economies of scale (Andrews, Gal and Witheridge, 2018). At the same time, this leaves Danish exporting firms exposed to trade restrictions that have been increasing over the last decade. 20% of the increase came from China (OECD, 2021c), whose importance in Denmark's trade has grown significantly (see Box.1.7). Among others, restrictions could affect the shipping industry by reducing interregional trade and thus demand for transport services. Strategies should be considered to mitigate risks of supply disruptions, for instance when public and private interests are misaligned, or when private firms underestimate risks due to the lack of information. The government can take a more proactive role in co-ordinating data collection and analysing global value chains risks, including with ex-ante risk assessments and stress-testing to identify vulnerable supply chains as done in Australia and Switzerland. Other types of risk-reducing strategies can induce economic efficiency and welfare losses that should be carefully assessed (OECD, 2023i). Because the structure of import dependencies in strategic sectors is close with that of other EU countries, coordinating policy response at the EU level could bring significant benefits.

Figure 1.24. Denmark is deeply integrated in global value chains



Source: OECD Trade in value added (TIVA) database.

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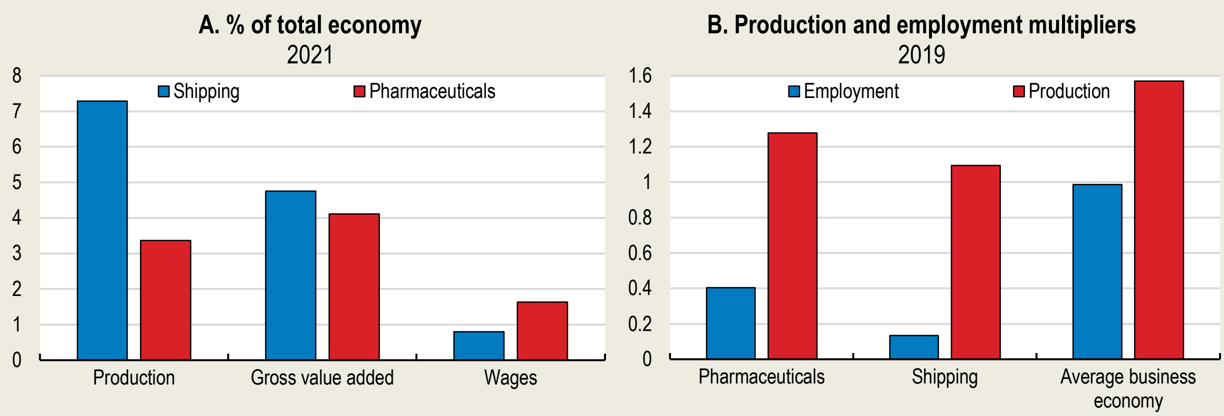
Like other OECD small open economies, concentration of Danish exports in few sectors increases the dependence on sector-specific trade policies, regulation abroad and shifts in foreign demand. Five international industrial groups accounted for 92% of the surplus in the balance of payments in 2018, and these large groups can be highly specialised, which increases exposure to international market changes (Christensen et al., 2020). Over 2002-2021, around 7% of cumulative Danish goods exports were derived from insulin, making the regulation of insulin markets abroad a major source of risks. Since 2021, economic growth has been largely driven by the pharmaceuticals and shipping industries, but spillovers to the Danish economy are limited (Box.1.8). Developing analytical tools to measure the economic contribution of these sectors like done for instance in Ireland (Timoney, 2023; Casey, 2023; Irish Central Statistics Office, 2023) would help to better assess Denmark's position in the business cycle, productivity developments, and vulnerabilities.

Box.1.8. Contribution of the pharmaceutical and shipping industries to the Danish economy

The pharmaceutical and shipping industries are an important source of income to the Danish economy. In 2022, pharmaceuticals and shipping accounted for around 17% and 25% of total exports respectively, from about 7% and 18% in 2015. Over the last decade, shipping has grown 60% in registered tonnage, while the export of pharmaceutical products has more than tripled. 2021 and 2022 were, however, outstanding years for the shipping industry with strong demand for maritime transport services after the COVID-19 crisis and exceptionally high freight rates.

Direct positive ripple effects of these activities on other sectors of the economy have been limited, as suggested by the relatively low production and employment multipliers (Figure 1.25). Only around 40,000 and 35,000 Danish workers (1.3% and 1.1% of total employment) are employed in the shipping and the pharmaceutical industries. At the same time, both industries are highly capital and knowledge intensive, with around 40% of the workforce made up of high-skilled and highly educated workers.

Figure 1.25. Spillovers from the main exporting sectors are modest



Note: Panel B. multipliers estimate the impact of increasing production on total production (index) and on total employment (1000 persons per DKK million)
Source: Ministry of Economic Affairs.

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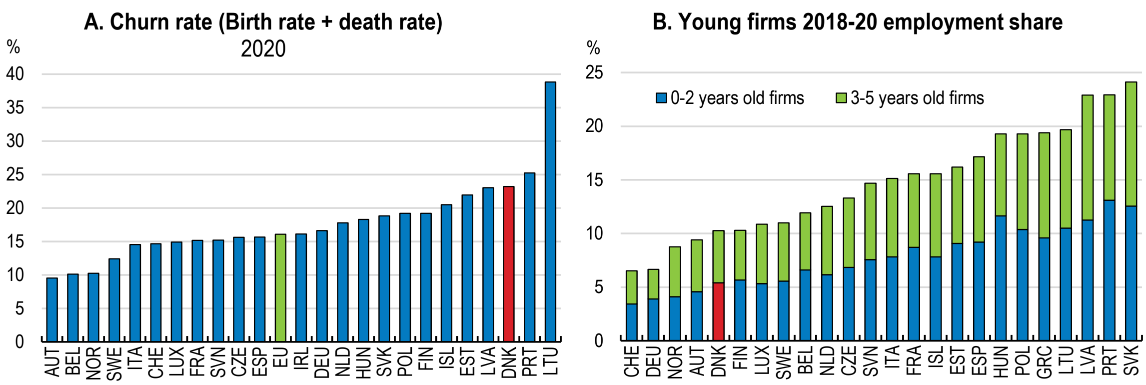
Productivity spillovers from successful exporting multinationals to local firms can benefit the domestic economy (Di Ubaldo et al., 2018). High value-added activities contribute to strong productivity growth, including by pushing innovation and efficiency gains in other sectors and companies. However, large offshore trade reduces this potential positive impact in Denmark. Shipping vessels often do not sail in Danish waters, as they are mostly transporting goods between other countries. Similarly, the pharmaceutical industry has increasingly benefited from merchanting and processing activities, whereby exports are produced and sold abroad without crossing Danish territory. This reduces the pressure on domestic capacities, especially labour resources, but limits its benefits. Multinationals have a low propensity to reinvest earnings domestically. Earnings are often used to expand international activities, which raises national savings (IMF, 2022).

Offshore trading has a direct impact on the measurement of GDP and productivity. This elevates GDP growth since earned income from activity from abroad is classified as exports rather than investment income (OECD, 2019a). Fast rising merchanting and processing blur the line as to whether GDP and productivity gains reflect domestic activity and innovation, or whether they are being boosted by increasing measurement challenges.

Encouraging small innovative firms to grow

Denmark's entrepreneurial ecosystems generate a healthy pipeline of new and innovative businesses, but the weight of young firms in the economy has remained relatively low compared to other OECD small open countries (Figure 1.26). Public support has been extensive to address the lack of financial resources, which was one of the main barriers to growth identified by businesses (European Commission, 2020). The three state investment funds were merged to improve coherence and provide internationally competitive financing to Danish firms. While seed and growth investments have increased in recent years, activity on venture capital markets has dropped in 2022 (Danish Ministry of Business, 2023). Larger funding rounds and more "patient" capital are needed, especially in sectors where return on investment takes time (OECD, 2022b). Cluster organisations and industry-specific incubators could play a greater role by providing longer-term results-driven funding as in Norway. Pension funds could be allowed to increase their share of investments in unlisted Danish companies, as recommended in previous Economic Surveys (Table 1.8). Increasing the cap for carry-forward losses in the corporate tax system would also help young innovative but not yet profitable firms (IMF, 2023).

Figure 1.26. Young firms account for a relatively low share of total employment



Source: Eurostat (BD_9AC_L_FORM_R2); and OECD SDBS Business Demography Indicators database.

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The efficiency of business supports could improve. These amounted to DKK 42 billion across more than two hundred different schemes in 2021. The latter should be streamlined and better targeted. The deferral of tax payments in 2023 and 2024 to alleviate liquidity constraints and smooth firms' financial burden in response to the energy crisis was not targeted and should be kept limited in time to reduce deadweight losses and the risk of keeping non-viable firms afloat. Support for green entrepreneurship is fragmented, calling for a unified strategy with more coordination across programmes like the Pan-Canadian Framework on Clean Growth and Climate Change, and data-based monitoring should be introduced like in Germany with the Green Start-up Monitor (OECD, 2022c).

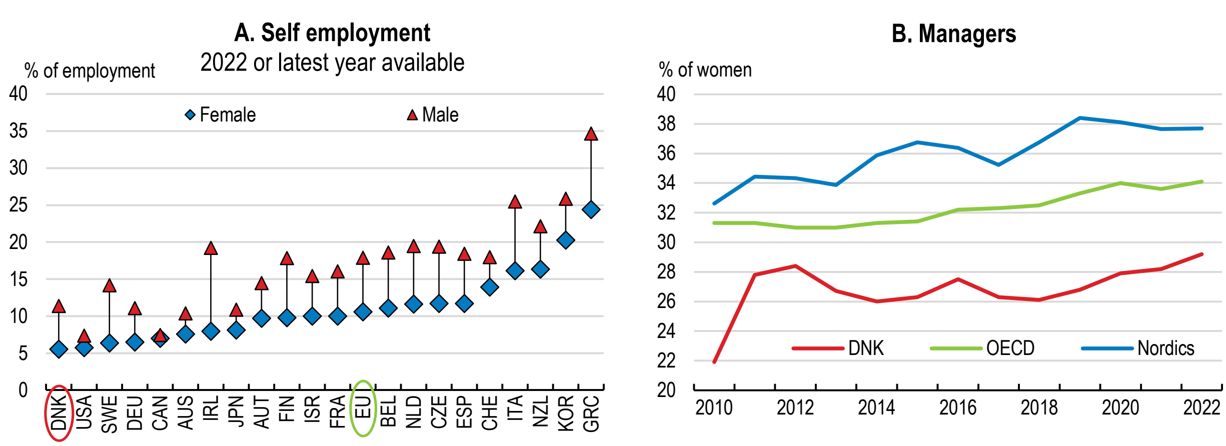
In 2020, the tax allowance for R&D expenses increased from 101.5% to 130% with a DKK 50 million cap on qualifying expenditures. OECD empirical evidence suggests that this measure should boost innovative activities, especially in small companies and for projects that are already close to hitting the market (OECD, 2020b). Nevertheless, the R&D tax subsidy rate remains well below the OECD median and the increased deduction ended in 2023. The R&D tax incentive could be raised for R&D spending exceeding a pre-defined baseline amount, like it is done in the US, Korea, or Portugal, as it would avoid deadweight losses and benefit smaller firms (Table 1.8, OECD, 2019a). Business-based R&D spending is found to be larger in countries implementing either an incremental R&D tax incentive or a hybrid scheme (Koski and Fornaro, 2022). The positive effects of R&D subsidies would nevertheless need to be monitored to ensure value for money (DORS, 2023b), particularly in the light of the current concentration of R&D spending in a small number of firms.

Denmark is a highly innovative country, especially in the green area. Patents per million habitants increased by 73% between 2014 and 2019 and a fourth of patents were on environmental-related technologies in 2018, the highest share in the OECD. However, weak links of universities to the business ecosystem have hindered the commercialisation of research (OECD, 2022b). Developing cooperation between firms and universities would help the diffusion of innovation. In 2022, DKK 700 million was allocated to developing green research innovation partnerships. Cooperation could be facilitated by reforming the intellectual property right system and the operation of technology transfers offices (OECD, 2022b). Policy avenues include streamlining processes to establish collaborative research agreements, switching ownership of intellectual property from universities to teachers like done in Sweden, including entrepreneurship in the performance evaluation of teachers or in the public funding system of universities or providing targeted finance for spin offs.

The entrepreneurial capability of women could be better used: men were more than twice as likely as women to be self-employed in Denmark in 2019, one of the highest gaps in the OECD (Figure 1.27, Panel A; OECD, 2021d). There would be almost 52 000 more entrepreneurs in Denmark if women started businesses at the same rate as core-age men all else equal (OECD/European Commission, 2021). Women remain underrepresented in studies that provide the skills and competences needed to launch or manage a business (Grünfeld et al., 2020). Denmark has provided little targeted responses to reduce the gap and has not taken a gender-specific approach to entrepreneurship policy (OECD, 2021d). Yet, mainstream programmes have a weaker impact in incentivising women's entrepreneurship than programmes dedicated to women (OECD/EU, 2018).

Gender equality in management positions has also not improved significantly over the past decade (Figure 1.27, Panel B). Studies have shown that greater gender diversity in management leads to better, innovative idea generation, greater productivity, and better financial performance (OECD, 2023c). Since January 2023, public institutions and private companies are required to set targets for both the board of directors and senior management, as well as develop policies to promote a more equal gender balance in top management. Denmark could go further and consider introducing quotas as a transitional tool like in Norway or France (Box.1.9). At the same time, recent evidence suggests that quotas and targets may not be sufficient in and of themselves (Denis, 2022; EMPOWER: OECD, 2020). Policies addressing gender stereotypes, especially in the education system (see Chapter 2), and complementary measures should be developed, such as mentorship, networking and capacity-building actions, and active recruitment of women in leadership positions.

Figure 1.27. Danish women are much less likely to be self-employed or managers



Source: OECD Annual Labour Force Statistics Summary tables; and OECD Gender Database.

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Box.1.9. Quota systems for improving gender diversity in senior leadership positions

While Denmark has a target for female representation in top management, only 21.1% of board members were women in the companies subject to those targets. The European Union has recently passed a Directive to increase the share of women in boards, with a target of at least 40% women in non-executive board members at large companies before 2026. At the current pace of improvement, Denmark will not reach this goal until 2036.

Jurisdictions that have initiated mandatory quotas or voluntary targets for board composition in listed companies have achieved a greater level of board gender diversity than other jurisdictions. 14 OECD countries have introduced quotas, including Norway in 2005, France in 2010, Belgium in 2011, and were more likely to reach their targets than those using recommendations (Denis, 2022).

At the same time, the introduction of quotas led to unintended side effects in some countries ("golden skirt" effects with a small group of women serving on multiple boards, or an increase in family-related appointments). In addition, no strong link has been found between the share of women on boards and those in management positions. By contrast, alternative measures, such as diversity disclosure requirements in the United States helped to achieve substantial progress.

Source: OECD, 2022d

Adapting to the digital transition

Digital technologies such as artificial intelligence (AI) have the potential to raise productivity growth by automating tasks, freeing up resources, and developing data-driven decisions. The adoption of digital technologies is well advanced in the private and public sectors in Denmark. The use of AI is widespread, including in small firms: more than one fifth have used the technology, one of the highest shares in Europe (Eurostat, 2023). However, integrating AI technologies in work processes requires expertise and resources, making its adoption challenging. In particular, shortages of IT and AI specialists can hamper the digital transition (see Chapter 2).

Regulatory and cybersecurity compliance can be difficult for firms with limited legal and technical resources. A large share of Danish firms, especially SMEs, are not prepared to comply with the EU directive Network and Information Security II to be transposed in October 2024, and one in every four SMEs has not put in place vital IT security precautions (Industriens fond, 2023; Danish Business Board, 2022). Denmark provides information and guidelines about cybersecurity, online tools for conducting risk assessments of a company's digital security and for testing its digital security level. A public-private partnership funded by the European Union to support cybersecurity in SMEs is in place and the "SME: digital initiative 2022-25" includes DKK 120 million in grants to SMEs for the purchase of consultancy, competence courses, and guidance on regulation. Participation in knowledge sharing networks could be encouraged further, for instance by engaging clusters to develop support to SMEs (OECD, 2022b).

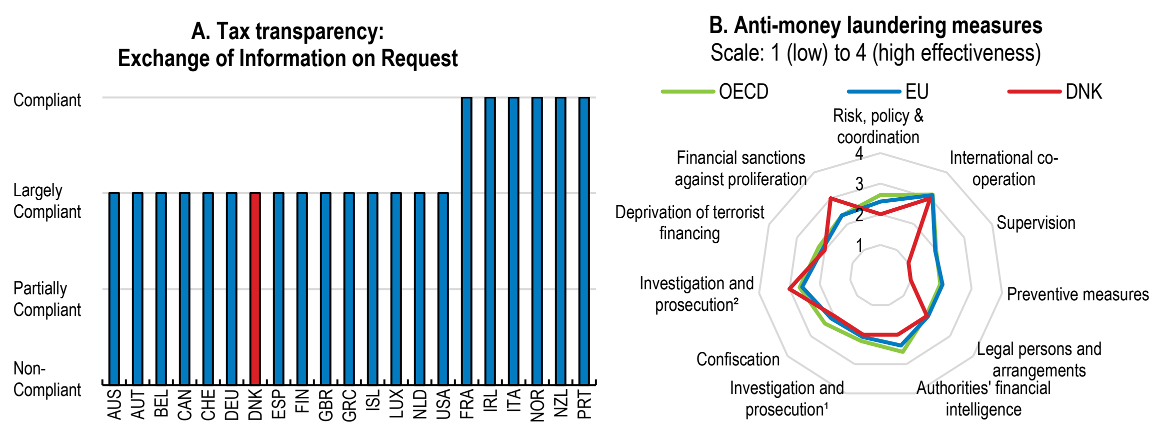
Digitalisation poses new challenges to competition as specific features of digital markets favour the entrenchment of market power and winners-take-it-all dynamics. Persistent positions of dominance due to strong scale economies and network effects lower competitive pressures, with possible detrimental effects on innovation incentives, efficiency, and consumer welfare (Danish Competition Authority, 2020). This calls for new competition policy to promote entry and competition in digital markets (Nicoletti et al., 2023). Regulation in this area is mostly defined at the EU level to avoid fragmentation and safeguard the effective functioning of digital markets, amongst others. Nevertheless, the Danish Competition and Consumer Authority has rightly allocated ample resources for digital competition enforcement, including by establishing a Digital Markets Unit.

Further adjustments of national regulation can improve the effectiveness of competition law in the digital sectors, including adapting merger control regimes as in Germany, Austria, Norway, and Sweden for instance, or allowing for market investigations like in the UK (KST, 2020; OECD, 2022e). As envisaged since 2021, the Competition Authority should be allowed to control mergers that could potentially distort competition, even when below turnover thresholds for notifications of mergers, and have more power to impose remedies if competition issues are identified. Major actors in the digital sectors should also be asked to declare future acquisitions plans. The system for evaluating the impact of regulation on competition can better keep up with the digital transition and other structural transformation of the economy by introducing an oversight function that allows for returning proposed rules for which impact assessments are considered inadequate and a continued monitoring of the regulation impact on fast evolving markets (Table 1.8).

Addressing corruption and money laundering risks

In 2018, large-scale money laundering in the Estonian branch of Denmark's largest bank highlighted weaknesses in the Danish anti-money laundering framework. Reforms in this area have intensified over the past five years (Danish Tax Agency, 2022). The Danish Financial Supervisory Authority (DFSA) adopted a new institutional risk assessment model in 2021 and is developing a new supervisory strategy. Compliance with the FATF's technical recommendations has improved (FATF, 2021). Further strengthening preventive measures and supervision would contribute to improving confidence in the financial sector (Figure 1.28). More effort should be put on on-site inspections of higher-risk financial institutions and on the regulatory framework for virtual asset providers (IMF, 2022).

Figure 1.28. Preventive anti-money laundering could be strengthened



Note: 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 eleven immediate outcomes. "Investigation and prosecution[1]" refers to money laundering. "Investigation and prosecution[2]" refers to terrorist financing.
Source: OECD Secretariat's own calculation based on the materials from the Global Forum on Transparency and Exchange of Information for Tax Purposes; and OECD, Financial Action Task Force (FATF).

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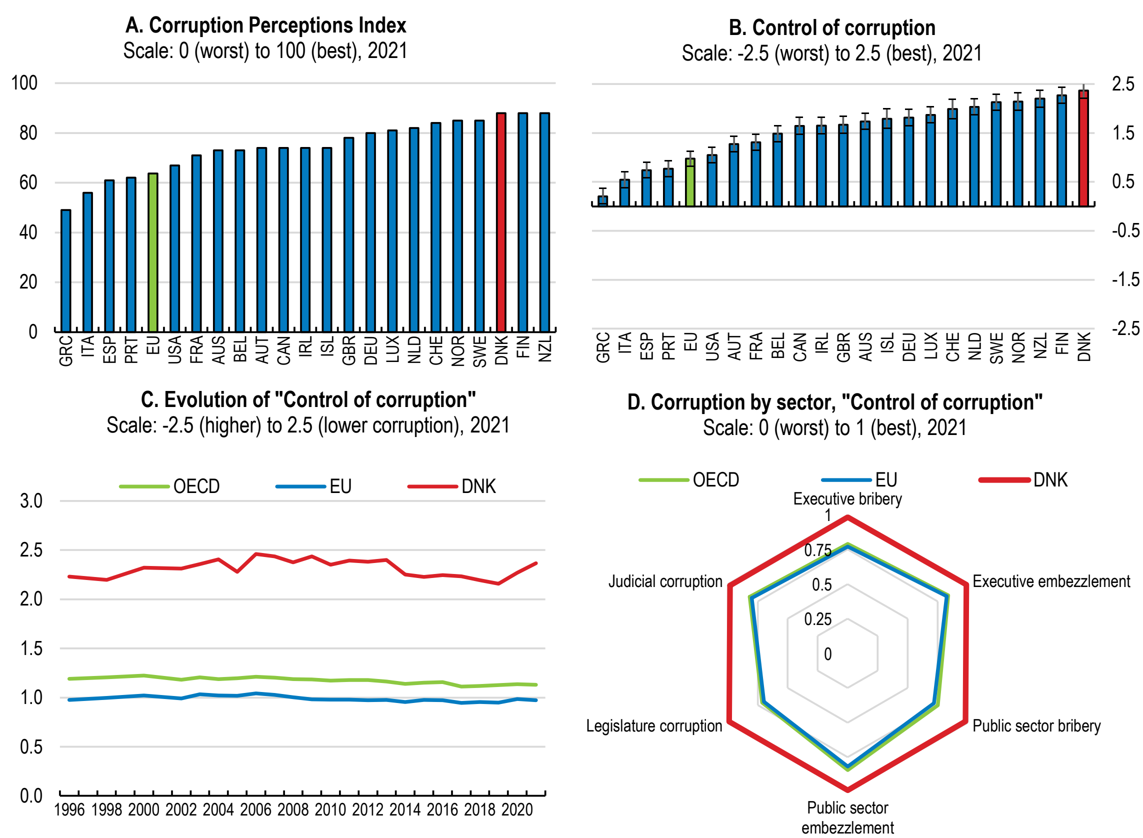
Denmark performs strongly in measures of perceived corruption and of reported bribery (Figure 1.29). The level of trust and satisfaction of citizens vis-à-vis public institutions is high, but public integrity issues exist and preventive measures against corruption risks need strengthening. By OECD standards, Denmark has weak integrity safeguards and controls against corruption risks (Figure 1.29). The OECD Public Integrity Indicators show that Denmark has not invested a strong strategic framework for anti-corruption and integrity. Both regulatory safeguards and practice in implementation consistently performs below the OECD average in the areas of lobbying, political finance, conflict of interest and access to public information. Denmark could strengthen regulatory safeguards in terms of internal control, internal audit, and risk management.

Government plans to reinforce openness and transparency in the law-making process, for instance by revising the Public Information Act, are a first step in the right direction. Shifting from ad hoc integrity policies to a comprehensive, risk-based approach in line with the OECD Recommendation on Public Integrity as initiated in Sweden would contribute to limiting corruption risks. Achieving the highest standards of transparency in decision making processes, especially with respect to relationships with lobby groups, for instance by establishing a lobby register like done in Finland would avoid risks of distorting policy making. Independent handling of internal disciplinary procedures would improve trust in the government and the national administration.

Notwithstanding positive steps to enhance its anti-money laundering regime and reinforce the protections for whistle-blowers, Denmark does not give sufficient priority to preventing, detecting, and sanctioning foreign bribery. Detection sources are underexploited, some credible allegations have not led to formal or complete investigations, and sanctions are rarely imposed (OECD, 2023d). Only one Danish company has been convicted of foreign bribery since 2000. This is partly due to a lack of resources that risks worsening further with the recent restructuring of enforcement agencies. Legal changes are still needed to strengthen sanctions, clarify the non-trial resolution mechanisms, more tightly define the defence for small facilitation payments, and extend the OECD Anti-Bribery Convention to Greenland and the Faroe Islands.

Figure 1.29. Perceived corruption is 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: Panel A: Transparency International; Panels B & C: World Bank, Worldwide Governance Indicators; Panel D: Varieties of Democracy Project, V-Dem Dataset v12.

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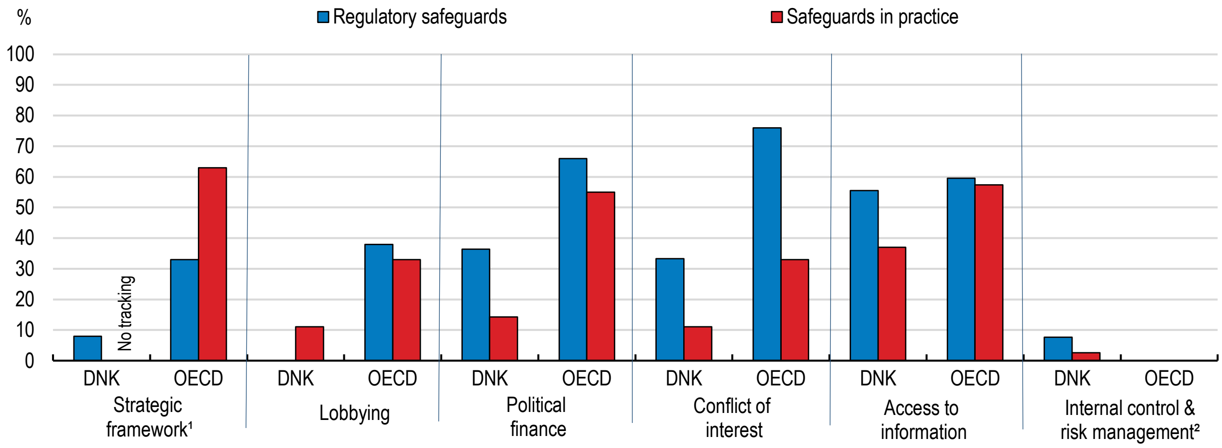
Figure 1.30. Denmark's strategic framework for public integrity needs strengthening



1. Strategy: regulatory safeguards refer to the quality of the strategic framework on public integrity, and safeguards in practice refer to the implementation rate of activities from the action plans. Denmark does not track the implementation of activities.
2. Internal Control & risk management: preliminary data, OECD average has not been calculated.
Source: OECD Public Integrity Indicators (PII), OECD Data Explorer • Public Integrity Indicators

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Table 1.8. Past recommendations on improving the business environment and fostering productivity growth

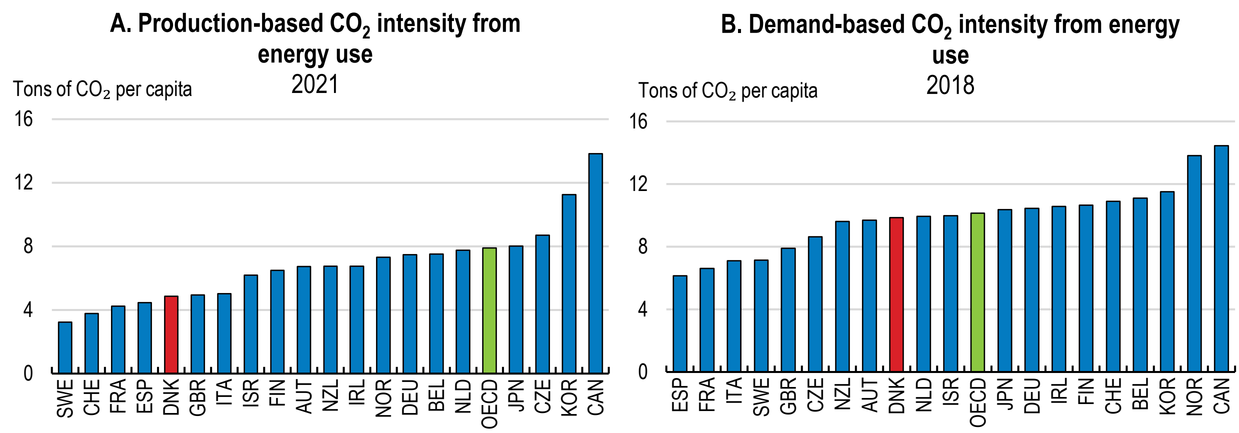
OECD recommendations	Actions taken since 2021 Survey
Review financial regulation for pension funds to remove barriers for investments in the domestic equity market, including innovative start-ups and SMEs through investment funds.	The government envisages allowing one of the major public pension funds to invest a larger share of their holdings in Danish start-ups.
Expand existing support measures to provide more equity finance and access to capital in the scale-up phase.	With the foundation of the Export and Investment Fund of Denmark, Denmark prioritised an additional 6 billion DKK towards equity finance and access to capital in the scale-up phase.
Broaden public support to business R&D through well-designed R&D grants and tax credits for incremental R&D expenses.	The tax allowances have been raised to 130 % in 2020-22 for R&D expenses of up to DKK 850 million.
Improve collaboration between universities and businesses by reducing the complexity of the system regulating cooperation and improving intellectual property right policies of universities.	No action taken
Proceed with revisions of regulatory frameworks to make them technology-neutral and monitor fast evolving sectors to swiftly respond to emerging market failures.	No action taken
Implement planned increase in parental leave reserved for fathers and increase payment rates if take-up disappoints.	The parental leave reserved for the fathers has been increased to 11 weeks as planned.

Achieving a sustainable and cost-efficient transition to climate neutrality

Denmark is a front runner in climate mitigation policies and is one of the least carbon intensive countries in the OECD (Figure 1.31, Panel A). Still, substantial efforts will be required to achieve carbon neutrality by 2045. Denmark reduced domestic greenhouse gas emissions by around 41% between 1990 and 2021 while taking the lead in wind power technologies (see Box.1.7). However, mitigation has lagged in some sectors notably transportation and agriculture (Figure 1.32, Panel A) and carbon intensity of consumption (as opposed to production) is relatively high (Figure 1.31, Panel B).

Denmark is relatively exposed to long-term adverse effects of climate change, including extreme weather events and sea level rises, with high flooding risks due to its low elevation, including in the greater Copenhagen area that comprises a large part of the country's asset values. Around half of the population is exposed to storms and most cropland to heavy precipitations (OECD, 2023e). Denmark has implemented the EU Floods Directive and it issued a first Climate Adaptation Plan for 2024-27 with a DKK 1.3 billion budget in November 2023. This should raise awareness of risks at the local level further and accelerate the adoption of adaptation measures in coastal areas. Fully revising the national adaptation strategy launched in 2008 to incorporate the latest climate science and risk assessment would help to foster the infrastructure investment needed to efficiently prepare for climate change and be instrumental to coordinate policy initiatives in this area (Table 1.9).

Figure 1.31. Denmark's carbon intensity of production is low, but the intensity of consumption is around the OECD average



Note: Based on CO_2 emissions from energy use, excluding indirect effects and net emissions from land use, land use change and forestry.
Source: OECD Green Growth Indicators database.

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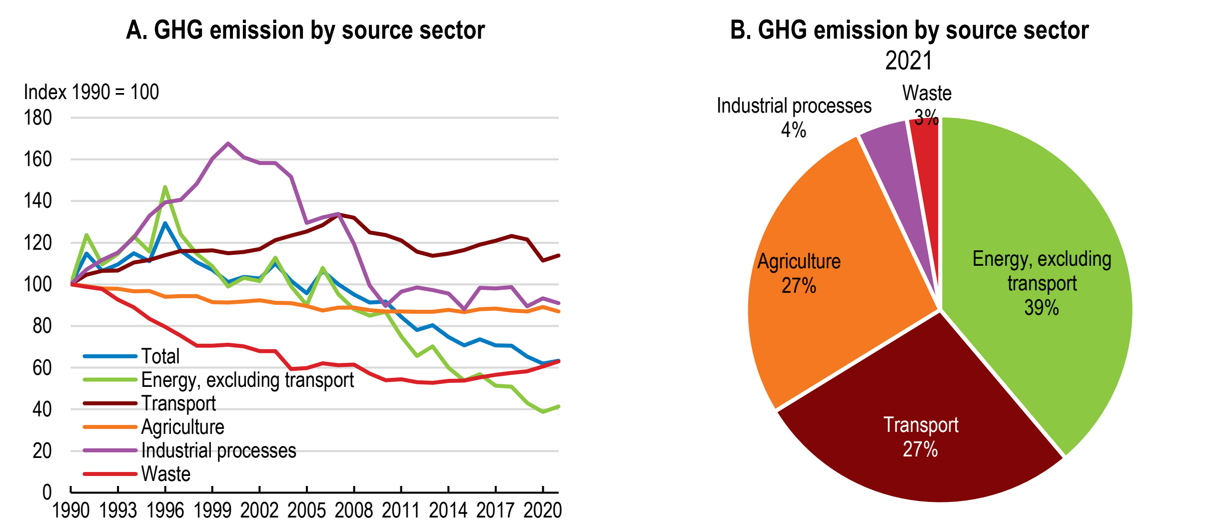
Figure 1.32. Agriculture and transports account for large and increasing shares of total emissions



Note: Excluding land-use, land-use change and forestry (LULUCF).
Source: OECD Environment Statistics database.

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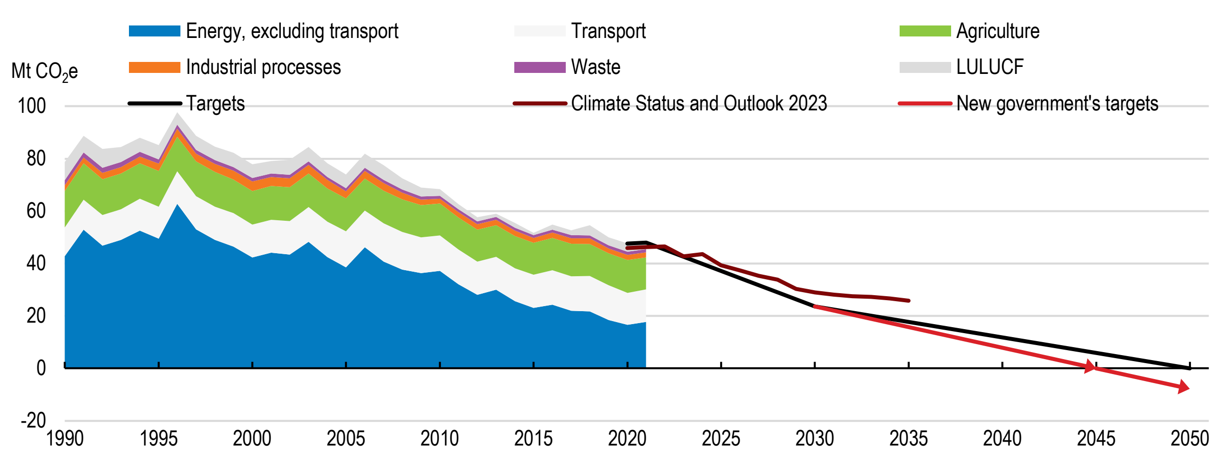
Denmark set ambitious targets for greenhouse gas emissions, including reducing emissions by 70% by 2030 from their 1990 level and reaching carbon neutrality by 2050. Reaching the 2030 target would entail more than doubling the pace of emissions cuts (from around 1 ton per year between 1990 and 2021 to around 2.5 tons per year between 2021 and 2030). The government wants to bring forward the climate neutrality target to 2045 and aims at 110 percent emissions reduction by 2050. These objectives go beyond the EU targets to cut total emissions by 55% by 2030 compared to their 1990 levels and to become climate neutral by 2050. While Denmark has a well-balanced policy mix of pricing, regulatory measures, and investment to cut domestic emissions and an ambitious reform agenda, reaching the targets will be challenging (Figure 1.33). Policies still need to be defined in some sectors and uncertainty around the expected impact of legislated measures and future technological progress is high (Danish Council on Climate Change, 2023d; DORS, 2022). Furthermore, under current plans, Denmark will fall short of reducing emissions in non-EU ETS sectors as imposed by the EU effort sharing regulation (Danish Council on Climate Change, 2023a).

Carbon capture and storage (CCS) plays a key role in Denmark's decarbonisation strategy. Denmark has planned to allocate around DKK 38 billion for the deployment of CCS between 2024 and 2044, with the objective of reducing CO_2 emissions by 3.2 million tons yearly from 2030. In 2022, a research partnership programme on CCS ("Inno-CCUS") was launched with around DKK 353 million grants. In 2023, a first grant tender has been awarded for a large-scale project and a political agreement clarified the framework for the development of CCS capacity by streamlining funding schemes and clarifying the state ownership in storage licenses among others. A new CCS fund will be established, and two other rounds of tenders will be launched in 2024 and 2025. Related abatement costs could be relatively low, given available alternatives to reduce carbon emissions. Pricing negative emissions would strengthen incentives for carbon capture further but would be more efficient if implemented at the EU level.

Figure 1.33. Meeting targets will require further progress in all sectors

Greenhouse gas emissions



Note: "Targets" refers to greenhouse gas emission targets defined in the 2020 Danish Climate Law. "Climate Status and Outlook 2023" presents projections from the Danish Energy Agency. "New government's target" refers to targets announced in the government programme in December 2022.

Source: OECD Green gas emissions database; and Danish Energy Agency Climate Status and Outlook 2023 (CSO23).

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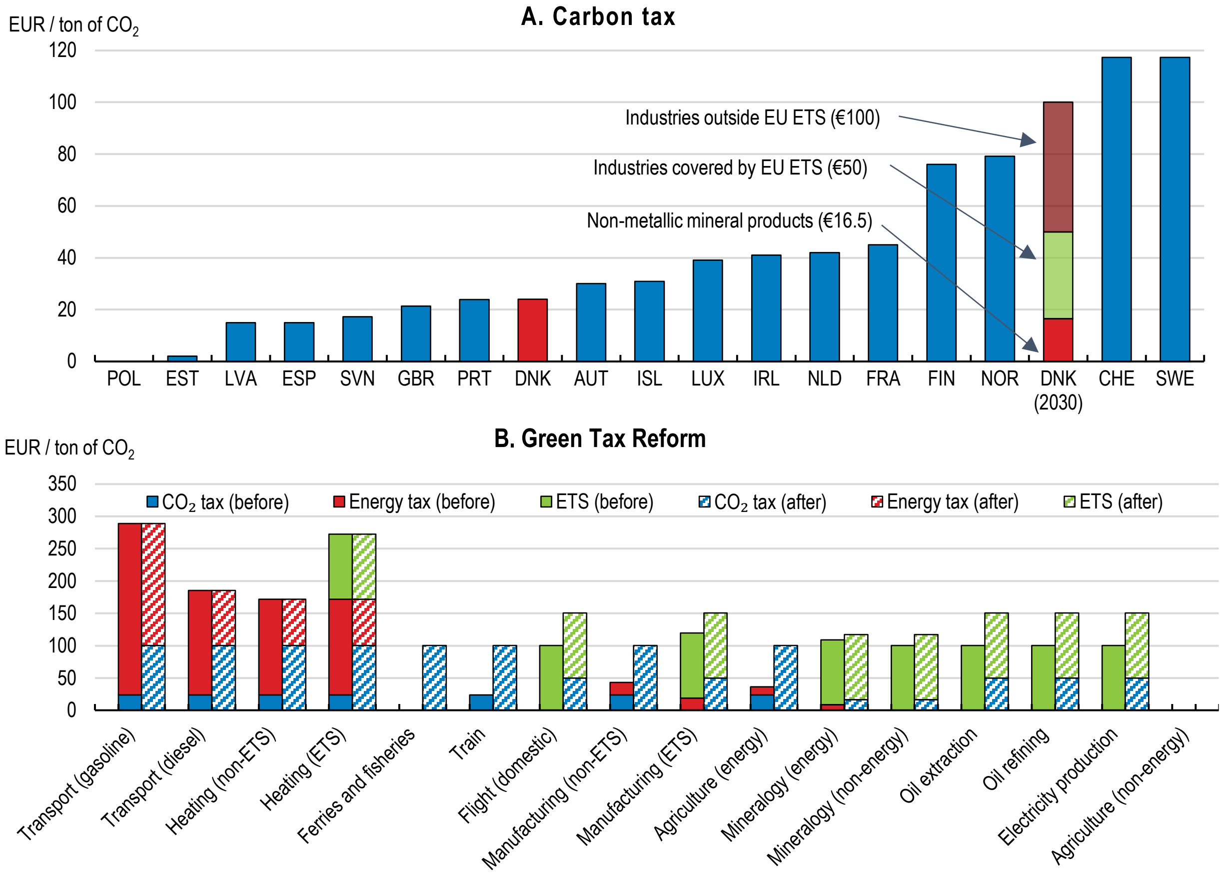
Expanding carbon pricing

Denmark is focussing heavily through EU and domestic policies on carbon pricing to orient emission cuts in activities with the lowest abatement costs. Setting a clear price signal for emissions will support low-carbon activities, generate tax revenues that could be used to compensate those most affected by the transition and encourage green innovation, thereby limiting the welfare costs of climate change mitigation (DORS, 2021a; OECD, 2021a). However, in 2021, only around 69% of greenhouse gas emissions were priced in Denmark, well below the best performing OECD countries (OECD, 2022f) and only 45% of all energy related carbon emissions were priced at EUR 60 per tCO_2 or more (OECD, 2021g). The 2022 green tax reform expands the coverage and sets a clear path for carbon pricing from 2025 onwards (Figure 1.34, Table 1.9). The carbon tax will rise from EUR 24 to EUR 100 per tCO_2 by 2030 for firms not covered by the EU Emission Trading Scheme (ETS). A EUR 50 per tCO_2 tax and a minimum carbon price will be introduced for firms covered by the EU ETS. The political agreement on the reform was found in June 2022, but has not been legislated yet.

The coverage of carbon taxation could be expanded further still. Emission-intensive sectors, such as agriculture (except for energy use) and international transport are fully exempted, while the cement industry that accounts for around a quarter of emissions from the industry benefits from a reduced rate. As recommended in the 2021 Economic Survey, a clear roadmap for the phase out of rebates in carbon pricing should be established to reduce distortions across sectors and technologies and accelerate emission reductions (Table 1.9). How the reform will articulate with the introduction of the EU-ETS II in 2027 needs to be clarified. For instance, Denmark has not decided to make use of exemptions from quota obligations for sectors covered by the carbon tax so far nor of adjustments needed for an equal treatment across EU-ETS sectors regarding carbon pricing. An expert commission has been appointed to provide recommendations by the end of 2023.

Figure 1.34. The green tax reform strengthens the carbon price signal, with exceptions



Note: Panel A shows the level of carbon taxes in selected European countries. Carbon taxes are only one of various policies that affect the prices of CO_2 emissions. Other tools include the EU ETS carbon permits and excise taxes on fuels. In addition, it is important to note that carbon taxes are applied only to a fraction of total emissions. In Denmark (2030), the carbon tax of EUR 50 for industries covered by the EU ETS will be levied in addition to the price for EU ETS allowances.
Source: World Bank Carbon Pricing Dashboard, Ministry of Finance

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Overall, carbon taxation is projected to have a small negative impact on Denmark's activity, with some winners and losers (OECD, 2021e). Employment in affected sectors is estimated to fall by around 1300 people per year with the implementation of the green tax reform (DORS, 2022). The Danish flexicurity model provides a robust safety net for displaced workers and strong active labour market policies that should sustain the reallocation of workers from brown to green sectors and firms. Policies could support labour market transitions further by strengthening reskilling options (see Chapter 2). Redistributing revenues from carbon pricing can also help those with limited alternatives and means to reduce their carbon footprint (for example, low-income households in rural areas; Table 1.9).

Implicit carbon taxation is high for transport, but greenhouse gas emissions in this sector have barely declined over the past ten years and are expected to account for 35% of emissions by 2030. Plans to introduce a distance and CO_2-based toll for heavy vehicles in 2025 is a step in the right direction and could be extended to passenger cars in the longer term to reduce reliance on road transport. An analysis of the distributional effect of road pricing suggests people living in rural areas and with low incomes would benefit if compensated by reduced registration and ownership taxes (DORS, 2021b). Measures to support the electrification of the car fleet, notably by reducing the car registration tax for green cars and developing the charging infrastructure – the number of charging stations per capita stands below the EU average – are also welcome but need to be coupled with further promotion of alternative transportation modes, such as public transport (Table 1.9). Finally, tax expenditures supporting fossil fuels in the transport sector estimated at DKK 9.5 billion, 0.3% of GDP, and mostly consisting of tax deductions or reductions for commuters, buses, lorries and tractors, and favourable taxation of fuel use in agriculture, should be phased out (OECD, 2023f).

Reducing dependence on fossil fuels for energy supply

The electrification of energy supply and the expansion of renewable energy sources for electricity generation is central to Denmark's decarbonisation strategy and for energy supply security. Despite immense progress since the 1990's, fossil fuels still accounted for 52% of energy supply in 2021, a much higher share than in the best performing OECD countries. By increasing the cost of fossil fuels, the energy crisis in 2022 contributed to reducing reliance on brown energy sources and accelerating investments in renewables. At the same time, in 2022, Denmark postponed the closure of three coal- and oil-fired power plants to help secure electricity supply until 2024. The production of oil and gas in the North Sea increased, contributing to reducing import dependency. While the commitments to end permits for oil and gas extraction by 2050 and to phase out coal in electricity production remain valid, recent initiatives will slow emission abatement in the energy sector in the medium run and a more ambitious approach would be warranted as energy markets stabilise.

The share of renewables in power generation is projected to reach 99% by 2030 (from 80% in 2021), mostly driven by the expansion of wind capacity (Box.1.10). Capacity needs to increase fast as electricity consumption is projected to grow by 60% between 2021 and 2030 (Danish Energy Agency, 2023). Accelerating investment in renewables entails reducing administrative barriers and finding an agreement with municipalities on the location of the plants. Litigation of local interest groups against onshore wind projects contributes to long approval times (Dahl et al., 2021). Steps to streamline planning and permitting procedures and to prioritise energy infrastructure over local concerns like done for instance in Germany by making the use of renewables energies an overriding public interest can help (OECD, 2023h). Setting a single contact point for all permitting procedures, defining the roles and responsibilities of the different authorities, applying silence-is-consent rules, and reducing litigation possibilities could lower the administrative burden.

Adapting the transmission and distribution networks will also be key: estimates for required extra investments in the grid attributed to the green transition range from DKK 3.5 billion to DKK 57 billion by 2030 depending on the source and assumptions (0.5-7.6 billion EUR). The Danish national transmission system operator for electricity estimates transmission grid investment to DKK 40 billion over the coming four years. With the fast-growing number of investment projects, an adequate infrastructure planning and faster grid deployment is priority. The recent creation of a National Energy Crisis team (NEKST) a body in charge of identifying barriers to the implementation of green policies, including to the deployment of solar and wind should help. A simple and transparent regulatory framework for building electricity grids linking industrial consumption and production could also encourage colocation of electricity production and consumption and investment in renewable power generation at the local level (Green Power Denmark, 2023).

Larger penetration of variable renewable electricity increases costs related to balancing energy production and resource planning, especially when supply is located far from demand (NEA, 2019). Because half of the adjustable power plant capacity is expected to be phased out in Denmark towards 2040, the fluctuating nature of wind and solar energy would trigger significant power shortages at times when production is low at this horizon (Danish Council on Climate Change, 2023c). Dealing with the intermittent nature of RES electricity production and ensuring power adequacy entail further developing interconnections with neighbouring countries and maintaining flexible peaking power plants. A "capacity mechanism" that remunerates electricity suppliers for providing electricity when needed and contributing to balance the system can be developed within EU rules as it appears to be the most cost-efficient way of ensuring energy security under existing technologies (Danish Council on Climate Change, 2023c). Encouraging consumption outside of peak hours should also be part of the strategy.

Box.1.10. Denmark's plans for the development of offshore wind energy

Wind energy accounts for more than half of total electricity production in Denmark, one of the largest shares in the OECD. Planned tenders for offshore wind energy can increase capacity from 2.3 GW to more than 16 GW by 2030.

The financial contribution of the Danish State for the future development of wind is in principle limited. As production costs have fallen, most of the newly installed wind energy capacity is not subsidised. For the new wind farms, private investors finance the offshore substation and the grid connection to the onshore point of connection. In 2023, a new political agreement allowed several of the upcoming parks to increase capacity on the tendered marine areas beyond capacity able to connect to the grid. With the new Maritime Spatial Plan, the share of sea areas assigned to renewable energy should double (from 15% to 30%). The open-door scheme allowing investors to apply for permits to set wind turbines outside of auction procedures was suspended temporarily in 2023 to ensure its compliance with EU regulation on State Aid and only a few projects submitted under the scheme will materialise.

One of the objectives of the 2020 Danish Climate Agreement is to create two energy islands in the Baltic and the North Seas that could serve as a hub for offshore wind farms with connections to other countries, including Germany and Belgium. In the longer term, they could contribute to the production of green hydrogen and alternative fuels (Power to X). Public support for the financing of Energiø Bornholm is capped to DKK 17.6 billion spread over 20 years. The tender for the energy island project in the North Sea has been postponed as first issued projects were not profitable and less costly alternatives need to be found.

Source: Energy Island Project in the North Sea – Policies - IEA Energy Islands | Energistyrelsen (ens.dk).

Reducing reliance on biomass and waste for heat and power

Denmark has a high reliance on biomass for heat and power. Sustainability requirements for wood biomass have been strengthened in 2020 and go beyond EU requirements, but reliance on this source of biomass should be reduced to avoid pressure on the available resources. While combining bioenergy with carbon capture and storage is one of the most promising options for achieving negative emissions as long as bioenergy is sourced sustainably, biomass consumption per capita in Denmark is above sustainable levels on a global scale and has detrimental effects on biodiversity, soil quality and air quality (OECD, 2021a). Cost-efficient options to shift away from using biomass in district heating, where it accounts for 60% of heat production, include using large capacity heat pumps or introducing a heat market that allows data centres, supermarkets, and industries to sell excess heat into the network as is done in Sweden. Denmark has partly updated regulation to allow more competition in the heat market but needs a comprehensive strategy to reduce biomass use. Under current policy settings, the consumption of wood biomass for electricity and district heating is expected to be reduced to around half in 2035. Tax exemptions and subsidies directed to biomass use should be phased out and a path for progressive pricing of biomass's negative environmental effects could be announced to orient investments to more sustainable energy sources. Sustainability requirements were suspended for individual heating in 2022 and should be re-introduced as soon as possible. The development of pyrolysis projects to convert biomass input from agriculture waste into green fuels and biochar can contribute to reduce emissions in agriculture, but the technology is still immature.

Waste is another important source for energy generation, accounting for around 20% of district heating in 2023. In 2021, waste treatment accounted for around 3% of the total domestic CO_2 emissions, with the majority coming from incineration. Denmark's progress on the circular economy has been limited, with a share of recycling well below EU targets and few initiatives being completed in this area (European Commission, 2023). It has one of the highest amounts of municipal waste per head in the EU, but still needs to import waste to run waste-to-energy incinerators. Municipalities must issue public tenders for the treatment of combustible waste from 2025 and the municipal-owned waste incineration plants must be transformed into limited companies. This should help to force the closure of less competitive incinerators, encourage the use of greener heating technologies and thereby reduce emissions. While moving to carbon neutral technologies in the energy sector, Denmark should also introduce a national target for the reduction of waste and accelerate the implementation of its national plan for prevention and management of waste 2020-2032 (Table 1.9). This would contribute to reaching climate change targets while reducing Denmark's environmental footprint.

Resuming emission abatement in agriculture

Emissions from agriculture are a major contributor to overall emissions given the size and intensity of Danish agriculture, including pork and dairy production. Agriculture is among the most greenhouse gas and energy intensive sectors in Denmark, and together with land use, is expected to account for 51% of emissions by 2030. The 2021 agreement on the green transition in agriculture set the target of reducing emissions by 55-65% by 2030 compared with 1990, but like most OECD countries, concrete policies in this area have been timid so far, and a plan with specified milestones and a clear time horizon is missing (Table 1.9). Compared with other sectors of the economy, abatement costs in agriculture are relatively low and could be negative for some measures when considering other related environmental benefits (DORS, 2021a). Reducing emissions by limiting the excessive use of nitrogen fertiliser, rewetting of peatlands and improving manure management could also contribute to tackling other environmental damages, especially leaking of nutrients that degrade water and air quality. These approaches are also technically challenging in some respects though.

The government envisages introducing a carbon tax in agriculture. Carbon pricing in agriculture comes with challenges as it is technically not easy to implement and meet strong resistance from stakeholders in the sector (OECD, 2023g). While systems for measuring emissions from livestock, peatland-rewetting, and agroforestry exist and could be scaled up, others need to be developed for specific agricultural practices (European Commission, 2021b). Options for farm-level carbon pricing should be discussed with the main stakeholders, offering different options, including with low administrative costs like proposed in New

Zealand. Denmark would then be among the frontrunners in this area and could reap benefits from exporting expertise to lagging countries.

In absence of major technological breakthroughs, reaching targets in agriculture could entail large cuts in emission-intensive activities, notably cattle rearing and dairying (DORS, 2022; Danish Council on Climate Change, 2023b). The social impact of scaling back production could be large at the local level as cuts could be concentrated in provinces with possibly limited job alternatives (South and West Jutland; OECD, 2021a). The relatively high output growth in cattle production and dairying over the past decade highlights the need for timely policy action in this sector. A combination of measures helping farmers to switch to less emission-intensive activities and to reduce their environmental footprint, for instance by developing carbon sequestration, should be designed, ensuring technologies used are compatible with the long-term goal of climate neutrality and avoiding lock-in effects (Danish Council on Climate Change, 2023b). Support to the agricultural sector is framed by the EU Common Agriculture Policy and carbon leakage risks call for policy action at the EU level (OECD, 2023g; Table 1.9).

Table 1.9. Past recommendations on climate change mitigation

OECD recommendation	Actions taken since 2021 Survey
Continue the implementation of a well-balanced policy mix of pricing, regulatory measures, investment, and structural reforms to cut domestic emissions.	A range of measures was adopted to reach climate targets, including the green tax reform, a political agreement on green power and heating (to phase out gas for heating in households by 2035, increase the production of bio-methane to 100% of domestic gas consumption and quadrupling of power production from sun and on-shore wind by 2030) as well as the progressive introduction of a distance-based tool on trucks from 2025.
Provide time-limited rebates of emission pricing based on production levels in emissions-intensive trade-exposed industries, informed by an institutionalised assessment of leakage rates. A second-best solution could be to provide time-limited subsidies for investment in abatement technologies, such as carbon capture and storage. Commit to the progressive phase-out of rebates and offset them with a consumption tax where administratively feasible.	A political agreement in June 2022 on a green tax reform for industry and energy, includes a tax on CO2 phased in from 2025-2030, subsidies to sectors that face strong difficulties in their green transition, and additional funding for CCS. CCS funding schemes should total DKK 38 billion from 2024 to 2044. A political agreement from September 2023 on the framework conditions for CCS combined the support scheme from the agreement on at green tax reform with the remaining funds from the CCUS-fund in a new CCS-fund. There will be two tender rounds for the remaining funds, one in 2024 and another 2025. The CCS funding schemes are expected to deliver reductions in the greenhouse gas emissions of approximately 3.2 million tonnes per year. by 2030. The political agreement also outlines a clear regulatory framework for CO2-pipelines and state participation in upcoming storage tenders.
Reinforce waste prevention as a key priority through expanded pricing based on volume or weight, the facilitation of recycling and composting and minimising single-use products, such as plastics.	An agreement has been made on implementing extended producer responsibility for packaging, the waste monitoring authority has been strengthened, and a requirement on sorting textile waste has been implemented.
Update the adaptation strategy to incorporate the latest climate science and risk assessment.	An early warning system for potential floodings is being developed with DKK 190 million allocated from 2023 to 2026.
Clarify and communicate the climate strategy at an early stage to reduce policy uncertainty and encourage firms and households to prepare for upcoming changes. Make emission pricing outside the EU Emissions Trading System more uniform by implementing a minimum price that reflects the evolution of prices in the EU Emissions Trading System.	The green tax reform clarifies carbon taxation in industry and energy from 2025 onwards. In the autumn 2023, an expert group will provide recommendations for a more uniform tax on greenhouse gasses, including emissions from agriculture.
Continue to undertake regulatory reform to facilitate market entry, competition, and skill formation, such as for carbon capture and storage, passenger rail and district heating.	Since 2023, municipalities must make public tenders for the treatment of combustible waste, thereby increasing competition among incineration plants. The new National Energy Crisis Staff (NEKST) has the mandate of increasing the efficiency of the roll out of district heating. In September 2023, a political agreement outlines a clear regulatory framework for CO2-pipelines and State participation in upcoming storage tenders.
Offset unwanted consequences of climate policy in a transparent manner via reduced taxation of renewable energy, means-tested transfers, support for green investment and support to labour-market reallocation	The general electricity tax will be reduced from 76 øre/kWh in 2022 to 52.8 øre/kWh in 2030. A new green investment window will be established in 2024 at the earliest with a total of DKK 1 billion allocated in the period 2023-2030.

Better align incentives for woody biomass use with its climate and environmental impact. Ease regulation of district heating to allow private investment to drive a shift towards new technologies, such as large capacity heat pumps.	New regulation implemented in 2023 should increase the use of surplus heat and geothermal heating. Since 2021, a lower electric heating tax has been implemented to promote an electrification of the district heating system and to accommodate the termination of support schemes. The requirements for cogeneration (heat and power) and fuel binding for natural gas have been removed to decreased entry-barriers for other technologies.
Continue to encourage the shift towards low and zero-carbon vehicles, including with incentives to invest in recharging stations particularly in remote areas.	Since 2021, infrastructure for low and zero-carbon vehicles has been developed and investment in recharging stations supported further. A new kilometer-based CO2 differentiated road tax will replace the existing period-based road usage tax for trucks from 2025.
Prioritise action at the EU level and support further reform of the Common Agricultural Policy to include ambitious climate (and environmental) measures, and more particularly a large shift of EU subsidies from agricultural land to ecosystem services.	At the EU level, Denmark has pushed for further restrictions of chemicals regulation and setting binding targets and obligations for nature restoration.

Key Policy Insights Recommendations

FINDINGS	RECOMMENDATIONS (key in bold)
Preserving macroeconomic stability and fiscal sustainability	
High inflation is expected to moderate but risks of persistent price pressures are high due to labour market tightness. Monetary policy is bound by the peg to euro. Fiscal policy has been prudent with the government balance in a surplus since 2017.	**Tighten fiscal policy should inflationary pressures on the Danish economy persist or intensify relative to the euro area.** **Maintain the peg to the euro and continue to adjust interest rates as needed.**
Population ageing will increase spending on welfare services, calling for savings and efficiency gains at the local level. Municipalities have a strong spending autonomy and the government plans to ease regulation for local governments. Disparities in quality of public services risk increasing.	**Give more flexibility to municipalities on how to provide welfare services as planned.** **Carefully monitor the impact of deregulation on the quality of services across municipalities and regions.** Consider new funding sources for non-essential services, including co-payments in the longer term.
A low share of public services is open to competition. Implementing public procurement procedures can be challenging for municipalities.	Streamline public procurement rules, promote centralised procurement, and professionalise procurement offices.
A reform initiated in 2023 will reduce the taxation of labour income. People, including those receiving social assistance, would still face high effective tax rates. The new property taxation system planned for 2024 will restore the link between the tax level and market values, but interest deductibility and low property tax rates that unduly support housing investment will be maintained.	**Further decrease the tax burden on labour and capital income and increase property taxation once the housing market has stabilised.**
A reform of the personal income tax system will raise the employment allowance, introduce a new middle income tax bracket and a new top tax bracket at a higher rate of 61%.	Carefully assess the impact of introducing the new top tax rate on tax arbitrage and retained earnings strategies.
Household debt remains among the highest in the OECD, alongside high housing and financial assets. A relatively large share of mortgage lending is high loan-to-value above 60%, and the share of variable-rate mortgages has increased.	**Strengthen macroprudential policies in the medium term to address structural vulnerabilities, including by limiting access to interest-only mortgages when the borrower has a loan-to-value ratio above 60%, introducing a debt-to-income limit and an interest rate stress test on loan applications**.
More transparency and standardised collection of data is required to fully understand and price climate-related risks in the financial system.	Develop a standardised mandatory disclosure regime for financial institutions.
Promoting business opportunities while addressing risks	
Concentration of Danish exports in a few sectors increases the dependence on sector-specific trade policies, regulation abroad and shifts in foreign demand. Productivity growth and the rise in the current account surplus were mostly driven by multinational firms.	Strengthen analytical tools and develop statistical measures to assess the economic contribution of merchanting and processing as well as specific sectors that have extensive international activities, such as pharmaceuticals.
Public support to business is fragmented, calling for more coordination.	Streamline business support further and improve coordination across programs, including with integrated data-based monitoring.
Commercialisation of innovations is difficult due to weak links to the business ecosystem.	Raise incentives for the cooperation between universities and businesses by providing targeted funding, revising intellectual property rights, and harmonising procedures.
The research and development tax subsidy remains relatively low by international standards. Increasing it for R&D spending exceeding a pre-defined baseline amount would avoid deadweight losses and benefit smaller firms.	Further increase public support to research and development by raising the R&D tax subsidy and making it incremental.
Digitalisation poses challenges to competition and requires adapting the regulatory framework for competition law enforcement.	**Give the Competition Authority more flexibility to investigate competition infringements in the digital markets, by revising the merger control regime and allowing for market investigations.**
The share of management positions held by women is very low and has increased slowly. Since January 2023, companies should set targets for both the board of directors and senior management.	Reinforce mentorship and training programmes, as well as consider introducing mandatory quotas as a transitional tool should other initiatives fail to increase female representation.
Denmark performs strongly in measures of perceived corruption but has weak integrity safeguards and controls against corruption risks by OECD standards.	Strengthen regulatory safeguards in line with the OECD Recommendation on Public Integrity, including by establishing a lobby register.

FINDINGS	RECOMMENDATIONS (key in bold)
Transitioning to a climate neutral economy	
Greenhouse gas emissions reduction targets will not be met under current policies. The agreement on the green tax reform that expands carbon taxation has not been legislated yet and how it will be combined with EU climate policies needs to be defined.	**Clarify and complement planned policy action to reach the 2030 emissions reduction target, including by enacting the green tax reform and ensuring consistency with the EU ETS II from 2027.**
Administrative barriers hamper the development of onshore wind and solar energy.	**Streamline and accelerate procedures for the allocation of permits, notably for the construction of grid infrastructure by private stakeholders.**
Reliance on biomass remains high in the energy sector, including from agricultural products. Excessive woody biomass consumption is unsustainable, despite specific selection requirements.	Progressively reduce woody biomass use in electricity and heat production by strengthening regulatory and financial incentives.
Postponing action in the agriculture sector would make climate objectives harder to reach and increase the abatement burden on other sectors.	**Introduce a low carbon tax on agricultural production and compensate those most affected.**
Denmark is exposed to long-term adverse effects of climate change, especially rising sea levels. A first phase of a new adaptation strategy has recently been presented, but further measures still need to be defined.	Implement cost effective adaptation measures to manage climate-related risks at the local level.

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2 Addressing labour and skills shortages in a fast-changing economy

Caroline Klein

Jonathan Smith

The Danish labour market is strong, but tensions have increased since the pandemic. The post-pandemic recovery boosted labour demand, but structural factors, such as late labour market entry by the young, changing skills requirements and obstacles to the recruitment of migrants, contribute to persistent shortages and impact the wider economy. Lowering the effective tax rate on labour income could reduce disincentives to higher working hours and to moving from part-time to full-time employment. Adapting the workplace to an ageing population and adjusting early retirement schemes could help to extend working lives. Targeting the tenth grade to students with greater learning needs, reducing student allowances and introducing an income-contingent loan system for master's students could also encourage faster entry into the labour market. There is room to increase the recruitment of foreign-born workers, as well as improving their integration. The demographic, digital and green transitions will transform jobs and skills requirements, demanding an agile education and training system throughout the working life. Encouraging vocational education and training, notably by facilitating mobility between vocational and academic tracks, would ensure strong skills in areas where workers are lacking.

Introduction

Tensions in the Danish labour market increased dramatically after the pandemic. Employment has reached record high levels and recruitment difficulties worsened, especially in some sectors, such as construction, information and communications (ICT), and healthcare, where shortages have been persistent. While cyclical factors such as the fast post-pandemic recovery played an important role and similar trends can be seen in other countries, structural factors hold back the availability of labour, as reflected in low hours worked and late labour market entry by the young. Structural megatrends in terms of population ageing, the green transition, and digitalisation will transform labour demands and skills needs.

Against this background and while increasing the labour force is not an objective in itself, tackling and managing labour shortages is key. Shortages risk adding to supply-driven inflation pressures in the current environment and could trigger unwelcome competitiveness losses via increases in wages. Labour shortages are a barrier to investment and business dynamism, which can negatively affect economic growth. Shortages of labour in key sectors, such as long-term care and the public sector, could make it difficult to maintain living standards.

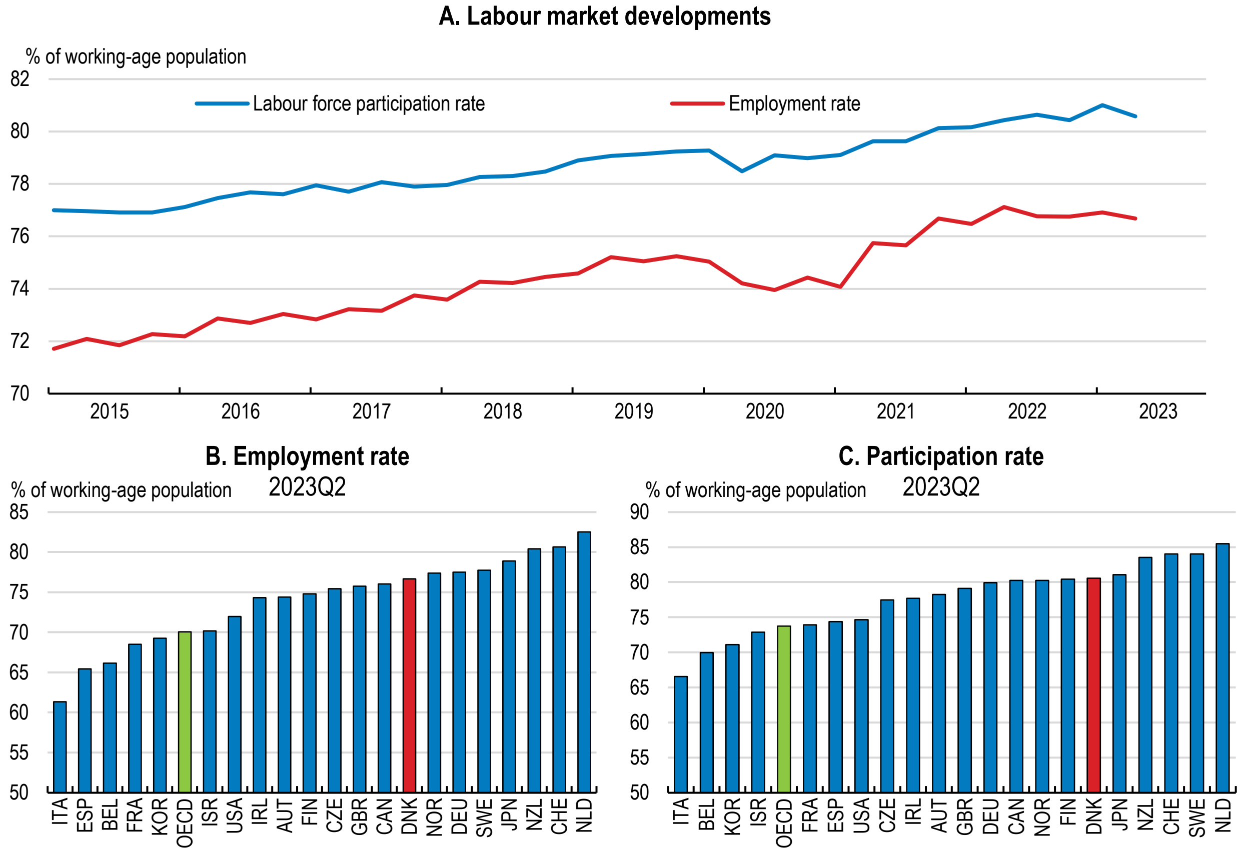
This chapter identifies where labour market tensions are likely to persist and intensify, the underlying causes, and proposes avenues to increase labour supply and address shortages. It presents policies to sustain labour force participation and to develop and better use the competences of the Danish workforce in the context of demographic changes, and the digital and green transitions. These include reducing the disincentives to work and retire later; better attracting and integrating migrants; encouraging the young to start work earlier; and providing the relevant skills to thrive in this changing environment, including policies to adapt the education system to future labour market needs.

A persistently tight labour market is undergoing major transitions

Despite the economic slowdown, structural factors are keeping the labour market tight

Denmark's labour market generally works well. The employment rate – the share of the working-age population in employment – has increased fast over the past decade and is relatively high compared to many other OECD countries (Figure 2.1). Rising labour market participation, including of groups with historically lower attachment to the labour market, notably older and foreign-born workers, and a falling number of unemployed have contributed to this performance. This reflects good economic conditions, a well-developed labour market institutional set-up, and policy measures that strengthened work incentives and integration programmes. Working conditions in Denmark are good by international standards, with low job strain (from high work demands and insufficient resources) and flexible working arrangements (OECD, 2018; European Working conditions Survey, 2021). Overall, gender gaps are low by OECD standards, with women's wages, participation, and employment rates close to those of men.

Figure 2.1. Labour market performance has been strong



Note: Panels A and B refer to the share of the population aged 15-64.
Source: OECD Short term labour market statistics.

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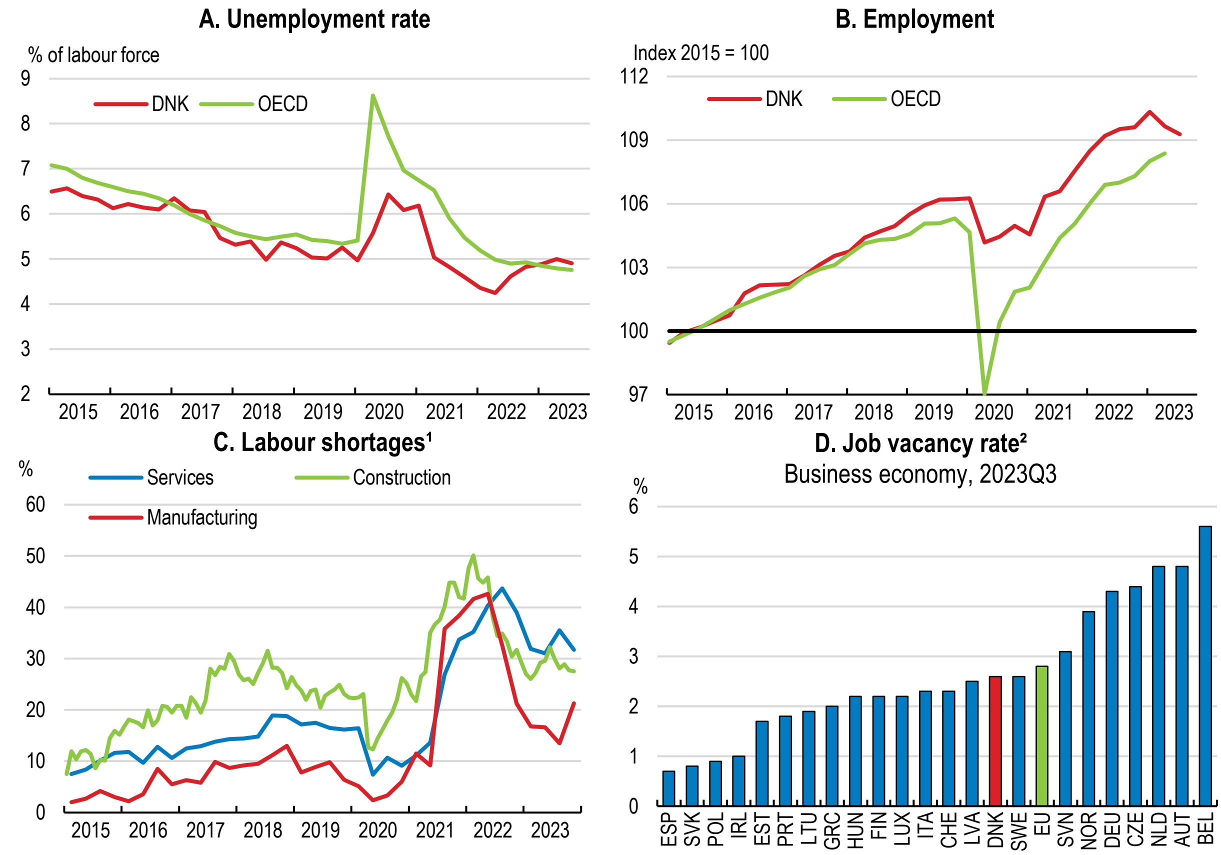
The labour market has been resilient to economic shocks over the past few years and is very tight. During the COVID-19 crisis, the unemployment rate increased by around 1 percentage point, less than in most EU countries, and quickly returned to its pre-crisis level (Figure 2.2, Panel A). A temporary job retention scheme largely avoided substantial job losses, while allowing people to return to their jobs once the economy improved (OECD, 2021a). After the strong recovery in 2021 and despite some growth slowdown since 2022, employment has continued to grow until early 2023, reaching record high levels (Figure 2.2, Panel B). The number of people not in employment (either unemployed or inactive) has declined steadily in recent years with an increasingly small fraction of this group available for work.

Strong labour demand combined with fewer available workers has led to an increasing number of firms reporting labour shortages. Labour shortages reported by firms peaked after the economy re-opened and still exceed their pre-crisis level (Figure 2.2, Panel C). Between September 2022 and February 2023, around one in four companies reported difficulties to recruit (STAR, 2023). The simultaneous increase in vacancies and decrease in unemployment drove the vacancies-to-unemployment ratio to all-time highs (Figure 2.5, Panel C). This has however declined since 2022, as has the number of failed recruitments attempts and the job vacancy rate (the number of job vacancies divided by the number of occupied and vacant posts), which now stands close to the EU average (Figure 2.2, Panel D).

Cyclical factors played a role in this tightness as the economy has rebounded, but structural trends have increasingly been driving labour market shortages, which predate the pandemic. Digitalisation and the green transition are altering the skill composition of labour demand, particularly given Denmark's ambitious climate goals, and this is also exacerbating the challenges of demographic change. Severe shortages are already prevalent in fields directly affected, such as long-term care and engineering, with labour supply falling increasingly short of demand (McGrath, 2021).

Figure 2.2. Tensions in the labour market persist despite the economic slowdown

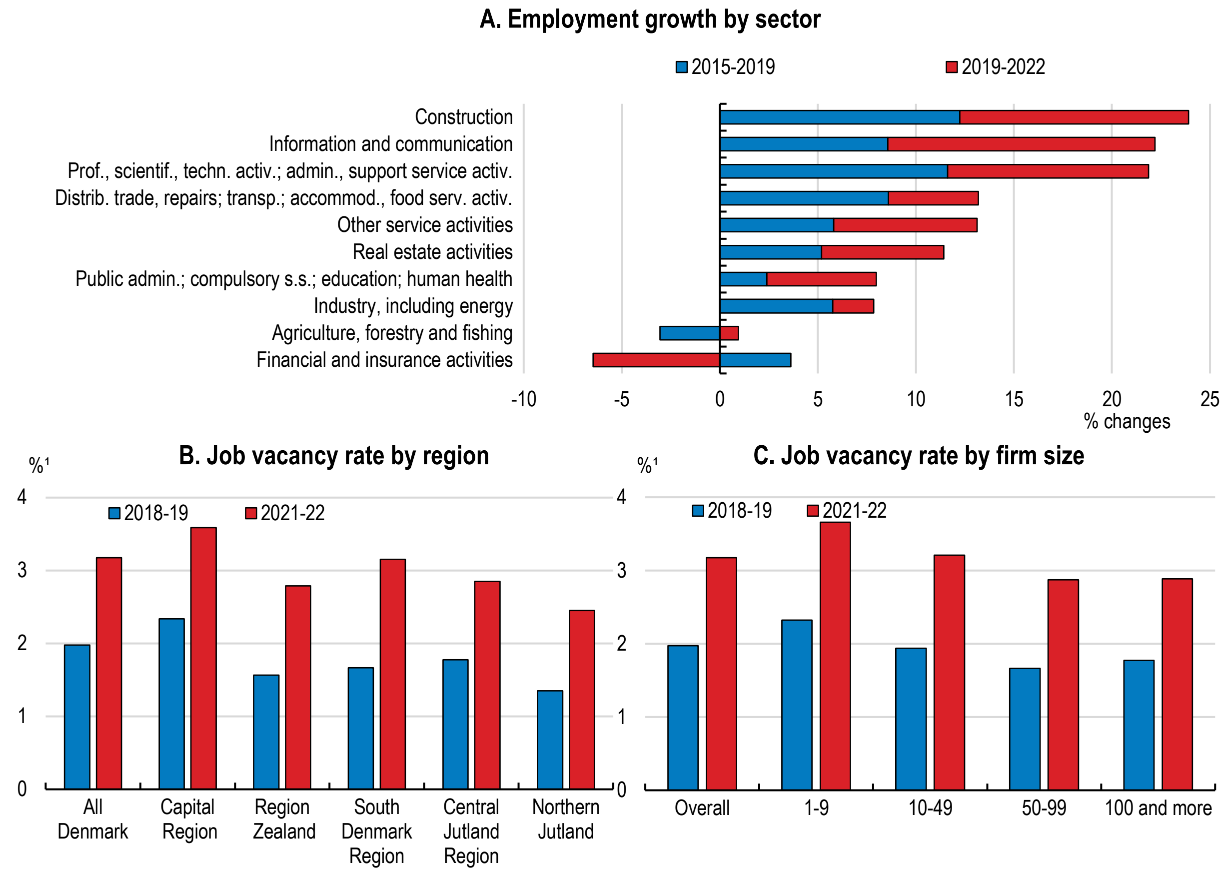


1. Percentage of firms reporting shortages of labour as the main factor limiting their business.
2. The job vacancy rate is the number of job vacancies as a percent of total occupied posts plus job vacancies
Source: OECD Analytical Database; DG ECFIN - Directorate General for Economic and Financial Affairs.; and Eurostat (JVS_Q_NACE2).

StatLink https://stat.link/kpndcf

Employment has grown strongly in almost all sectors of the economy since 2015 and tensions in the labour market have increased in all regions and types of firms, making it difficult for businesses to operate at their desired production level (Figure 2.3). Staff shortages were reported by 42% of Danish businesses in the first quarter of 2022, and 21.2% of employers identified labour shortages as the main factor limiting production in the fourth quarter of 2022, up from 6.4% in the fourth quarter of 2019 (European Commission, 2023a; EIB, 2023a). Labour shortages have been more pronounced and persistent for some activities and in small firms (STAR, 2023; Figure 2.3, Panels A and C). In the service sector, 39% of firms (in the fourth quarter of 2022) identified labour shortages as the main obstacle for carrying out business, higher than the EU average of 30%, and more than double the figure of 16% in the fourth quarter of 2019 (European Commission, 2023a). Construction has experienced intense skill shortages since the COVID-19 crisis, due to high demand for housing and government support for energy efficiency renovations. Tensions in ICT and healthcare have also accentuated, similar to other countries, during and in the aftermath of the pandemic (McGrath, 2021).

Figure 2.3. Tensions in the labour market have been widespread

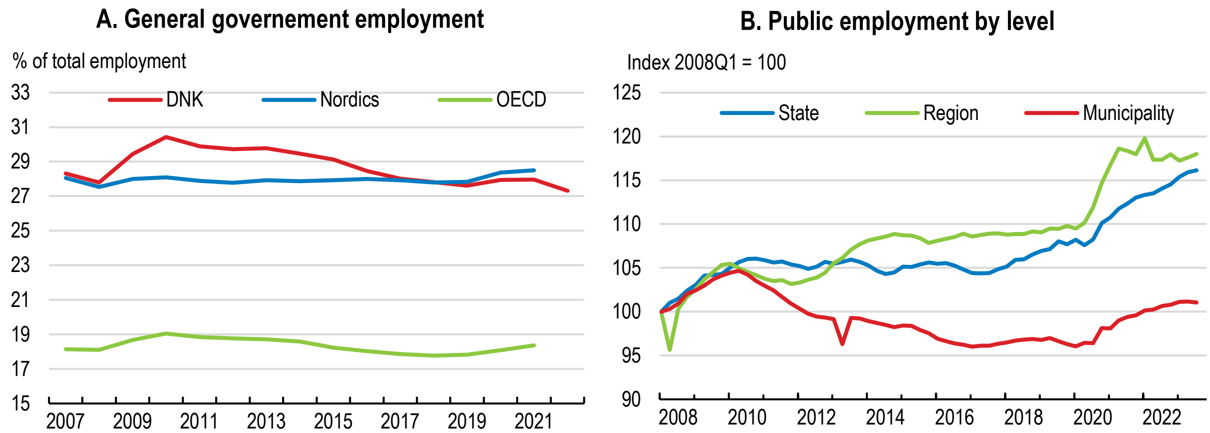


1. The job vacancy rate is the number of job vacancies as a percent of total occupied posts plus job vacancies.
Source: OECD Quarterly national accounts; and Statistics Denmark.

StatLink https://stat.link/kawmye

An important area of labour shortages is the public sector, particularly activities related to health and long-term care, given demographic changes (European Commission, 2023a). Public employment in Denmark accounts for around 30% of total employment, well above the OECD average, but comparable to other countries with strong welfare states (Figure 2.4). Public sector employment increased during the COVID-19 crisis and has not returned to its pre-crisis level yet. Employment growth has been relatively fast in the central administration and the regions (Figure 2.4, Panel B). Despite the increase, total public employment as a share of employment is below historical averages, which suggests this growth has not crowded out private sector employment. The number of public employees per 100 citizens was also below historical averages in 2022. Employment in municipalities is only just above the level in 2008, despite the decentralisation of and increasing demand for welfare services. Recruitment difficulties have been acute in the healthcare and the long-term care sectors with lack of staff identified as the biggest challenge for Danish health authorities. For example, around 18% of advertised nursing positions were unfilled as of June 2023, only slightly down from around 25% before the pandemic (STAR, 2023), and a shortage of around 15,000 healthcare assistants and helpers is expected by 2035 (Ministry of Finance, 2023).

Figure 2.4. Public employment has increased, especially in the central administration



Source: OECD Analytical database; and OECD Government at a Glance; and Statistics Denmark.

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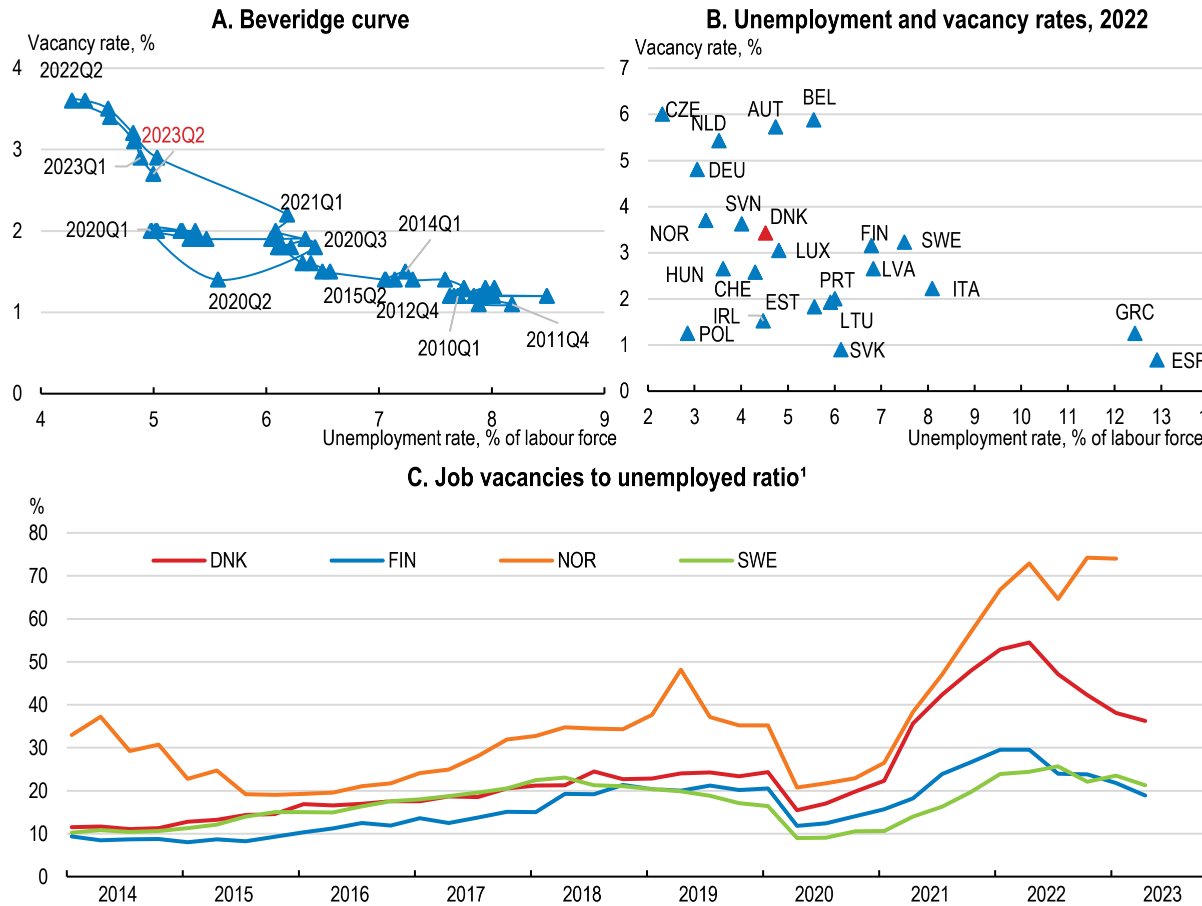
Persistent labour shortages are detrimental to economic growth and well-being, and compound challenges related to demographic change. While raising employment is not an objective in itself, human capital is a key resource in the production process which cannot be perfectly substituted. Shortages can be particularly problematic for specialised skills needed to raise productivity, particularly in the ICT sector, and specific labour shortages can have a disruptive negative impact on the provision of essential goods and services, such as retail trade and healthcare, and reduce both the volume of potential output in the long run and the productivity of capital investment, thereby weighing on productivity growth and business dynamism. Labour shortages are viewed as the highest barrier to investment across all sectors and firm sizes in Denmark (EIB, 2023a). They can lower the quality of matching of workers and jobs, and shortages in knowledge-based services and ICT could impede the diffusion of technologies (Sorbe et al., 2019). As stressed in the 2019 *Economic Survey* of Denmark, the lack of skilled labour force could partly explain issues for new firms to scale up (OECD, 2019a). While increases in wages help to narrow the gap between labour demand and supply, caution is needed in the current inflationary environment to avoid excessive wage increases that might unduly harm competitiveness. It is also important to ensure the necessary allocation of resources across sectors in a sustainable way, which may not happen purely through wage changes even with Denmark's relatively flexible wage-setting system.

The growth in labour demand and shifts in relative demand between sectors have so far been facilitated by two features of the Danish labour market. First, the Danish labour market model, the so-called "flexicurity model", with low hiring and firing costs and decentralised wage negotiations, has allowed for swift adjustment. After the lockdowns, job mobility was high, with rapid reallocation and high turnover of workers (Danish Ministry of Finance, 2021). Indicators suggest labour shortages reflect the growing imbalance between labour demand and supply rather than a decline in matching efficiency. The Beveridge curve, which captures the relationship between the job vacancy rate and unemployment, shows an improvement in the matching of labour supply and demand over the past years (Figure 2.5).

Figure 2.5. Labour shortages reflect an imbalance between labour demand and supply

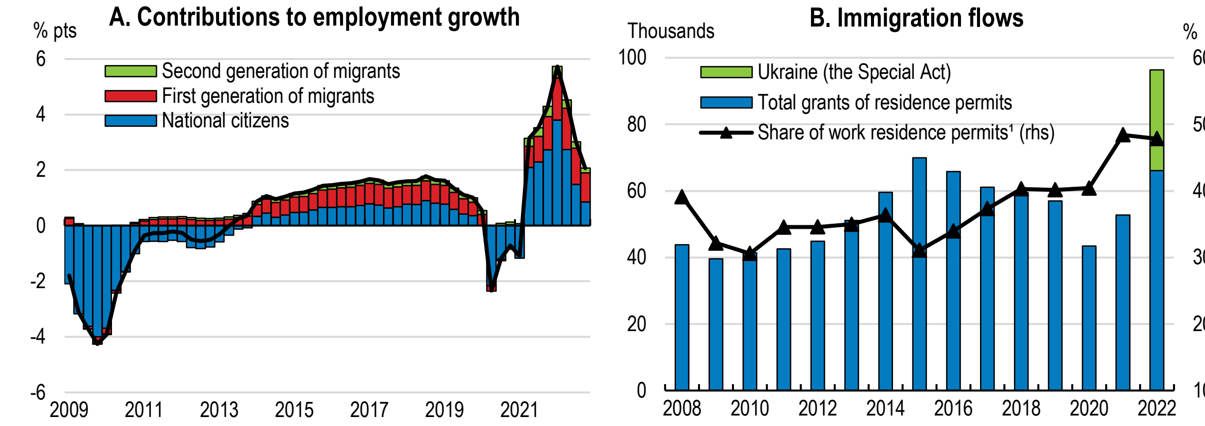


1. Job vacancies in business economy sectors.
Source: OECD Analytical Database; Eurostat (JVS_Q_NACE2).

StatLink https://stat.link/unxm46

Second, foreign-born workers have significantly contributed to employment growth, both through higher employment of foreign-born residents of Denmark and immigration (Figure 2.6). The employment rate of the foreign-born reached record highs in 2022 and continued to improve from around 66% before the pandemic to 69%, narrowing the gap to natives. After a halt in 2020, migration flows have accelerated significantly, with a relatively high share of labour migration. A record high number of 121,000 people immigrated to Denmark in 2022 (corresponding to around 2% of the Danish population), up from 76,000 in 2021, with net migration at around 58,000 (around 1% of the population). This was partly driven by around 30,000 Ukrainian refugees in that year, with around half finding employment by mid-2023. Around 12.2% of full-time workers in Denmark in 2022 were foreign-born, up from 5.7% in 2008. Of the foreign-born employed in Denmark end 2021, around half came to Denmark primarily for work, while refugees and family reunification account for most of the other half (Danmarks Nationalbank, 2022).

Figure 2.6. Foreign-born workers have significantly contributed to employment growth

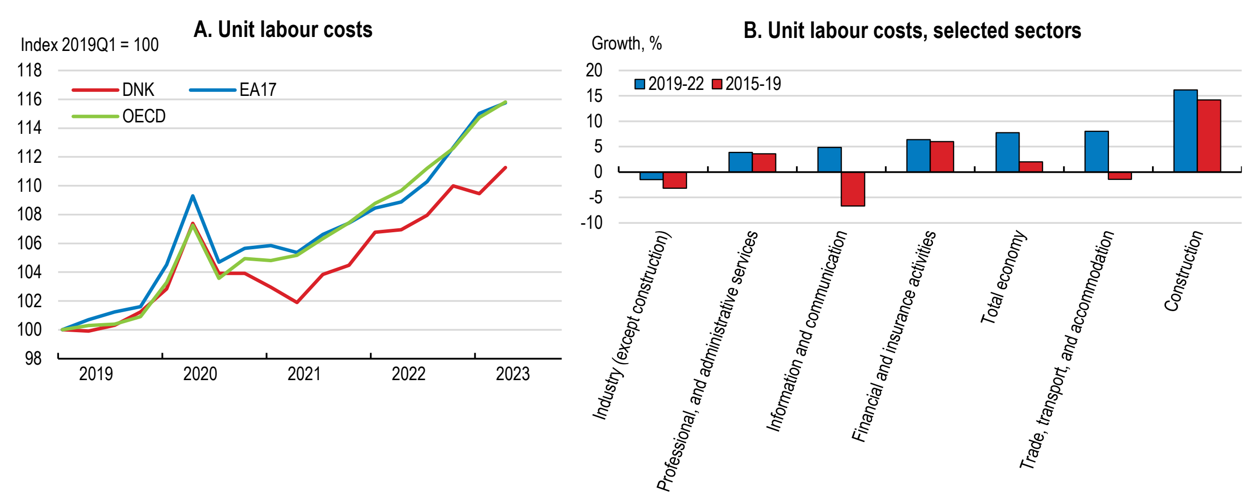


1. Includes Work and EU/EEA, Wage-earners residence permits.
Source: Statistics Denmark and OECD calculations.

StatLink https://stat.link/apmiz7

The capacity to mobilise the domestic work force and to increase international recruitment to respond to growing labour demand likely helped to contain labour cost growth (Figure 2.7, Panel A). Labour shortages risk adding to supply-driven inflationary pressures and can trigger competitiveness losses as a result, but wages have not fully adjusted to strong inflation in 2021 and 2022 and indeed decreased significantly in real terms (see Chapter 1). Following the latest collective bargaining in spring 2023, wage growth is expected to accelerate but to be contained in the coming years. Nominal wages are set to accelerate to compensate for past high inflation and increase around 9-10% over the next two years (OECD, 2023a). Estimates of the impact of labour market tightness on wages suggest that the wage setting curve has been relatively flat at the firm level over the past years (Hoeck, 2022). However, there are large discrepancies across sectors, with a strong acceleration of labour cost inflation in construction and information and communication, both of which have performed very well with a strong demand for skills (Figure 2.7, Panel B).

Figure 2.7. Unit labour costs have increased moderately



Source: OECD Analytical Database; and Eurostat (NAMA_10_LP_A21, NAMA_10_LP_ULC)

StatLink https://stat.link/shrei0

There remains room to mobilise the workforce more fully

International comparisons suggest Denmark still has room to raise employment rates as, despite large improvements over the past years, they remain below levels seen in the best performing OECD countries (Figure 2.1, Panel B). There is substantial room to mobilise migrants more fully (Figure 2.8). While the composition of migrants can vary across countries and Denmark has seen the employment rate for the foreign-born population increase by 12.1 percentage points since 2015, Denmark lags the best performing countries with respect to the employment of first-generation immigrants and even more so for second-generation children when both parents are immigrants, who have an employment rate barely above the EU average (Figure 2.8, Panel B).

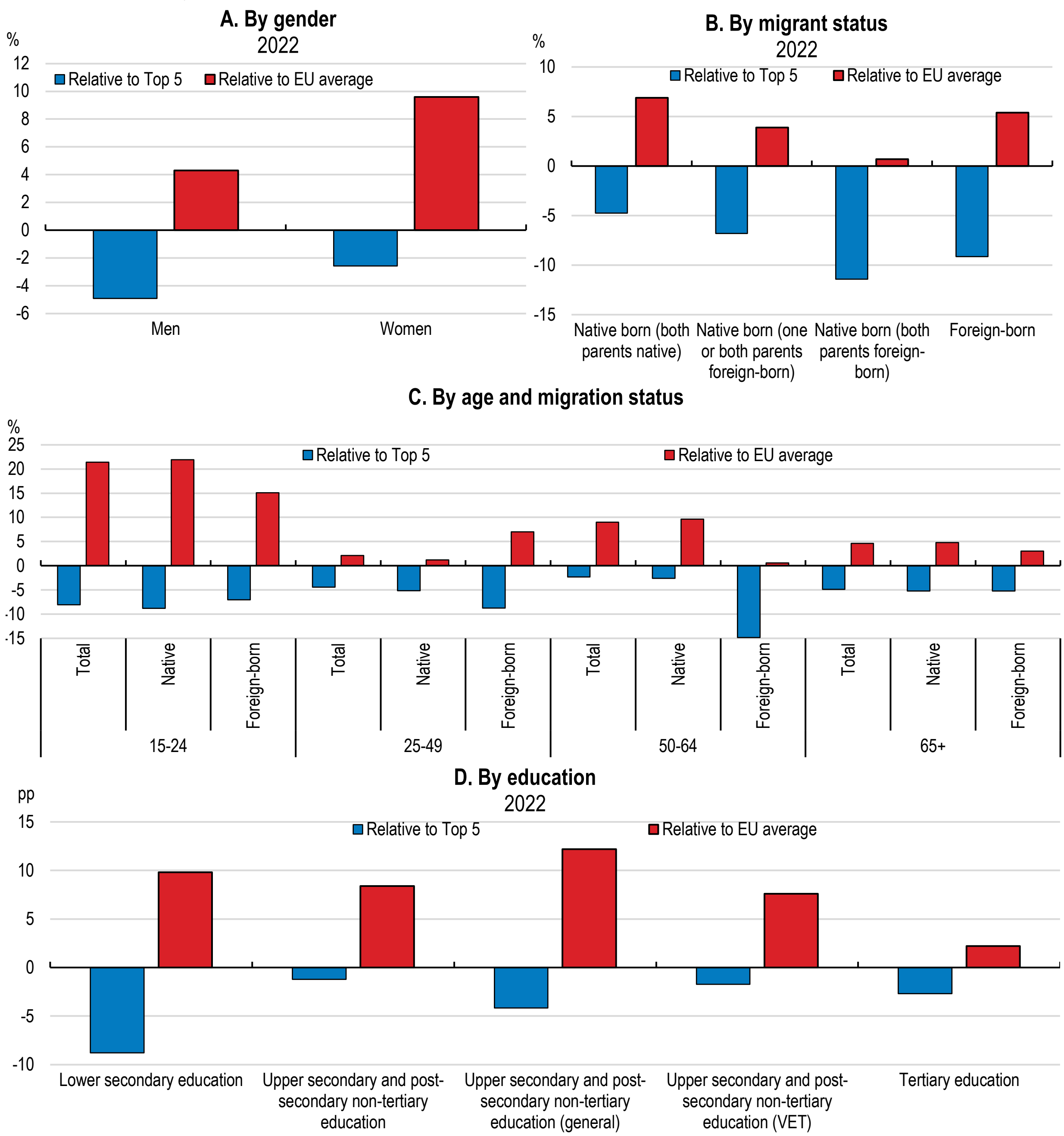
There is also room to improve employment rates among native workers. Prime age native workers exhibit unremarkable employment rates, just above the EU average (Figure 2.8, Panel C), and they have improved very little over the past years, increasing by only 0.4 percentage points since 2015. Employment rates of the older workforce have improved significantly lately, increasing by 7.8 percentage for 50-64 year olds since 2015, but there is still scope to increase employment rates further, particularly for those aged 65 and above (Figure 2.8, Panel C). The employment rate of those aged 15-24 years is high relative to the average but hides a relatively high incidence of part-time work (Figure 2.8, Panel C). There are also 6.7% of 15-24 year olds not in labour or education, below the EU average of 9.6%, but above Norway, Sweden, and Iceland. 23% of these are the children of parents with low skill levels, which emphasises the need for skills development, as Denmark also exhibits a larger employment gap relative to the best performing countries for the lowest educated (Figure 2.8, Panel D).

While employment rates are high, average working hours per worker are among the lowest in the OECD, alongside Germany and the Netherlands. Higher employment rates are typically associated with lower average hours as more people enter into the labour force and work part-time. The incidence of part-time work is higher in Denmark than in many OECD countries, and slightly higher than in the other Nordics (Figure 2.9, Panel A). There is a high incidence of part-time work amongst the young because most students work part-time (normally around 10-20 hours a week) alongside their studies. “Flex jobs”, a flexible job arrangement with reduced hours for those with limited work capacity, also adds to use of part-time (93,381 people were in flex jobs in 2022). The scheme allows those with disabilities and approved for flex jobs to maintain contact with the job market by working a limited number of hours. In addition to their agreed wage, a flexible salary allowance of no more than 98% of the maximum unemployment payment is paid from the municipality. Like in other OECD countries, women are overrepresented among part-time workers. Around 22% of employed women worked part-time in 2021, almost double the share of men (13%). Around 90% of part-time work was reported as voluntary in 2021, which points towards measures to remove distortions that may create a bias towards not working full time.

Working hours in full time jobs are amongst the lowest in the OECD (Figure 2.9). In general, working hours are laid out through collective agreements, with most agreements specifying a normal working week of 37 hours. This may reflect social preferences, as well as factors such as taxation. The average annual hours worked in Denmark is 1,363 hours, the second lowest in the OECD, and significantly lower than the OECD average of 1,716 hours with the incidence of part-time work also playing a role. Working hours have been on a declining trend over the past decade (Figure 2.9, Panel C). The gender gap in paid working hours slightly exceeds the EU and the Nordic average: on full time jobs, women work around two hours less than men per week on average (Figure 2.9, Panel B). However, like in most OECD countries, Danish women work on average one hour more per day on unpaid work, such as housework and childcare, than men (Bonke and Christensen, 2018; OECD, 2020c). Working hours for full-time workers in public services are also shorter: on average, public-sector employees work around 2 hours less per week compared to private sector employees. The abolition of a public holiday, the Great Prayer Day, from 2024 aims at raising worked hours per year and is estimated to increase labour supply between 0.14% and 0.34% depending on the methodology used (Minasyan, 2023). However, the positive impact of this measure might be muted in the long run should workers adjust working hours to restore their leisure time (DORS, 2023).

Figure 2.8. There is room to increase employment rates further

Difference in employment rates



Source: Eurostat.

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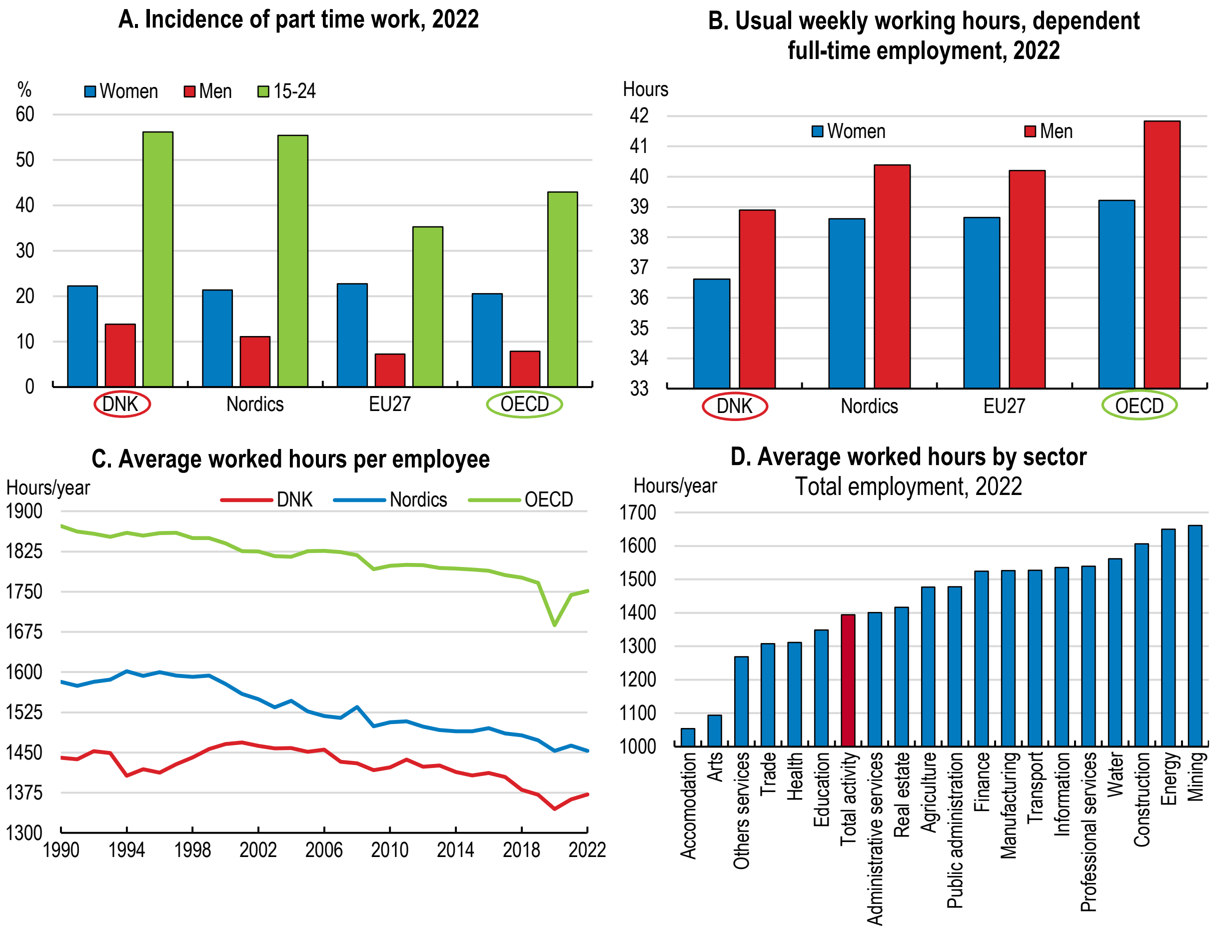
Figure 2.9. Working hours are low compared to other OECD countries



Source: Statistics Denmark; OECD National accounts; and OECD Labour force statistics.

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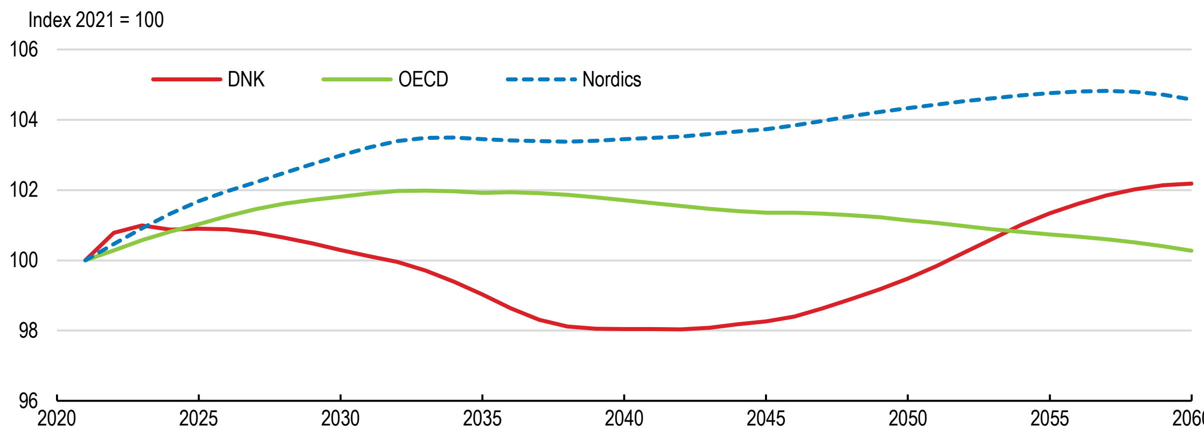
Population ageing is slowing growth and changing the labour force

Population ageing is accelerating, slowing growth of the labour force and creating new pressures. The growth of the working age population has decelerated significantly over the past decade and is projected to turn negative between 2025 and 2040 before rebounding (Figure 2.10). The share of people close to retirement age in the working age population, people aged between 60 and 69, is projected to increase by around 2 percentage points by 2030. Increases in employment rates among 55+ year-olds, which is important due to population ageing, has however contributed to the fast ageing of employees (Figure 2.10), Greater job separation due to retirement implies an increase in job openings in all occupations by 2030 (CEDEFOP, 2018a). As working age cohorts decline and the dependency ratio increases, the ageing of the workforce will weigh on growth potential and complicate the recruitment needed to replace people retiring over the coming years.

Figure 2.10. Population ageing will weigh on labour supply

15-69 year-old population projections



Note: Population projections based on the "Main variant" scenario.
Source: United Nations, Department of Economic and Social Affairs, Population Division (2022). World Population Prospects 2022, Online Edition; and OECD Population projections database.

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Reforms have been implemented to increase the effective retirement age and somewhat offset the effect of population ageing by raising labour supply among older workers (Box 2.1). The indexation of the retirement age to life expectancy is designed to mitigate the impact of growing longevity by increasing the length of working lives. The labour force is projected to continue growing as a result, but the annual growth rate is projected to decelerate significantly from around 0.7% over the past ten years to around 0.2% by 2040 (Danish Ministry of Finance, 2022). In addition, labour supply growth could fall below expectations, if the effective retirement age and older workers' employment rates do not increase as fast as projected. Work capacity might not increase in line with life expectancy, especially in physically demanding occupations and self-financed early retirement could increase. This poses a risk to growth potential and for the sustainability of public finances (see Chapter 1).

Box 2.1. The ageing of the Danish labour force

There are more older workers and people are working longer

The share of mature workers, defined as those aged 55+, has increased significantly since 1990, from 11% to 22% in 2021. It is set to continue to rise to around 26% by 2050 and to remain high as working lives are prolonged due to improving longevity and future increases in the effective retirement age.

Decomposing this increasing share of older workers shows that since 2015, the acceleration of the ageing of the workforce has mainly been driven by higher employment rates among older workers, rather than increases in the number of people in these groups. This has particularly been the case in industry as opposed to the public sector, which suggests a stronger retention capacity of older workers in industry. The employment rates of older workers contributed to the ageing of the workforce to a lesser degree in the public sector. Compared to a set of European countries, ageing has been faster in Denmark in most sectors, but not in public services, such as administration and education.

Ageing has been more pronounced in some occupations

Using register and micro data allows for the identification of discrepancies across sectors and occupations on the degree and the pace of ageing in Denmark. While the share of older workers increased in aggregate by around 5 percentage points since 2010, this change was more pronounced in occupations with lower levels of qualifications when compared to the national average. Pension adequacy has not deteriorated, but the use of early retirement has declined, for which manual workers were over-represented.

The share of workers aged 55+ among employees is relatively high and is rising fast in occupations with acute recruitment difficulties, such as the healthcare and ICT sectors, as well as among manual workers in manufacturing and transport (operators, assembly, and transport workers).

Comparing age distributions across countries points to comparable ageing challenges in neighbouring countries, thus potential high competition for mobile skilled workers. Some occupations stand out as having a more pronounced and faster ageing both by Danish and international standards, including care workers, drivers, plant and machine operators, and science and engineering associate professionals.

A simple cross-country econometric analysis finds that occupations with higher shares of women, lower educated employees and more remote work have an above average share of older workers. By contrast, occupations with a strong employment growth, higher share of foreign-born workers and low job tenure have a lower share of older workers. No correlation was found with automation risks measured following Quintini and Nedelkoska (2018). Other empirical work finds that the share of older workers is not correlated with whether the occupation is green or brown (Causa et al., 2023).

Source: Own calculations based on EU LFS data.

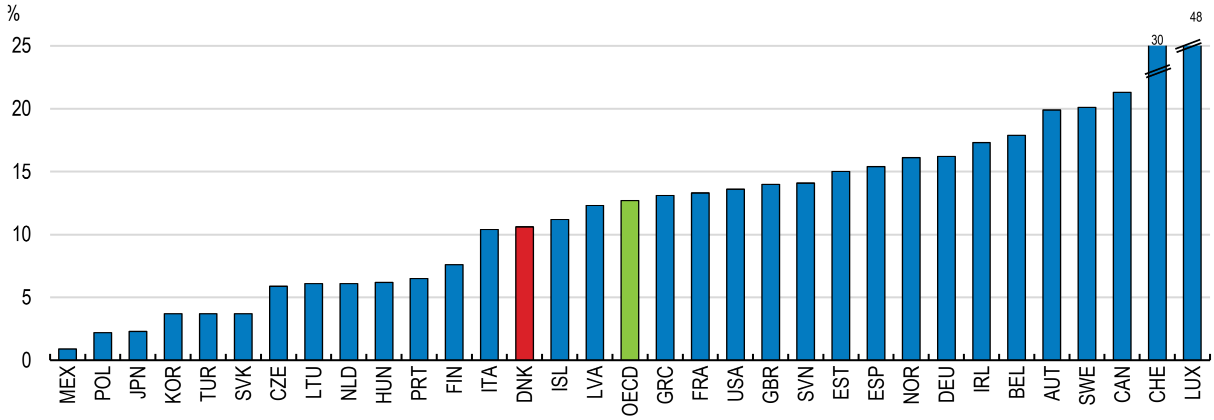
Attracting more qualified migrants could help address labour shortages

Despite intensifying immigration over the past decade, Denmark has a relatively small foreign-born population compared to most OECD countries (Figure 2.11). Restrictive migration policy plays a role. Most foreign workers are from the EU as they can reside and work in Denmark under EU law (OECD, 2021a). The largest groups of immigrants are from Poland, Romania and Ukraine. The number of Ukrainian immigrants working in Denmark increased rapidly following the Russian invasion. Many of these Ukrainian immigrants are only entitled to a temporary residence permit under the Special Act, the Danish law on temporary residence permits for refugees from Ukraine.

Third-country foreign workers face stringent entry conditions based on strict employment, salary level or specific profession criteria. The minimum annual salary to recruit a non-EU resident is generally high (465,000 DKK, equivalent to around 87% of the average wage) and hinders recruitment of medium-skilled or newly trained employees. Since 2023, the pay limit was reduced to 375,000 DKK when the register-based unemployment rate is below 3.75%. The Positive List schemes for skilled workers and highly educated workers, that allow non-EU applicants to apply for residence and work permits in professions experiencing labour shortages, do not extend to all professions under stress. As of July 2023, the Positive List for People with a Higher Education includes 30 job titles, while the Positive List for Skilled Work includes 36, down from 46 job titles each for both lists in 2022.

Figure 2.11. The foreign-born population is lower than in many OECD countries

Share of foreign-born population, 2021 or latest year



Note: the OECD average is weighed.
Source: OECD International Migration Outlook 2022.

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Recent policy changes have relaxed work visa rules for highly skilled migrants. The new lower pay limit will apply so long as seasonally adjusted register-based unemployment is below 3.75%. Changes also extended the post-study visa stay of foreign students after graduation; extended the Fast Track scheme, which allows certified companies to employ foreign nationals who meet certain conditions more quickly and easily, to companies with at least 10 employees instead of 20; and the set up a start-up visa scheme for entrepreneurs.

However, more could be done to facilitate international recruitments to meet skills shortages. The pay limit remains high, at around 70% of the average wage, and it should not be linked so tightly to overall demand conditions. The government plans to introduce a new scheme with lower limits for certified companies, but an annual quota will be set on the number of permits. The pay limit should also include other salary benefits, such as employee share options often used by start-ups. The Positive List for high skilled workers should be expanded to include experience-based knowledge in shortage areas. Recognition and validation of qualifications acquired abroad can be affected by uncertainty and lack of information regarding foreign educational systems. Denmark could take inspiration from Germany's introduction of the Skilled Workers Immigration Act (*Fachkräfteeinwanderungsgesetz*) to allow medium-skilled migrants to be recruited from non-EU countries in specific occupations, including facilitating their access to training and reducing visa processing times (Box 2.2).

Box 2.2. German migration policies to tackle labour shortages in medium-skill occupations

The Skilled Workers Immigration Act (Fachkräfteeinwanderungsgesetz) came into force in March 2020 to allow medium-skilled migrants to be recruited from non-European Economic Area countries in specific occupations. The Federal Ministry of the Interior issued 30,000 visas over the first year of the policy. The Act permits migrants with recognised qualifications to search and apply for these specific jobs, thereby making it easier for those with vocational training and/or practical professional knowledge to immigrate to Germany. The Act also aimed to reduce red tape and bureaucracy, while opening migrants' access to training. For example, the requirement on employers to prove there is no domestic worker who could fill the role was removed.

Further changes were agreed in March 2023 to further relax the rules and speed up the process. Many medium-skilled migrants come to Germany under apprenticeship contracts, therefore the strict criteria for the recognition of skills acquired abroad was relaxed. The requirement for a professional qualification in a specific field was replaced by two years of educational experience plus two years of professional experience. Skilled workers can start working in Germany even while their qualifications are being certified. A new feature of the reform was also added, the points-based Opportunity Card (Chancenkarte), which allows non-EU migrants to enter Germany even without a job offer if they meet certain criteria including qualifications, work experience, German language proficiency, age, and a connection to Germany. Skilled workers can obtain a permanent settlement permit (Niederlassungserlaubnis) after three years compared to the previous four-year requirement. The reform also waives foreign degree recognition in non-regulated professions, extends the list of occupations that qualify for a residence permit and repeals the labour market tests for apprenticeships.

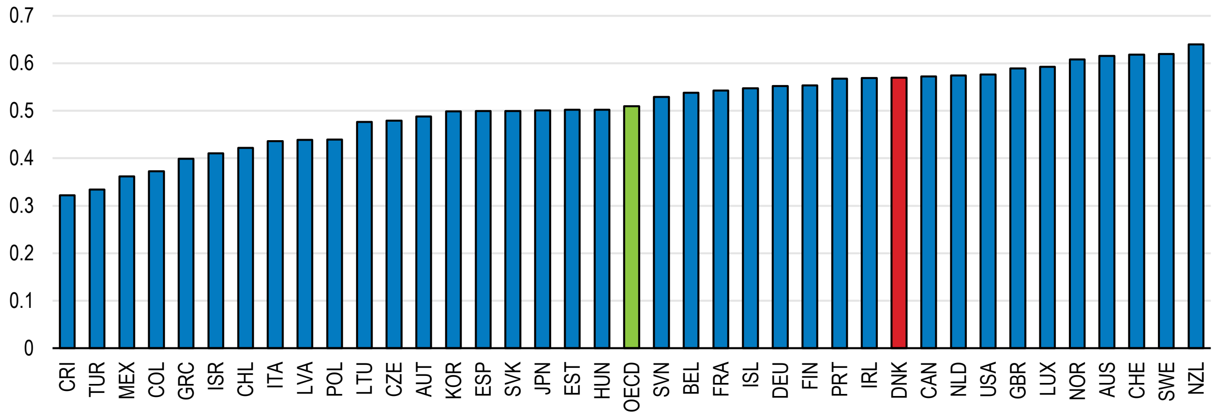
Source: OECD (2023) OECD Economic Surveys: Germany 2023.

Incentives to attract high-skilled foreign workers should be strengthened given growing competition from other European economies that also face labour shortages. Frequent rule changes, with often increasingly difficult residency rules both for permanent residency and citizenship, create insecurity and uncertainty for migrants or potential migrants, a key factor in the attractiveness of a country for high-skilled workers (OECD, 2023i). The immigration law has been amended 135 times between 2002 to 2019: these numerous changes lead to legal ambiguity and unpredictability for migrants and firms alike. More stable and certain pathways to permanent settlement would increase the attractiveness of Denmark and create a more welcoming environment for highly skilled workers, particularly as labour markets tighten in the countries from which foreign employees are recruited (Hanushek et al., 2015). The 2023 OECD Indicators of Talent Attractiveness, which measures the capacity to attract and retain talented migrants accounting for policies and practices for admission, ranked Denmark 11th in overall attractiveness to highly skilled migrants, well behind the leading countries (Figure 2.12).

Administrative burdens on residency should be reduced as these are complex and lengthy and further reduce Denmark's attractiveness (OECD, 2019a). It is thus welcome that the government plans to allocate additional funds to ensure faster and more efficient case processing. Denmark could learn from a successful Finish experiment in which foreign tech workers and their families were encouraged to temporarily move to Finland. All necessary paperwork and logistics, such as accommodation and school places, were fixed in advance. The scheme proved extremely successful with 5300 applications, of which 60 were investors and 800 entrepreneurs wanting to start their own business.

Figure 2.12. There is room to improve policies to attract migrants

Talent Attractiveness index for highly educated workers, 0 = worst and 1 = best, 2023



Note: The OECD Indicators of Talent Attractiveness (ITA) are grouped in seven dimensions, each representing a distinct aspect of talent attractiveness: (1) quality of opportunities, (2) income and tax, (3) future prospects, (4) family environment, (5) skills environment, (6) inclusiveness, and (7) quality of life. An optional health dimension is available to users (8) health system performance.
Source: OECD, Talent attractiveness 2023 - https://www.oecd.org/migration/talent-attractiveness.

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Strengthening the policy framework to remove work disincentives

Adjustments to a range of policies are needed to reduce work disincentives and address shortages. This section proposes avenues to address barriers to longer working hours and lives. It presents policies to sustain labour force participation, including reducing labour taxation that disincentives working full-time and retiring later, and adapting the work environment to ensure those with work capacity can remain in the labour market. It then considers the issue of entry into the labour market when young, improving the integration of migrants, and improving access to mental health services.

Strengthening financial work incentives

The Danish tax and benefit system is based on a solid tax-financed welfare state, providing quality public services with elevated income replacement rates for those out of work, but subject to strong activation and training requirements. Activation, search, and training services are run through municipal job centres, where DKK 5 billion of the national DKK 12 billion budget for employment schemes is spent.

The government plans to reform public employment services to achieve large efficiency gains and reduce the cost of activation policies by more than a quarter. This includes abolishing the local job centres. Details of their replacement are yet unknown, but an expert group has been tasked with reviewing the employment system and reporting by June 2024. Job centres have successfully assisted the unemployed in their job search, including achieving necessary education and upskilling, but this has come at high cost. Denmark has the highest amount of spending on active labour market policies in the OECD at more than 2% of GDP, despite the low level of unemployment. Ineffective programmes should be phased out as recommended in past Economic Surveys (OECD, 2019, 2021), but high-quality support for job seekers must be maintained. Benefits of the reform will critically depend on its design and careful monitoring is needed. Denmark could learn lessons from Sweden, the United Kingdom and Australia who have sought to achieve efficiency savings via increased digitisation of services and the use of private providers. Privately contracted services can lead to significant efficiency gains, but the design must ensure incentives are aligned to provide quality services to all jobseekers, including in less profitable delivery areas (Box 2.3).

Box 2.3. Delivering modern employment services

Sweden

Since 2019, Sweden has embarked on a major reform of its public employment service, shifting from providing in-house services towards an increased use of private providers. This included a significant downscaling of local physical presence across Sweden, a reduction in the number of staff, and increasing digitalisation of services.

Outsourcing to private providers was intended to spur innovation and result in better-quality services at a lower cost via encouraging competition in the local area. But creating a market where employment services are largely contracted out requires carefully considering many factors, such as achieving fair and informed competition between providers, ensuring the provision of services at the local level, and creating a suitable outcome-based compensation model. In Sweden, independent providers are paid a daily allowance plus a performance-related payment. This is differentiated based on the jobseeker's employability to ensure providers do not focus all their attention on those that are closest to the labour market.

A public ratings-based system of providers was introduced to help jobseekers make informed choices. Although it is too early to properly evaluate these reforms, there have been some indications that remote and sparsely populated regions are not being sufficiently covered by private sector providers, due to insufficient incentives to enter non-profitable areas. Simplifying application requirements for providers active in other regions could enhance provision.

United Kingdom

Employment services in the UK are delivered primarily through "Jobcentres Plus", which operates job centres across the country, and works with a network of contracted providers to deliver a range of employment support measures, such as training, self-employment support, and case management. Enhanced digitisation of services has been occurring since 2016.

Digital platforms are available for online job search and vacancy matching, and free Wi-Fi and access to computers have been made available at job centres since 2018. Jobseekers are expected to use digital services through their online account, for example to message their work coach, upload documents, or record job search evidence. Those that find it difficult to use of digital services receive assisted digital support. As part of the digitisation process, over 100 local jobcentres (around 15%) were closed.

Nevertheless, mandatory personal attendance at Jobcentres Plus interviews remains a core requirement to receive Universal Credit and most other working-age benefits. A Department for Work and Pensions service and experience survey following digitisation showed that many found it convenient to access services online, although those with poor levels of literacy or digital skills found the transition quite challenging (DWP, 2018).

Australia

A new online employment services model, *Workforce Australia*, was implemented during the summer of 2022 to help reduce the caseload for providers and allow for more emphasis on jobseekers that are furthest away from the labour market. Jobseekers sign up either online or through the Assisted Customer Claim call centre and are referred to the appropriate employment service based on an online or telephone interview: digitally literate job ready jobseekers continue to manage their job search and reporting requirements via an online self-service tool; those that require some skills training enter the "digital plus" stream where they can receive additional services via a contracted provider; and those that face significant barriers to work enter the "enhanced services stream" and receive full in-person support. Aligning incentives between contracted providers and the needs of all jobseekers has been the greatest challenge, with private providers often focusing their efforts on the lowest cost jobseekers.

Online services are supported by safeguards, including assistance from a Digital Services Contact Centre and the ability for jobseekers to choose to transfer to a contracted provider. If jobseekers do not find work or appropriate training within 12 months, they are moved to independent provider services to receive more personalised and intensive case management. In September 2022, 82.3% of individuals who used Online Employment Services were employed three months later, and 89.7% were either working, studying or both.

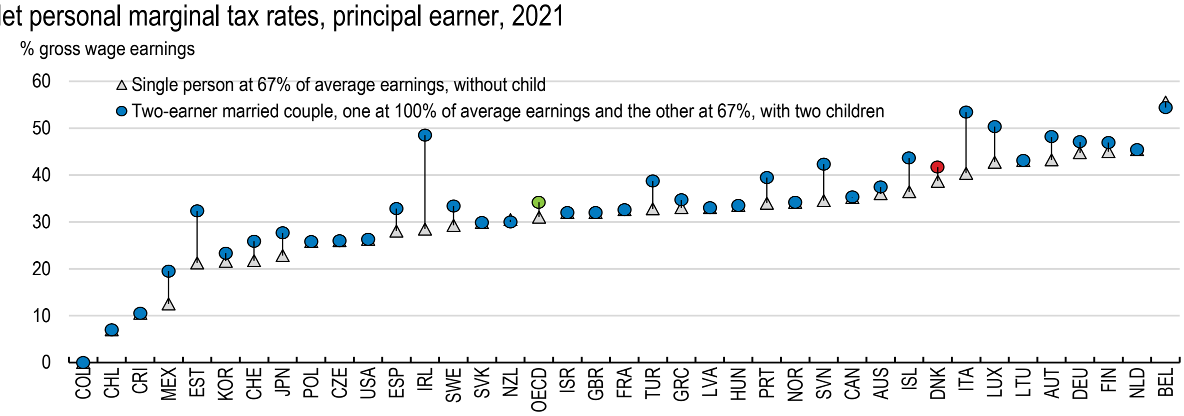
Source: OECD (2023i) Organisation of public employment services at the local level in Sweden.

As marginal effective labour taxation is high and the wage distribution compressed, relatively low financial gains for workers can weaken full participation in the labour market, especially for second earners and homeowners (Bingley, 2018) and reduce incentives to invest in education. Lower income taxation is found to correlate with higher average working hours, primarily caused by employees changing jobs to positions with higher agreed working hours (Sigaard, 2023). Financial disincentives to work measured by the ratio of transfers people received while not working and labour income have declined since 2009, partly due to past tax reforms and reductions in social assistance benefits in real terms (Danish Ministry of Economic Affairs, 2023a). The January 2022 reform package, “Denmark can do more II”, includes measures to increase labour supply by strengthening work incentives, with an objective to increase by around 12,000 the number of people in work by 2030, an increase of around 0.4% in employment. For instance, in 2022, the unemployment benefits received by recent graduates under 30 years old were reduced by more than EUR 500 (to around EUR 1275) after the first three months in unemployment and their duration to one year (from two).

A reform initiated in 2023 will reduce labour income taxation (Box 2.4). The marginal tax rates paid by employees on labour income, which mostly consists of the personal income tax as social security contributions are low in Denmark, are relatively high by international standards (Figure 2.13). The reform includes increases in the earned income tax credit, which should reduce the marginal tax on earned income by 0.5 percentage points for those earning less than the average wage. At the same time, marginal effective tax rates will remain well above OECD average and could be reduced further by increasing property taxation (see Chapter 1).

Figure 2.13. Financial disincentives to work remain high for middle earners

Net personal marginal tax rates, principal earner, 2021



Note: The Marginal Effective Tax Rate (METR) measures how much of additional earnings are taxed away through the combined effect of increasing tax and decreasing benefit. It includes the personal income taxes, social security contributions paid by employees, social assistance, temporary in-work benefits and housing benefits.
Source: OECD Taxing wages comparative tables.

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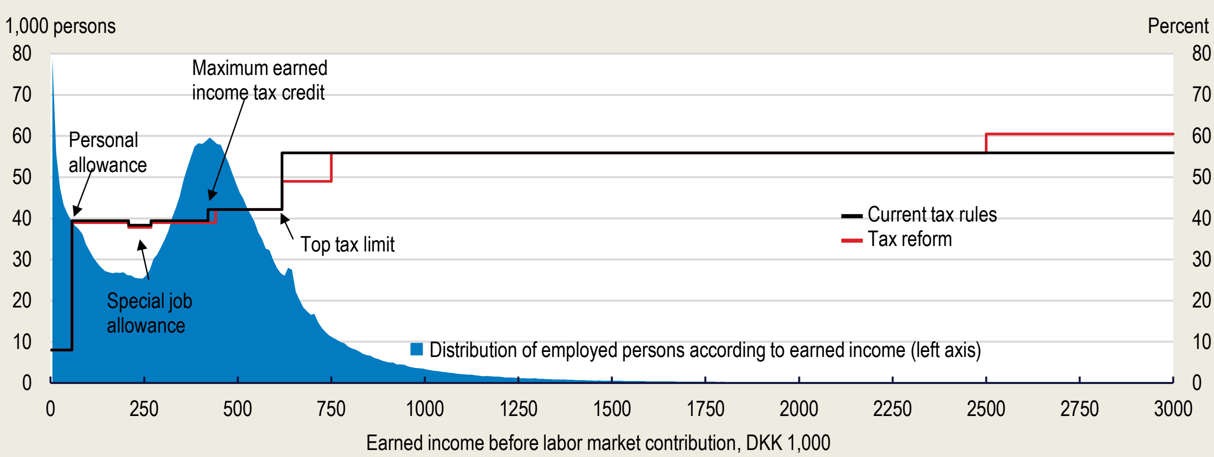
Box 2.4. Labour income taxation in Denmark

As social security contributions are low by OECD standards, the personal income taxation mostly consists of the State income tax and the municipal tax (individual taxation). The impact of the 2023 reform of the personal income tax on the marginal effective tax rate is illustrated in Figure 2.14. The system incorporating the reforms can be summarised as:

- An 8% labour market contribution levy is first deducted from all taxpayers' earned income.
- The State tax is levied at one of two rates, 12.06% and 15% for income above DKK 618 400 before deduction (1.3 times the average wage).
- With the reform, the tax rate would be adjusted as follows:
- For income between DKK 618 400 and DKK 750 000 before deduction (1.6 times the average wage), the tax rate is reduced by 7.5 percentage points
- For income between DKK 750 000 and DKK 2.5 million, the tax rate is unchanged
- For income above DKK 2.5 million before deduction (5.4 times the average wage), the tax rate increases by 5 percentage points, effectively introducing a new top rate.
- Local income taxes are levied by municipalities with the average rate at around 25% (they vary from 23.1% to 26.3% in 2023)
- The top marginal tax rate is capped. If the marginal tax rate including local tax exceeds 52.07%, the top tax bracket rate is reduced by the difference between the marginal tax rate and 52.07%. With the reform, the cap will be reduced by 7.5 percentage points to 44.57%, but the additional taxes for incomes above DKK 0.75 million will not be subject to the cap.

Figure 2.14. Estimated impact of the 2023 reform of personal income taxation

Marginal tax rates on labour income by level of income



Source: Ministry of Finance.

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Working taxpayers receive an employment allowance of 10.65% of earned income to a maximum of DKK 44,800 when calculating local taxable income. Single parents get an extra employment allowance of 6.25% with a maximum allowance of DKK 24,400. With the reform, the allowance rate will increase by 2.1 percentage points (and 5.25 percentage points for single parents) and the maximum deductible amount by around 25% (and 84% for single parents). An additional employment allowance of 1.4% from

2026 increasing to 3.9% from 2030 will be introduced for senior workers two years or less before their legal retirement age. The maximum additional allowance for senior workers is DKK 5,400 from 2026 and will be increased to DKK 14,800 in 2029 and DKK 15,200 in 2030 (2023 income level).

Allowances are provided to working taxpayers and for pension contributions (with a cap). Some work-related expenses are deductible from taxable income (with caps), such as contributions to unemployment insurance and trade unions, expenses relating to transportation to the workplace, contributions/premiums paid to private pension saving plans (except lump sum savings).

A tax-free lump-sum transfer is allocated to people working at least 1,560 hours per year (30 hours per week) the first two years after the legal retirement age. The tax-free transfer amounts to DKK 45,415 the first year and DKK 27,033 the second year. With the 2023 tax reform the tax-free transfer will be increased by 11 percent in 2026 and by around 30 percent in 2029.

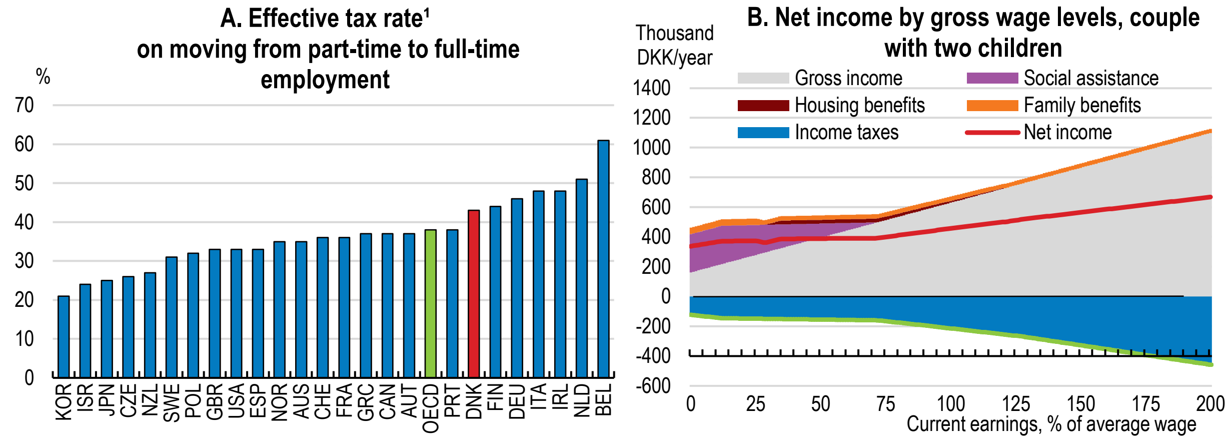
Source: OECD (2023f), Danish Ministry of Taxation (2023)

As recommended in past Economic Surveys of Denmark (OECD, 2019a; OECD, 2021a), the reform will cut the personal income tax rate for upper middle-class households by adding a new tax bracket for incomes up to 1.6 times the average wage. The top income tax rate is currently paid at a relatively low level of income by international standards (around 1.3 times the average wage). The top tax rate will also increase by 5 percentage points and apply to revenues above DKK 2.5 million (more than five times the average wage), impacting only a limited number of taxpayers and likely have a very modest negative impact on labour supply. Overall, this reform would increase financial gains from work for most taxpayers (Figure 2.14) and is estimated to boost employment by around 5 000 full time individuals by 2030 (Danish Ministry of Taxation, 2023). The effects of the reform on the labour supply could be lower than expected, as small changes in taxation are found to be less successful at changing behaviours (Kleven and Schultz, 2014). The reform is estimated to cost around DKK 6.75 billion (2.4% of GDP), considering the positive impact on higher labour supply on tax revenue.

Raising the top tax rate, which is already among the highest in the OECD, could pose risks to financial incentives and of tax avoidance, but it would only apply to a small number of households. Empirical evidence points to diminishing revenue returns of increasing the effective marginal tax rates that apply at substantially above-average income levels (Akgun et al., 2017). Deepening the gap between the taxation of individual income and corporate income incentivises retained earning strategies and favours incorporation by entrepreneurs, which has been increasing over the past two decades (OECD, 2023b). The Danish tax system (the VSO “corporate tax scheme”) allows business owners to retain earnings and, until earnings are distributed, or capital gains realised, to only pay the corporate tax rate, which at 22% is well below the top marginal income tax rate. Careful assessment and monitoring of the impact of the reform on tax optimisation will be required.

Denmark has a generous and complex benefit system that contributes to reducing inequality to relatively low levels. Despite having strong activation and job search requirements, the system also features some financial disincentives to work. Many benefits are means-tested, including family and housing benefits and some (including social assistance) have a withdrawal rate close to 100%. As a result, low-to middle income families receiving benefits face a high effective marginal tax rate and gain little by raising hours worked (Figure 2.15). The withdrawal of their benefits when income increases significantly reduces their incentives to expand work effort. As stressed in the 2021 *Economic Survey*, in-work benefits targeted at families earning less than the average wage and receiving means-tested social benefits could be a powerful lever in raising incentives to work longer hours (OECD, 2021a). At the same time, the compressed wage distribution complicates the introduction of such benefits as many people might be eligible for benefits if the tapering was very gradual. The government established a temporary job premium scheme for cash assistance recipients who have received benefit for at least 1 year within the last 3 years. A DKK 5,000 tax-free lump sum will be paid when benefit recipients leave the cash assistance system and are employed for 6 consecutive months. The job premium scheme is set to expire in mid-2024. Its impact should be evaluated, and the measure maintained if it proved effective in raising work effort.

Figure 2.15. Financial incentives to increase working hours are relatively low



1. Tax rates include personal income taxes, social security contributions paid by employees, social assistance, temporary in-work benefits and housing benefits; Panel A refers to the share of gross earnings in a job that pays the average wage when increasing hours worked from 50% to 100% of full-time employment, for a second earner with two children and a partner working full-time in a job that pays the average wage.
Source: OECD Benefits, Taxes and Wages (database).

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Raising the effective retirement age

Incentivising longer working lives

Past pension reforms including increasing the legal retirement age and restricting early retirement schemes have contributed to increasing employment rates of older (55+ year old) workers. The statutory retirement age reached 67 in 2022 (and 64 in 2023 for early retirement). The duration of voluntary early retirement programmes has been shortened from five to three years with the minimum age raised in line with the statutory retirement age. These measures coincided with an increase of the employment rate of the affected cohorts by more than 6 percentage points. Like in many other OECD countries, employment rates tend to fall sharply at the legal retirement age.

The Danish pension system is based on a combination of means-tested public pension benefits, quasi-mandatory occupational pension schemes, and private savings. Financial incentives for prolonging working lives when approaching the retirement age are strong and have been reinforced. Drawing down pension savings earlier than three to five years before the legal retirement age is heavily taxed, while pension savings offer tax allowances (see Box 2.4). Since January 2023, means-tested public pensions have been paid independently of a spouse's or cohabitant's earned income. This should help mitigate disincentives to work longer due to a high earning spouse. Furthermore, labour income has been exempted from means testing in the calculation of public pension benefits since 2023. The 2023 personal income tax reform includes an additional employment allowance for workers close to the retirement age and increases in the tax-free lump-sum transfer allocated to those working the first two years after the legal retirement age (see Box 2.4).

The strict indexation mechanism of the legal retirement age should also foster labour supply, with some risks. The statutory retirement ages are adjusted to life expectancy gains every five years, conditional on approval by Parliament. This measure targets an expected retirement period of 14.5 years. As a result, the average pension payment period will be progressively reduced and a person entering the labour market at 22 in 2020 is expected to reach the legal retirement age at 74, the highest in the OECD (see Chapter 1). A reduced length of retirement of future generations can undermine the political acceptability of the indexation and raise incentives for early retirement. Wealthy households with high private savings, large replacement rates and valuable assets may increasingly opt for a self-funded early retirement as the retirement age increases and expected time in retirement diminishes (Box 2.5). Relaxing the indexation rules of legal retirement ages after 2040, without critically undermining fiscal sustainability according to experts' projections (Pension Commission, 2022), could temper any further lengthening of working lives.

Box 2.5. The prospects for rising voluntary early retirement among prosperous older workers

While many efforts are being made across countries to retain older workers in the labour force as the population ages, rising prosperity and shifting attitudes towards work may lead some of them to voluntarily reduce working hours or take early retirement to enjoy more leisure time. In Denmark, compulsory pension savings are high and the comprehensive welfare system mitigates age-related costs, so self-funded voluntary early retirement may seem attractive.

Basic economic theory assumes that individuals optimise their utility over time by consuming goods, services, and leisure when not working. As labour income increases, two opposing forces come into play: the "income effect" may reduce work effort as people demand more leisure, while the "substitution effect" increases it. Models suggest that labour supply may decline after reaching a certain income threshold, known as the backward bend of the labour supply curve. In addition, higher pensions and housing wealth may increase the demand for leisure time as people age.

In practice, retirement decisions hinge on a large range of factors, including labour income, pension savings, available early retirement options, health status, work conditions, and family circumstances. Retirement entitlement strongly predicts early retirement, and wealth demonstrates a clear association with early retirement (Kuhn et al., 2021). Homeownership also increases the likelihood of early retirement, especially in pension systems that allow flexible pension savings withdrawal. Increasing financial incentives to prolong working lives could lead to lower working hours before retirement (Gustafsson, 2021).

In reality, the employment rate of older workers and the effective retirement age has increased significantly over the past decade. Early retirement decisions have been predominantly driven by poor health, low employability, and strenuous working conditions, rather than a desire for leisure (Qvist, 2021).

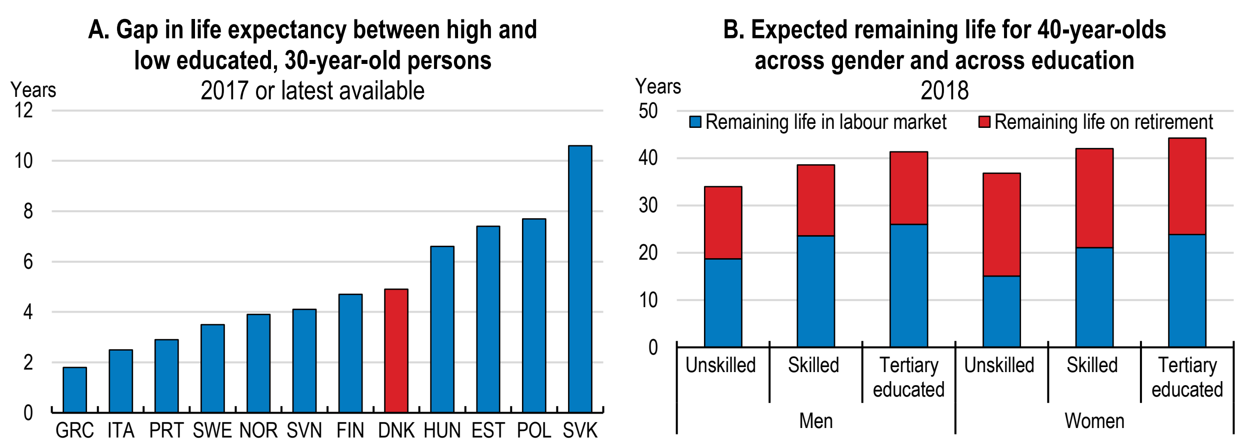
Nevertheless, an estimated 6,000 individuals chose self-funded early retirement in Denmark in 2022, primarily individuals with substantial personal assets and savings. There is some evidence of similar trends in other countries with high pension savings, such as Australia. However, while most Danes save enough to enjoy a comfortable retirement, ordinary workers typically lack the financial resources to retire early based on their own savings. Financial incentives to continue working are strong. Early withdrawal of assets from programmed withdrawal or life annuity schemes is subject to a fixed 60% tax rate. Many occupational plans do not offer early withdrawal options (OECD, 2018).

Changes in future retirement decisions are difficult to predict, given the multiplicity of underlying factors. Higher interest rates and the maturing of the pension system could lead to self-funded retirement becoming more widespread, particularly among homeowners. Public opinion polls suggest a notable shift in people's attitudes towards work, emphasising self-fulfilment and diminishing personal commitment to work (Haerpfer et al., 2022). Structural transformations, especially in the wake of the pandemic can lead to further changes.

Denmark has four early retirement schemes, including three directed to workers with reduced work capacity and long careers that partly overlap (Box 2.6). Around half of workers currently use early retirement schemes when leaving the labour market. Workers with a low education level have a lower life likelihood than the average (Figure 2.16) and are overrepresented among early retirees. Thanks to the early retirement schemes, they tend to leave the labour market earlier and spend the same time in retirement as more educated workers with longer life expectancies (Figure 2.16). The main cause of early retirement is a poor health status and policies protecting those unable to pursue their careers are an important social safety net. At the same time, there is room to strengthen eligibility criteria to access disability benefits. To receive the senior disability pension for those close to retirement age *(Seniorpension)*, which can be taken up to six years before the legal retirement age, the degree of work capacity is assessed vis-a-vis the latest job of the recipient and eligibility is not reassessed after pension benefits are allocated. Furthermore, the number of younger people receiving disability benefits *(Førtidspension)* aimed at those above 40 years of age has increased significantly over the past years.

The number of workers eligible for the voluntary early retirement scheme *Efterløn* will decline substantially in the coming years. The scheme is much less attractive than in the past and the share of less educated workers who are more likely to use the scheme, is falling. Nevertheless, further reforms can limit inflows in alternative pathways to retirement and allow people to work even when age reduces their work capacity. The take up of disability-based pension might increase as the retirement age rises, notably among workers in physically demanding occupations or if life expectancy improvements do not fully translate into longer lives in good health. The government could simplify the early retirement system by aligning the benefit periods of available schemes to three years. With this reform, early retirement would be possible only three years before the legal retirement age (instead of six for the current *Seniorpension* scheme). Further measures could be taken to ensure those approaching the retirement age with reduced work capacity have access to rehabilitation programmes when needed, and do not face disincentives to continue working or work longer hours, for instance by assessing work capacity vis a vis different types of jobs in the *Seniorpension* scheme, and reassessing eligibility on a regular basis depending on the distance from the legal retirement age. Encouraging longer working hours in subsidised jobs directed to those with reduced work capacity (flex jobs) could also help. Unintended consequences of restricting the access and generosity of the early retirement scheme, including the use of alternative pathways to early retirement (unemployment benefits) and rising inequality at old age should be carefully monitored. Denmark should also ensure that equality in the length of retirement is preserved and options to retire earlier for workers with a very long contribution history are maintained.

Figure 2.16. Early retirement schemes reduce gaps across groups in life expectancy after retirement



Note: Panel B tertiary educated is the unweighted average of KVU/MVU and LVU.
Source: Eurostat (DEMO_MLEXPECEDU); and Ministry of employment: Pension Commission's report 2022.

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Box 2.6. The Danish early retirement schemes

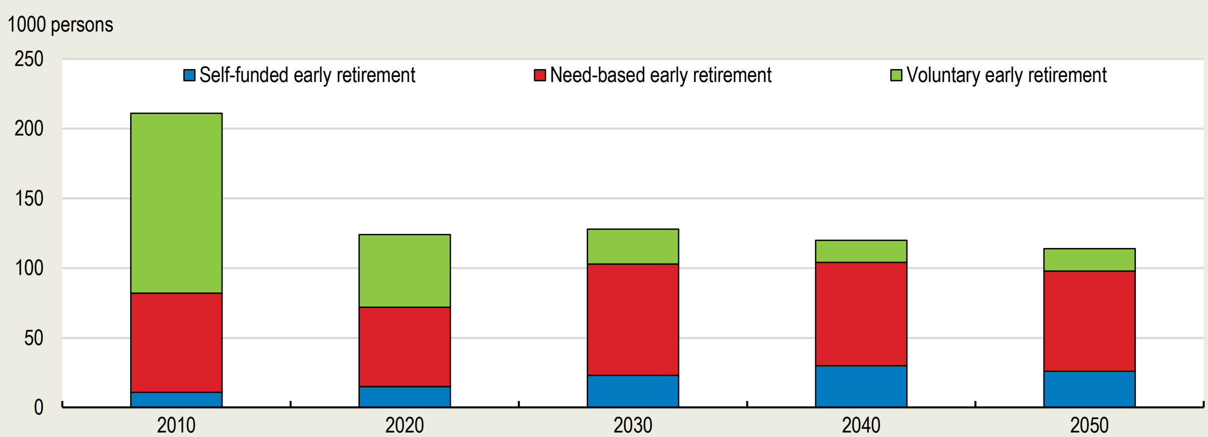
Denmark has four main disability and early retirement schemes, two voluntary retirement schemes and two need-based schemes.

Voluntary early retirement schemes:

- *Efterløn* is available to members of an unemployment insurance fund who have paid contributions for 30 years and reached the legal age for early retirement (currently 64). The take up of this scheme has declined significantly over the past two decades and is expected to stabilise at very low levels by 2030. A reform in 1998 raised the costs of opting into the scheme; measures in 2012 made it possible to withdraw previous contributions at a tax discount and changed participation in the scheme from an opt-out system to an opt-in system. As the amount paid is capped and reduced by 64% of private pension payments, its return will fall as private pension schemes mature and the number of recipients is set to decline (Figure 2.17)
- *Tidlig Pension* is a flat means-tested benefit awarded to people with very long work records (41-43 years) and low pensions savings up to 3 years before the legal retirement age. The benefit which is close to the basic public pension benefit for singles can be combined with occupational pension benefits. Strong means-testing means that working is financially unattractive. The take up of this scheme has been low so far.

Figure 2.17. Projected change in early retirement

Incidence of early retirement from 0 to 6 years before the legal retirement age, number per 1000 persons



Note: The "Need-based early retirement" category comprises the Seniorpension and the Førtidspension schemes. The "Voluntary early retirement "category comprises the Tidlig Pension and the Efterløn schemes.
Source: Ministry of Finance.

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Schemes open to those with reduced work capacity:

- *Førtidspension* is awarded to people over 40 (with some exceptions) who have a permanent and significantly reduced ability to work.
- *Seniorpension* (introduced in 2020) has the same benefit conditions as *Førtidspension* but is awarded to people close to retirement age who have a reduced ability to work and a long work history. It gives the opportunity to retire six years before the statutory retirement age if the ability to work is reduced to 15 hours or less per week on the latest job.

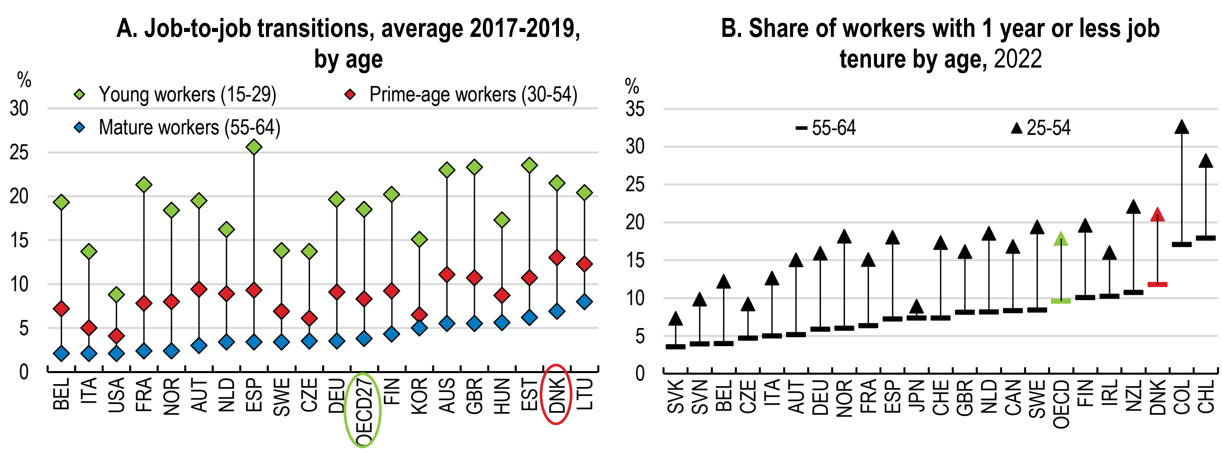
Overall, the share of older people using the disability and needs-based pension benefits is projected to remain stable after 2030 despite rising retirement ages (Figure 2.17). Voluntary early retirement is projected to decline, as fewer workers will be eligible for *Efterløn* and self-funded early retirement is set to remain contained at around 3% in 2040.

Source: Antal modtagere af tilbagetrækningsydelser før folkepensionsalderen fra 2004-2060; A new early pension scheme in Denmark since 1 January 2021 ESPN Flash Report 2021/01; Denmark's National Reform Programme 2023.

Adapting the working environment to an ageing population

Improving employability of older workers would help to draw talent from workers of all ages and to support mobility in the labour market. Job-to-job mobility is high in Denmark by international standards, including for older workers and even for those with low levels of educational attainment. Demographic changes will affect job transitions because, as in other OECD countries, job mobility tends to decline with age (Figure 2.18), Similar to other countries, hiring rates are also lower for workers aged 60-64 years than for younger ones, but the gap between hiring rates of prime-age and older workers is smaller in some countries such as Japan or some Eastern European countries, suggesting room for improvement in Denmark (Figure 2.18). Survey data show that around a third of Danish retirees would have liked to have worked longer (Ransby, 2020), but older workers report age as a key barrier to finding a job (Thomassen et al., 2022). The proportion of older workers back in the workforce after 12 months of unemployment is significantly lower compared to prime age workers, particularly for 60-64 year-olds.

Figure 2.18. Job mobility declines with age but hiring rates of older workers can improve



Source: OECD (2023), Retaining Talent at All Ages, Ageing and Employment Policies, https://doi.org/10.1787/00dbdd06-en; and OECD Job tenure database.

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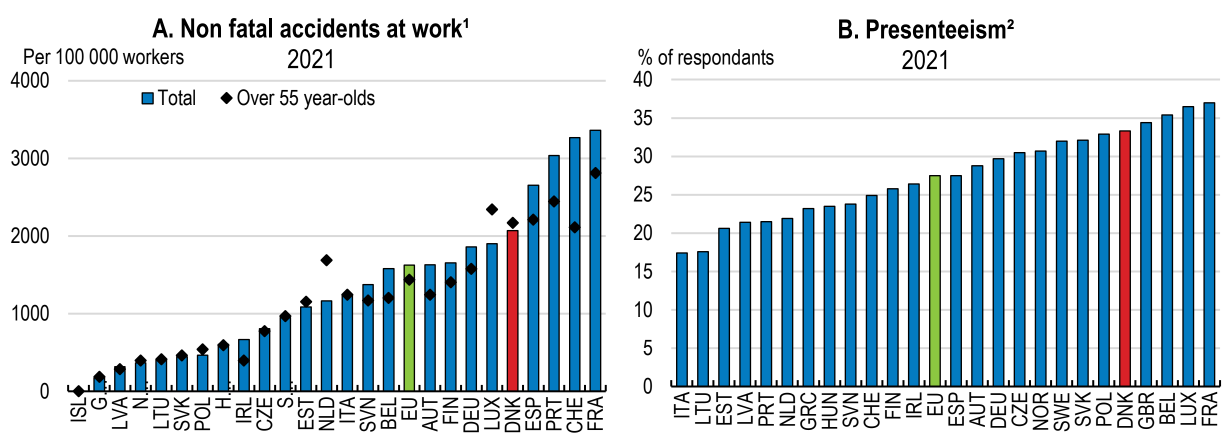
Age is a common reason for work-related discrimination and negative attitudes against older workers is a major barrier in many OECD countries (OECD, 2022d). In 2022, Denmark introduced a law that prevents employers from asking the age of a job applicant. Blind recruitment has been introduced in many countries, such as in the UK and Australian civil service. Nevertheless, Danish firms must accompany this with diversity training programmes to tackle conscious and unconscious biases and stereotypes, as age bias can be found in all parts of the recruitment process (OECD, 2022d). Formal returner or re-entry programmes can also help employers tap into older workers' skills and experience. These programmes could be directed to older workers at risk of being made redundant or those looking for a career change. Those with a long career break can combine part-time work with training to update outdated skills and overcome difficulties in new work (Hartlapp and Schmid, 2008; Shacklock, Fulop and Hort, 2007). The government could provide guidance to businesses and develop frameworks alongside social partners that firms can tap into. The UK for example, has a formal programme ("The New Deal 50 Plus") that helps facilitate re-entry through formalised training aimed to boost skill development, employability of workers, and productivity (OECD, 2022d).

Strengthening the prevention and promotion of healthy lifestyles, and adjusting the workplace is needed to reduce push factors into retirement, particularly for those with physical work demands who tend to retire earlier and have significantly shorter working lives (Qvist, 2021; Pedersen et al., 2020). Denmark has room for improvement in terms of work accidents and "presenteeism", meaning attending work when unwell (Figure 2.19). Self-reported incidents are high, and, although self-reporting can bias upwards statistics, this is still larger than in other countries with strong welfare states where incentives to report are also high, such as Sweden or Norway. Presenteeism can be detrimental to employee health in the long run, as it can mask serious illness and is often associated with poor working conditions (Saint-Martin, Inanc and Prinz, 2018). In March 2023, a new agreement was established on an improved working environment and strong action against social dumping. This is welcome, as the agreement provides the Danish Working Environment Authority with a historically high level of funding and contains several initiatives to ensure a healthier and safer working life. Changing tasks or work content of older workers to ease the burden of physical work can enable these employees to prolong their careers. Examples of such programmes can be found in Finland and Norway (Box 2.7), where early-intervention models with follow-up actions for those with reduced work ability have found success (OECD, 2022d).

Figure 2.19. Working conditions could be improved



1. Agriculture; industry and construction (except mining); services of the business economy. Iceland data refers to 2020.

2. Individuals who responded "yes' to the question "Over the past 12 months, have you worked when you were sick?"

Source: Eurostat (HSW_MI01); and Eurofound (2023), European Working Conditions Telephone Survey 2021 dataset, Dublin, https://eurofound.link/ewcts2021data.

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Box 2.7. Promoting healthier and longer working lives at work

Norway

A company introduced a comprehensive set of programmes with the aim to increase the average retirement age by six months, the "Life Phase Policy". The initiative included: management training to cope with the challenges of different age levels in the workforce; annual health monitoring, with dietary and training advice and a special focus on older workers; the option for employees over 62 years old to change working hours according to their needs; and the option to be relocated to less physically demanding jobs after retraining. Following this initiative, the actual retirement age has increased by three years from 63 to 66. In addition, the company has reduced sick leave and very few employees have been declared medically disabled.

Finland

A company where the nature of the work is physically demanding and around half of the workers are aged over 45, implemented an early-intervention model with follow-up actions for those with reduced work ability. The interventions are carried out in cooperation with foremen, occupational health services and insurance companies, under the lead of the company's head of health and well-being. Vocational rehabilitation is provided to allow tasks and/or roles to be adjusted so workers can continue their careers until retirement. It is estimated that, of those that faced early retirement from a physically demanding role, up to two-thirds could remain in place due to vocational rehabilitation. In addition, a smartphone Safety-App was introduced. Employees gain access to ideas on easing the burden of physical work and improving safety at the workplace. The app enables safety observations to be collected via photos to illustrate any shortcomings. This feature is particularly useful for foreign workers who do not speak Finnish. Lastly, workers who are under mental strain are supported and monitored by lifestyle assessment measurements which help employees to recognise stress and identify areas for improvement (physical activity, nutrition, sleep).

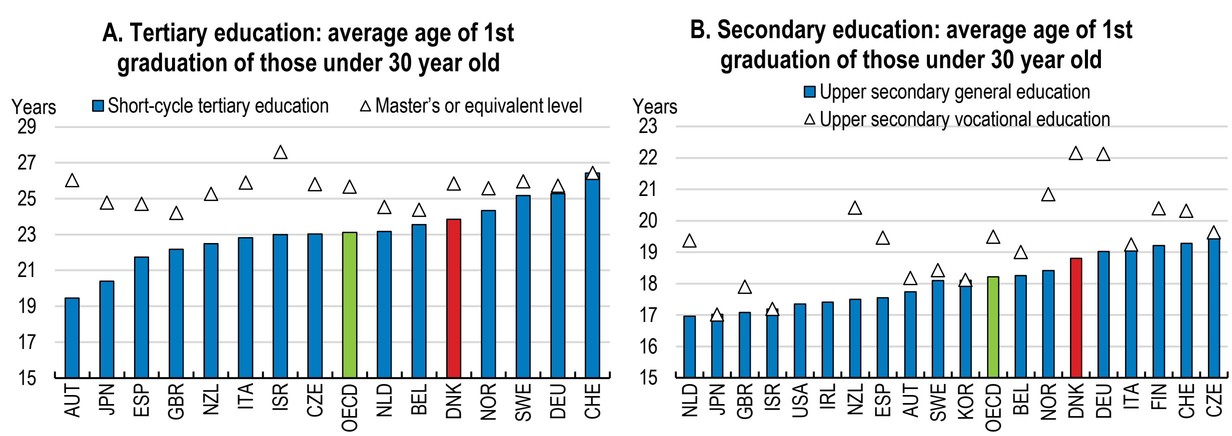
Source: OECD (2022d) Promoting an Age-Inclusive Workforce.

Encouraging people to start work younger, while maintaining high education levels

Young people in Denmark leave the school system later than in most other countries. While it has fallen over the past decade, time to graduate in Denmark is among the longest in the OECD, with a high proportion of Danish students entering university later and then doing master's degrees (Figure 2.20). Students tend to start upper secondary education relatively late compared to peers, as around 30% of pupils opt for an additional academic year (10th grade) before starting high school to discern their chosen path. As recommended by the OECD in 2009, the 10th grade should be only targeted at students with the greatest learning needs (OECD, 2009).

Figure 2.20. Labour market entry could be faster

2021



Source: OECD Education at a Glance database.

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Danish students on average take 5.2 years to complete a bachelor's and a master's degree (which 90% of bachelor's students go on to take), when it is on average around four years in some countries such as the UK, Ireland, or Australia. This slower pace of education does allow many students to undertake part-time work alongside their studies, which adds to the part-time labour supply, and can improve chances of full-time employment post-graduation, but it delays entry into their chosen full-time occupation. A major reform of the tertiary education system in Denmark has been announced with respect to the length of master's degrees that should accelerate post-study entry into the labour market. A differentiated model of second-cycle education with different options will be implemented, which will include an ambition of 30% of master's degrees becoming either 1.25 year master's programmes (75 ECTS) or part-time master's programmes combined with relevant employment. The reforms will create a model similar to comparable EU countries, such as in the Netherlands where master's degrees can be one year. While the reform increases flexibility to respond to different labour market needs, through faster training for high-skilled work, and student choice, the effects and outcomes on quality and productivity should be monitored. The Danish Economic Council has pointed to a potentially negative impact on productivity (DTU, 2023; Reform Commission, 2023). In addition, less part-time work and/or internships may be possible given possible increased course intensity, therefore any effects on post-graduation employment rates should be assessed. Lessons from the Dutch experience suggest it is important to carefully consider which programmes are shortened, as some courses are difficult to condense into shorter time periods. Domestic and international recognition for labour market and academic purposes also needs to be assessed to ensure mutual recognition (as achieved by the UK) of the new one-year (90 ECTS) master's degrees as equivalent to a two-year (120 ECTS) master's, as part of the Bologna process. Ensuring mutual recognition as envisioned in the planned reform will secure the attractiveness of Danish students in international job markets and increase the attractiveness of Denmark for international students.

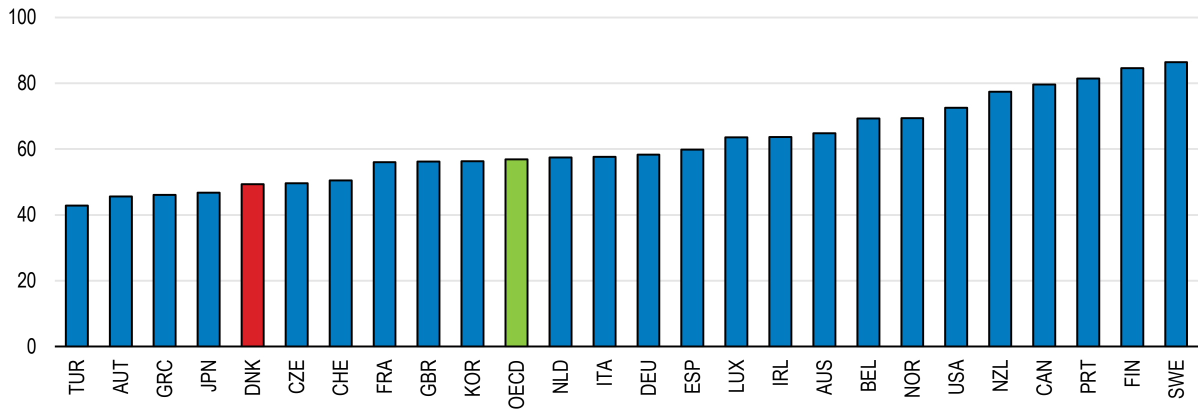
Generous grants for students play a key role in the length of studies at university. Students who have been resident in Denmark for long enough get free education and a generous living allowance of around USD 1000 per month while they are studying. They are also allowed to take a year of effective leave, with fewer courses, while still receiving their living allowance. Reform is underway, with the maximum grant to be reduced by one year to a maximum of five years. This should help encourage students to opt for a shorter education path, and reduce the prevalence of students who switch subjects, thereby delaying graduation. Nevertheless, the grant and loan system remains very generous by global standards and still higher than in other Nordic countries. A further reduction in support could be considered. This could include widening of the use of student loans, as in Australia or New Zealand, where repayment conditions are linked to subsequent income and labour market status over an extended repayment period, and as recommended by the Reform Commission for master's degrees. Such a reform could also enhance the incentives to choose educational fields in greater demand and with higher wages.

Improving the integration of first and second-generation migrants

Denmark has a comprehensive integration policy for foreign-born people focused on labour market participation, but there is scope for improvement. Implementation of integration policy is decentralised to the municipalities, which allows policies to be interpreted and adapted to local circumstances, but as highlighted in the 2021 *Economic Survey*, this has led to variable quality and success (OECD, 2021a; European Commission, 2021c; Jakobsen et al., 2021). The latest Migrant Integration Policy Index (MIPEX), which measures immigration policies across 56 countries and identifies links between those policies, outcomes, and public opinion, ranked Denmark 26th among OECD countries for its integration policies (Figure 2.21). Denmark was one of the few countries whose index worsened from the previous exercise (Migrant Integration Policy Index, 2020).

Figure 2.21. There is room to improve policies to integrate migrants

Quality of integration policies for immigrants, 0 = worst and 100 = best, 2019



Source: Migrant Integration Policy Index 2020.

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Special allowances were made for Ukrainian refugees with the passing of the Special Act in March 2022. This law allowed Ukrainians to bypass the asylum system and speed up obtaining a two-year residency permit, alongside employment and social assistance. As of 31 July 2023, 37,942 Ukrainians had received residency permits under the special law, and 29,077 are registered as residing in a municipality. Once registered, Ukrainian refugees must take Danish-language classes and actively seek employment to receive around USD 800 per month as well as other social assistance, such as housing and health care. Residence is valid until 17 March 2024, with the possibility to extend for one-year only. Further extensions would require an application for asylum or a residence permit on other grounds. The Special Act is scheduled to expire in March 2025.

Municipalities see insufficient Danish language skills as one of the greatest barriers facing first-generation unemployed migrants (Jakobsen et al., 2021), including Ukrainian refugees, and Denmark's focus on integration through rapid employment can crowd out language learning (Damm et al., 2022b). Language skills are a prerequisite for integration into the local community and workplace, and the single most important determinant for labour market integration (OECD, 2021h). Studies have shown that language programmes are crucial to enhanced employment probabilities, and particularly in the longer-term where most effects are found to materialise (Arendt et al. 2021). The beneficial effects are also found to extend to the children of migrants (Foged, 2023). While Denmark's integration programme combines language learning with job training, evidence has shown that once a job is secured, the probability of engaging and finishing the language course is much reduced, damaging longer-term opportunities (European Commission, 2022). On average, refugees who secured a job within their first four years in Denmark were likely to be employed in jobs with very low language comprehension requirements. In 2022, refugees made up around 28% of all immigrants, although this was buoyed by the large number of Ukrainians. Only 31% of the foreign-born who moved to Denmark in 2021 started language lessons, although this may reflect the ability to use their English language skills. By contrast, in Sweden and Norway, education is more highly prioritised, and language learners receive financial assistance that is conditional upon course attendance and complementary with paid work (OECD, 2021h). Two to three times as many newly arrived migrants enter education compared to Denmark. Denmark should place a greater emphasis on language-learning as the primary pillar of its integration strategy. Municipalities should increase efforts to follow up on students who either do not take up the offer of lessons or drop out, and language centres should be empowered to do so as well. Denmark could also reconsider the rule that prevents the foreign-born from obtaining free language lessons after five years.

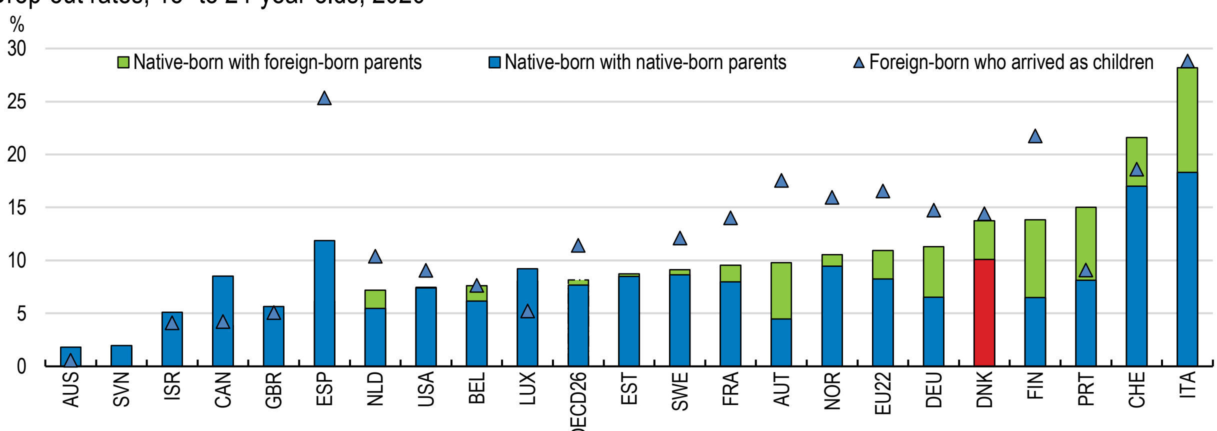
Foreign-born people living in Denmark for less than 9 of the last 10 years (from non-EU countries) receive integration benefits whose amount are lower than regular social assistance benefits, conditioned to the participation to integration and activation programmes (Martisen, 2020). Past reforms reducing social assistance for migrants had a mixed effect on employment rates, but increased poverty risks (Dustmann et al., 2023). An increased work obligation of 37 hours per week will be introduced from January 2025 for migrants receiving cash benefits. The estimated effects of this measure on labour supply are subdued (250 full time jobs, Ministry of Finance, 2021) and implementation difficult and costly. Job centres have not been able to find adequate jobs, especially for people with weak attachment to the labour market, as they have been unable to support migrants to meet the current activation criteria. Furthermore, there is little evidence of the positive impact of imposing work requirements (European Commission, 2021c).

Most migrants obtain their qualifications abroad, but the limited transferability of these qualifications and skills restricts their labour market integration. Analysis by one of the larger Danish labour unions, *Faglig Fælles Forbund* (3F), found that half of those overqualified for unskilled jobs were migrants with higher education from their home country (Myklebust, 2021). Foreign qualifications, particularly those from non-OECD countries, do not have the same signaling effect as domestic qualifications, partly due to employer uncertainty and lack of information regarding foreign education and training systems, and (presumed) poorer-performing qualification systems abroad (OECD, 2017). The Danish Agency for Higher Education and Science offers assessments of all levels of educational qualifications. It specifies what a person's foreign qualification corresponds to in Denmark, which educational level and, if possible, which field of education. The assessment is free of charge and takes around 2 months once the required documentation is received. Early detection mechanisms could be fostered to identify individuals whose foreign-acquired skills and qualifications can be easily supplemented to provide formal qualification in fields where labour shortages are the most acute. The Netherlands, for instance, matches the level of education previously obtained in the country of origin with the Dutch requirements and indicates the number of additional courses needed to obtain an equivalent professional degree (OECD, 2023g). To assess non-formalised skills, obtained for example through work experience, Denmark could take inspiration from Germany and Austria where tools exist that can be used to assess competence. The German "myskills" assessment tool, for instance, uses online identification tests to assess various specific skills that can be transferred to the practical working environment (OECD, 2020b). Online platforms have great potential to facilitate matching, particularly for migrants, as they lack home country specific networks and social capital, but these platforms must be designed in a way that is both accessible and accounts for the specific challenges faced by migrants, employers, and public employment services.

Failures of integration can extend to the second-generation, and there has been a long-standing and substantial employment gap between children of immigrants and those with native parents (see Figure 2.8, Panel B), although this has recently improved significantly. On average, children born of immigrant parents are less educated, have higher unemployment rates, and earn around USD 9000 per annum less than those with native parents (Jensen and Manning, 2022). Second-generation migrants are often concentrated in certain neighbourhoods and schools which presents specific challenges and reduces chances of overall success (OECD, 2021f). Affordable, quality accommodation is a prerequisite for the successful integration of migrants and concentration of housing in certain neighbourhoods reduces their possibilities to interact with the wider community (Council of Europe, 2023). This poses a challenge for Danish housing policy given already existing housing shortages and the increased need for housing that has arisen from the inflow of Ukrainian refugees. Denmark introduced two national plans in 2018 and 2021 to prevent parallel societies, where the definition of a "parallel society" is linked to social housing areas with a high concentration of people from a non-Danish background, and certain criteria around high unemployment, low education, crime rates and low income. The plan imposed strict laws on the "parallel societies", such as higher penalties on crimes and a strict social housing limit, which has led to resentment and potentially greater divisions among migrant populations (UNHCR, 2020). However, the plan also came with significant investment in the most challenged areas, such as developing the infrastructure of the area and renovating apartments. Addressing underlying issues could be more fruitful. Immigrant parents, for example, often find it difficult to enrol their children in the most appropriate school due to language barriers, resource constraints, or lack of knowledge of the country's school system (OECD, 2021f). Denmark could take inspiration from the Netherlands which offers bus tours for parents to visit local schools to raise awareness and discuss enrolment options. Efforts to avoid the concentration of second-generation children from disadvantaged socio-economic backgrounds in the same schools is important, as this has been shown to have negative consequences (Jensen and Manning, 2022). The 2021 agreement on student distribution is thus a step in the right direction, as it directly considers parents' income for school admissions to ensure a mix of students from different backgrounds. Since free choice is maintained however, awareness and understanding by parents is still imperative. In addition, since natives may opt out of local schools when the proportion of immigrants is high (Brunello and De Paola, 2017; Nielsen and Anderson, 2019), any unintended consequences on a particular school, for example due to reduced funding from falling student numbers, should be monitored. Denmark could learn from Belgium which initiated publicity campaigns to encourage native-born parents to enrol their children in local schools with high concentrations of migrant students. Mitigating negative consequences through additional funding is also crucial (OECD, 2021f) as Danish schools have reported difficulties in integrating students of different backgrounds. In Switzerland, schools receive professional support and additional funding if more than 40% of their students are foreign nationals (excluding Germans and Austrians) or speak another language at home other than one of the official Swiss languages. An evaluation suggested the scheme improved the writing proficiency of students across all grade levels and increased positive outcomes in reading ability and the transition to secondary education and vocational training (OECD, 2021f).

Figure 2.22. Second-generation migrants are more likely to leave school early

Drop-out rates, 15- to 24-year-olds, 2020



Note: For countries of which the source is EU-SILC, the age range is 16-24. The youth aged 16-24 refer only to people living with their parents in the same households.
Source: OECD/European Commission (2023), "Integration of young people with foreign-born parents", in Indicators of Immigrant Integration 2023: Settling In, OECD Publishing, Paris, https://doi.org/10.1787/26cffc70-en.

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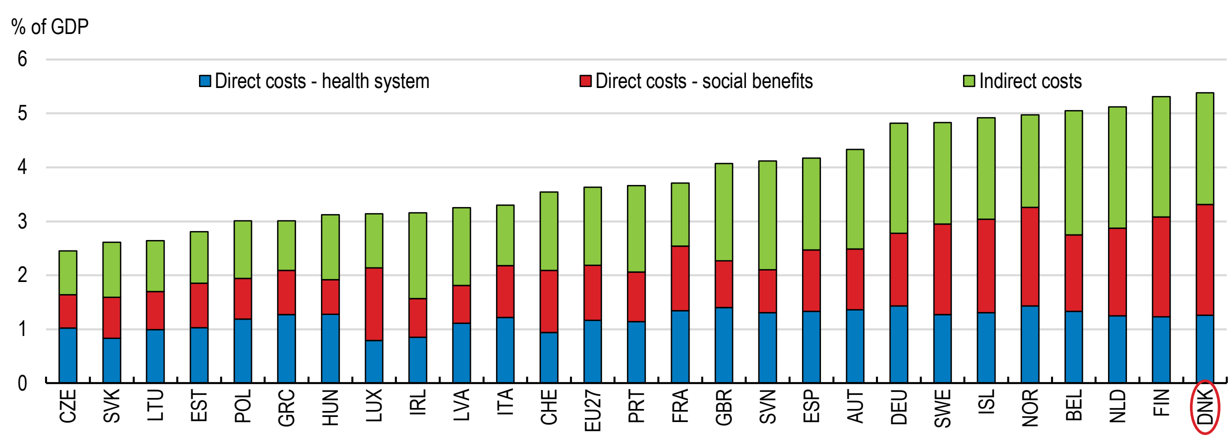
Second-chance programmes for school dropouts can help second-generation migrants who are more likely to leave school early (Figure 2.22). Denmark has a scheme that can help second-generation youths complete their education ("We need all Youngsters"), but this could be made more effective with a specific second-chance programme for youths that dropout, giving them an opportunity to catch-up. More effective programmes can help not only second-generation youths, but NEETs more generally, and reduce the number of individuals that move from scheme to scheme. Germany operates such a programme (the Joblinge) for those who are out of school. It trains mentors and connects young people to the labour market via a close collaboration between regional employers, individual mentorship and skills training programmes in order to find a vocational training place or job. Second-chance programmes can also combine studies with work experience which can be useful to address foreign cultures where labour market entry at a young age is common. Sweden, for example, introduced an education contract in 2015 to encourage unemployed youth (20- 24 years old) to return to adult education to gain an upper-secondary qualification. Increased financial aid was made available while offering greater flexibility to combine studies with work.

Improving access to mental healthcare services

Denmark has a relatively high number of people reporting chronic depression and up to a quarter of young women experience poor mental health. Like in other OECD countries, mental health deteriorated during the pandemic and the number of mental hospital admissions has increased by 30% over the past 10 years. There are large regional disparities in access to mental health services, and the use of medication to treat anxiety and depression by primary care physicians has roughly doubled since 2000, with a stronger increase in use among the youngest (OECD Health Statistics 2021). Addressing the increasing prevalence of mental disorders, especially among young people, can help to improve well-being and ensure people with mental distress reach their full potential. Mental ill-health also weighs on economies. Before the pandemic, its economic costs were estimated at more than 5% of GDP annually in Denmark, more than in the OECD on average (OECD, 2021b). The employment rate gap between people with mental distress and those without is relatively large by international norms (26% lower). More than a third of these costs relate to lower employment rates and reduced productivity (Figure 2.23).

Figure 2.23. Unmet mental healthcare needs have a significant cost

Estimated direct and indirect costs related to mental health problems, 2015



Source: OECD (2021), A New Benchmark for Mental Health Systems: Tackling the Social and Economic Costs of Mental Ill-Health, OECD Health Policy Studies, OECD Publishing, Paris, https://doi.org/10.1787/4ed890f6-en.

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A range of measures have been taken in Denmark to improve mental health support, such as developing remote consultation services. Denmark stands out for having strong integration of mental health and employment services (OECD, 2021b). Individual placement and support (IPS) programmes that consist in a co-ordinated health and employment support for jobseekers with mental health conditions by multidisciplinary teams have resulted in positive employment outcomes (OECD, 2021c). Measures have been implemented at the workplace to support good mental health, such as awareness-raising campaigns. Nevertheless, mental health care services, especially prevention and early intervention, need strengthening to reduce unmet needs. Imposing mandatory mental health training for managers like done in some companies in Canada, or subsidies for small firms to offer stress checks like done in Japan, would be a step in the right direction (OECD, 2023d). The 2022 political agreement on psychiatry includes extra annual funding and binding targets to reduce waiting times among others. The government will allocate DKK 3.2 billion towards 2030 and will present a 10-year plan in 2024. Coherence and coordination of initiatives, which have been fragmented and sporadically implemented through temporary pilot projects in the past, will be key to the success of the plan. Clarifying responsibilities between hospitals and municipalities and creating single contact points for patients would ensure greater efficiency of service provision.

Removing barriers to full-time work

Part-time work is commonly used in Denmark, with the incidence of part-time work above most OECD countries, including the other Nordics (Figure 2.9, Panel A). Women are more likely to work part-time than men. Although social institutions and cultural factors may play a role, Danish women often transition like in many other countries to part-time work after they become a mother. Women play the main role in primary childcare, which explains most of the remaining gender inequality in the labour market (OECD, 2019a). Family responsibilities are often given as the reason for working part-time, with around 60% of adults in Denmark believing that women with school-age children should work part-time (Kleven et al., 2018), broadly in line with the United States, the United Kingdom and Sweden. Reforms are needed to reduce barriers to women working full-time. Government plans to introduce better full-time opportunities for employees in the public sector are thus welcome. Nevertheless, maintaining the option of part-time and flexible working models is important so women do not drop out of the labour force. Publicity campaigns to inspire more women into full-time employment, including encouraging employers to expand the number of full-time contracts and talking to female staff about moving to full-time, as done in the Netherlands, could be envisaged.

Increasing flexibility in the provision of childcare services should be considered as recommended in past *Surveys* (OECD, 2019a; OECD, 2021a). Danish childcare services are comprehensive and have been shown not to be the key reason for choosing part-time work (OECD, 2023g). Day care places are subsidised for children from six months old. The costs of attending kindergarten are also relatively low, as the government pays at least 75% of the cost (more if household income is below certain thresholds). The 2020 and 2021 Budget Bill introduced statutory minimum standards from 2024 to improve the quality of day care, including introducing minimum staffing levels, removing the ability to profit for private care institutions, and extending funds for day care institutions working with vulnerable children and children in vulnerable positions. Nevertheless, there is need to expand the flexibility in the provision of childcare services, including extending opening hours. Childcare centres normally operate only within regular working hours, closing at 5pm or earlier, and on average each centre is closed about ten working days per year when demand is low, with alternatives and extended opening hours that parents could use limited (OECD, 2019a). Increasing the flexibility in the provision of these services would reduce the pressure on caregivers (preponderantly women) to take family-friendly jobs and work shorter hours, often implying part-time.

Improving skills to thrive in the demographic, digital and green transitions

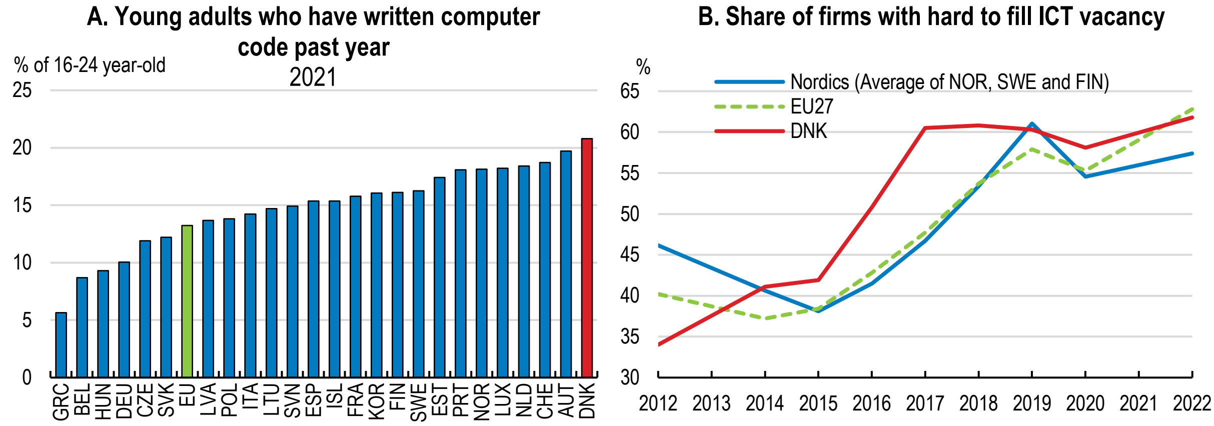
Raising the skills of those in work would help maximise the potential of the labour force and address labour market shortages. The demographic, digital and green transitions are transforming jobs and skills requirements, thereby complicating the matching between labour supply and demand. In Denmark, shortages are already prevalent in areas of work directly affected by these mega trends, notably ICT, long-term care, and engineering (McGrath, 2021). In Europe, more than one-fifth of companies face skills shortages for green and digital skills (EIB, 2023b). Addressing these shortages is key to ensure Denmark thrives in these transitions and requires an agile education and training system that adapts to fast-changing jobs.

Ageing is changing the demand for goods and services in the economy, notably by increasing demand for public services, such as healthcare and long-term care. Public spending on health and long-term care is projected to increase by 0.9% and 3.4% of GDP respectively by 2070 (European Commission, 2021a). Labour shortages are projected to worsen in social and health services as recruitment needs will exceed available skilled staff (Danish Ministry of Finance, 2022). The number of students engaging in welfare fields has decreased in recent years (Ministry for Higher Education and Science, 2022). As for care workers, the pool of workers available to occupy these low-skilled jobs will decline as the educational attainment level of the population continues to progress.

Large investment in the green transition over the next years to achieve greenhouse gas emission reduction targets is estimated to increase labour demand by between 290,000 and 380,000 employees aggregated over the period 2021-2030 (Green Power Denmark, 2020; Concito, 2020; Danish Workers Council, 2020). There is little evidence on the impact of the green transition on skills and job composition so far, but available analyses find climate policies increase demand for technical and high-skilled occupations (Marin and Vona, 2018). At the same time, employers' representatives have identified skills shortages as the biggest challenges for the transition and point to the growing demand for skilled workers, such as electricians or carpenters (Green Power Denmark, 2020). A lack of available skills (such as environmental planning and engineering expertise) is already hampering investment projects. In Europe, 70% of local authorities report that shortages prevent the implementation of climate change mitigation projects (EIB, 2023b). In 2022 in Denmark, labour shortages were reported for 60 occupations that required specific skills or knowledge of the green transition, including environmental engineers, environmental protection professionals and architects and online job advertisements in clean energy deployment have doubled, while only increased by 49% in the EU as a whole (European Commission, 2023a). More women could be recruited into green occupations, as they are currently underrepresented in green activities (ILO, 2019; Lander Svendsen et al., 2022, OECD, 2023b). The green transition will likely happen through the greening of activities and processes of a vast range of jobs and require raising understanding of "green" practices, such as energy saving or recycling (Botta, 2018).

Technological changes have shifted labour demand towards high-skilled workers (Autor et al, 2003) and the adoption of digital technologies requires a broad set of adaptative competencies. The Danish population has a high skill level, with some of the highest levels of educational attainment in the world. Danish students perform above the OECD average in reading, maths, and science (OECD, 2019a). Adults also outperform the OECD average in numeracy and literacy, as measured by the OECD Survey of Adult Skills (PIAAC), although not the other Nordic countries (OECD, 2019a). Skills shortages however are pronounced for digital and cognitive skills, as well as in the areas of sciences, training and education and medical knowledge (OECD, 2022a). While the Danish population has a high level of digital skills and programming competencies, recruitment difficulties in the ICT sector have plateaued at a high level (Figure 2.24). Adults with a degree in science, technology, engineering, and maths (STEM) earn about 1.3 times more in Denmark than the average graduate with upper secondary education, suggesting unmet labour demand in these fields (OECD, 2022b). Despite this wage premium, the Danish Society of Engineers expects there to be a shortfall of 6,500 engineering and 3,500 natural science graduates by 2025 (IDA, 2023).

Figure 2.24. Despite strong digital skills, shortages in ICT skills have remained high



Source: OECD ICT access and usage by households and individuals' database; and Eurostat (isoc_ske_itrcrn2).

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The digital and green transitions will result in an accelerated pace of job reallocations across sectors and transition costs, but Denmark is less likely to be affected than other OECD countries. Across OECD countries, more than 40% of current jobs will change significantly due to automation over the next 10 to 20 years (Quintini and Nedelkoska, 2018). The risk of job automation in Denmark, however, is estimated to be lower than in most OECD countries, partly reflecting the already advanced adoption of digital technologies and past outsourcing of low value-added activities (OECD, 2019a). The introduction of robots on the Danish labour market has not significantly reduced employment from 1996 to 2019 (Danish Ministry of Economic Affairs, 2023b). In the same vein, the overall job reallocation rates triggered by the green transition will likely be limited as the share of brown jobs in total employment is relatively low and jobs in polluting sectors are not geographically concentrated (OECD, 2021a). Estimates from the Danish Economic Council find that reaching the 2030 emission target by introducing a carbon tax would not reduce total employment, but would displace around 14 000 workers (DORS, 2022). Ensuring an efficient and equitable transition requires support to the groups most negatively affected by structural changes, especially by providing reskilling opportunities (OECD, 2019a; OECD, 2021a). The Danish flexicurity model, by offering adequate protection and income replacement as well as reskilling options, has proved effective in facilitating the integration of displaced workers following economic shocks and limiting the deterioration of their living standards after lays-off (Bertheau et al., 2022; Hummels et al., 2013).

Anticipating future labour market needs

Denmark has a comprehensive education and training system that performs well in a global context, but there is room for improvement relative to the very top performing countries. It has one of the highest rates of educational attainment in the world, with over 80% having completed upper secondary education and almost 40% of adults aged 25-64 having completed tertiary education. Participation in lifelong learning is relatively high in Denmark. One in three adults aged 25-64 take some form of continuing education course. Education spending accounts for around 7% of GDP, one of the highest in the OECD. Most education is government financed and free of charge, and students receive generous allowances.

Identifying shortages and anticipating future skills needs to link education, training and employment is crucial to adjust to the evolving job market. Skills shortages in Denmark coexist with graduates struggling to find job opportunities that match their qualifications, and the unemployment rate is higher in fields, such as arts and humanities, that do not have such close links to demands of the labour market (Reform Commission, 2022). This suggests that, despite the improvement in the matching of labour supply and demand over the past years, there is still some mismatch between educational fields and labour market needs. It is thus welcome that the forthcoming university reforms aim to establish closer links between education and the labour market, as well as a well-defined long-term plan for the institutional landscape.

Labour market needs are currently assessed using a variety of methods based on collaboration and dialogue between ministries, public authorities, and social partners. A combination of qualitative and quantitative methods is used to anticipate future needs, including quantitative forecasting, sectoral studies, employer surveys, and surveys of workers and graduates (CEDEFOP, 2022). The approach is, however, heavily based on a short-term horizon for budgetary reasons, to avoid the pressure for further investment in future education. It therefore does not sufficiently inform stakeholders about medium-term structural needs. A more forward-looking approach could be taken, particularly given the presence of innovative disruptive technologies and the emergence of new policy priorities.

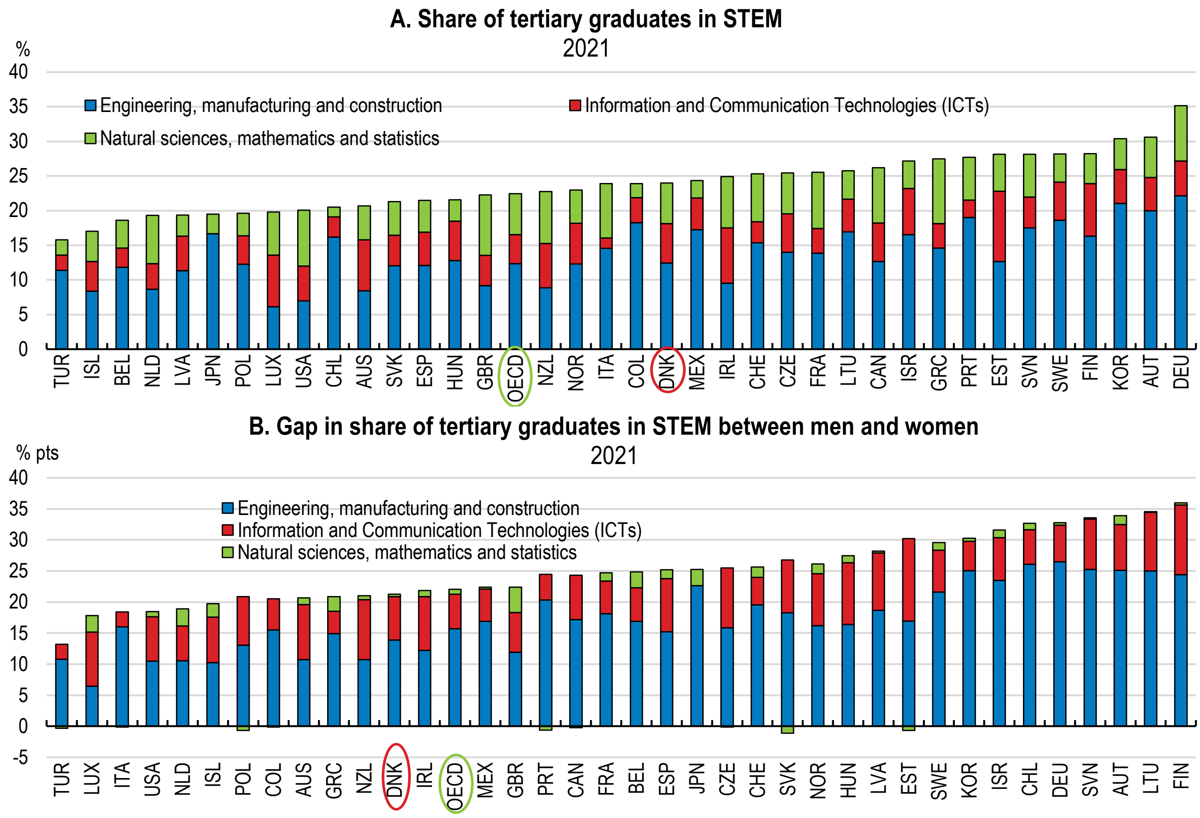
More timely and agile skills anticipation exercises that can rapidly react to inform policy decisions in real-time are also needed. The Labour Market Balance is updated only every six months and the current process from identifying skill gaps to taking the relevant policy action, such as setting up new short-courses, is a lengthy 12-months in Denmark, which could be reduced to three months (OECD, 2023h). Government limits on how many students can be accepted for higher education courses also relies on past unemployment data, which may be slow to adjust to new trends. Denmark should make use of the latest methodologies and data sources, such as increasing the use of big data, machine learning and artificial intelligence (AI). The UK and Sweden for example are applying machine learning to job adverts to provide a continuous and granular analysis of the skills required by employers. Belgium is developing an AI powered forecasting model to assess the impact of digitisation on the labour market and predict evolving skills needs.

Denmark should institutionalise mechanisms that translate such information into rapid policy action, such as the development of new training programmes or adapting curricula. Social partners are strongly involved in the design of curricula but mostly in relation to low and middle-level skills with the operation and design of VET provision, upskilling and reskilling programmes, and the adult apprenticeship scheme, delegated to the municipalities. In contrast, higher education institutions (universities, university colleges, and business academies) have a lot of autonomy to set curricula without reference to skills demand, although they are required to apply for approval of any new educational programme to ensure that the programme addresses a need within the overall educational portfolio. The government improves matching through a centrally defined ‘dimensioning’ model based on historic unemployment data. Since higher education is free, rather than market clearing through prices, the government determines maximum limits on the number of students that can be accepted into each field. These maximum enrolment limits are based on previous graduate unemployment rates, in particular two years after graduation, which proxy for the job prospects of a course (OECD, 2021g). Higher education institutions cannot exceed these enrolment limits and are not involved in the discussion. Denmark should consider creating a more coordinated approach, similar in spirit to a national education body in charge of analysing skills needs and coordinating medium- and long-term future skills policies, like in Australia, Norway, or Canada. Such an approach could provide valuable insights and expertise to inform and refine strategies for anticipating the skills requirements of the future labour market, and this could help coordinate education and training places across geography and educational institutions in a more unified way, so that the total offer reflects future needs.

Increasing STEM education

The share of science, technology, engineering, and mathematics (STEM) graduates is lower than in many other OECD countries (Figure 2.25, Panel A) and applications to STEM programmes were 6% lower in 2022 than in 2019. Denmark has enacted several initiatives to increase the number of graduates in STEM. As part of the 2020-2025 Digital Growth Strategy, the government aims to support and encourage STEM education through cooperation between businesses, educational and research institutions, and public sector operators. It aims at improving the marketing of STEM education and the process by which career and study choices are made, as well as strengthening the training of STEM teachers. DKK 15 million was allocated in 2018, followed by DKK 20 million annually from 2019 to 2022. DKK 43.4 million was also allocated to a project to improve the coordination of education and continuing education to support technological and digital skills. Several initiatives have showed some promising effects. For example, Danish universities have developed new machine learning and data science programmes, and established partnerships with elite American universities (such as MIT), to promote the exchange of PhD students and researchers. Equally, in primary schools, new optional subjects in technological understanding have been introduced and a new "Techie" children's newspaper has fostered playful learning in science and technology.

Figure 2.25. Despite high demand in the labour market, too few graduates opt for STEM studies



Note: STEM (science, technology, engineering, and mathematics).
Source: OECD Education at a Glance database.

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Denmark should continue to lift the supply of university study places in STEM programmes (including ICT) and allow greater access for foreign students. The government reached an agreement in 2021 to cut the number of university places available for courses in English to reduce the number of EU and EEA citizens who study in Denmark for free and receive the student allowance (obtainable either by working a minimum of 10-12 hours a week or after 5 years of residence). This entailed the closure of many English-taught degrees and led to a sharp drop in STEM admissions (since a number of STEM courses are English-taught), with higher education institutions having to reject suitable candidates, including Danish ones, as higher education institutions filled the maximum number of available places. This limit on English-language courses should be reconsidered to enable more students to take up STEM programmes. The recently announced agreement to allow universities to augment their enrolment of students in English-taught master's programmes by 1,100 each year from 2024-2028, and by 2,500 from 2029 is welcome, but such expansion in capacity should also apply to bachelor's programmes.

Denmark faces significant gender imbalances in STEM, although the share of women in STEM is close to the OECD average (Figure 2.25, Panel B). Only a third of university applicants for STEM related degrees are female, and this has remained unchanged since 2011. Evidence suggests the problem lies in the lack of interest of young women to study STEM (McKinsey, 2019), and studies suggest this segregation occurs early in life (Martin et al., 2014). This points to the importance of creating policies that target children when they are young, as these internalised stereotypes affect the way boys and girls evaluate their own abilities (Andersen and Smith, 2022).

Occupational gender segregation remains pronounced throughout Scandinavia, but Denmark is the only Scandinavian country that does not have legislation requiring primary and lower secondary schools to actively support gender equality, and a gender perspective is largely absent from the Danish national curriculum (KVINFO, 2023). Improving gender equity can enable better matching of activities to innate abilities and interests, which can substantially increase productivity and economic growth (see Box 2.8). Teacher training and increased awareness of internalised beliefs could help to tackle gender biases, as could implementing legislation inspired by Nordic peers. Outreach activities and showcasing role models can increase girls' interest in STEM. Making female role models more visible, particularly at a young age, has been shown to be important to counter underlying stereotypes. Exposing young girls to mentoring from female STEM role models had a significant positive impact on their attitudes towards technology (Guenaga, 2022). Providing girls with the opportunity to interact with technology at the earliest age can also help change gender-specific perceptions (OECD, 2019a), and therefore the ambition to introduce a new subject called "understanding of technology" as part of a reform of primary and lower secondary school is welcome. In Italy, a coding course that targeted female middle-school students resulted in a 10% increased desire to become a computer programmer (Carlana and Fort, 2020). Technovation Girls, a global tech education non-profit that provides young girls (ages 8-18) with hands-on training in technology and runs a Silicon Valley competition annually, has been shown to inspire and empower young girls into technology.

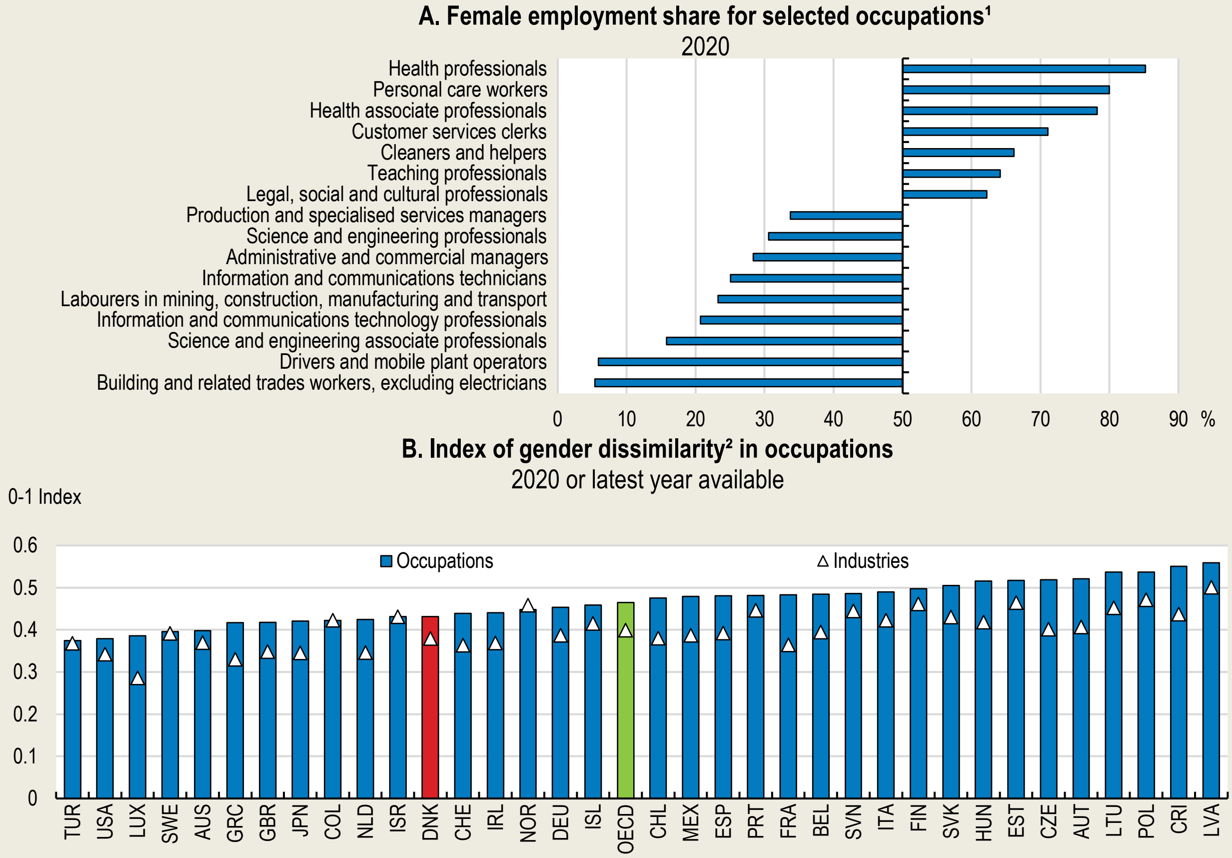
Box 2.8. Occupational gender segregation

Occupational gender segregation refers to the tendency of women and men to work in different professions. Women tend to end up in lower paid sectors and are less likely to advance to management positions (EQUALIS, 2023). Economic costs to segregation include an inefficient allocation of labour and lower mobility between sectors and industries; a reduced recruitment base; underutilisation of labour and indirect perpetuation of the gender divide; and differentiated working conditions that can impact the working environment and the age of retirement (Bolvig and Kristensen, 2022). For instance, unemployed men have been shown to be resistant to applying to jobs that required them to perform "feminine" tasks (Yavorsky et al, 2021). By contrast, international studies find that a more equal distribution of women and men improves company performance through increased profits, higher productivity, and reduced volatility on return on capital (International Labour Organization, 2019).

Occupational gender segregation is pronounced in Denmark, although somewhat below the OECD average (Figure 2.26). The divide is also particularly pronounced across the public-private sector split. With gender segregation high in fields where demand is elevated and increasing, such as STEM and long-term care, understanding the reasons behind this segregation can help guide appropriate policy responses, improve mobility and a reduce bottlenecks in recruitment.

Denmark's 2023 action plan on gender equality acknowledges the issue of gender segregation in the labour market. A partnership between local governments and employee organisations has been tasked to uncover the underlying causes, including educational choices, with the aim of creating an ongoing debate and developing recommendations.

Figure 2.26. Occupational gender segregation in Denmark



1. Occupation (ISCO-08), 2-digit level.

2.In Panel B, the index of dissimilarity, or Duncan index, measures the sum of the absolute difference in the distribution of female and male employment across occupations or industries. It assumes that segregation implies a different distribution of women and men across occupations/industries: the less equal the distribution, the higher the level of segregation. It ranges from 0 to 1, from the lowest to the highest level of segregation. Here it was calculated using the ISCO-08 classification of occupations and the ISIC-4 classification of industries, both at 2-digit levels. For Australia, data refer to the previous ISCO-88 classification of occupations and the ISIC-3 classification of industries. For Israel and Italy, data refer to 2017. For the United Kingdom, data refer to 2019.

Source: ILOSTAT(EMP_TEMP_SEX_OC2_NB_A); and Joining Forces for Gender Equality: What is Holding us Back?, OECD Publishing, Paris, https://doi.org/10.1787/5a13854a-en.

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Improving the quality and attractiveness of VET

Vocational education and training (VET) can help to ensure that Danish students have strong skills and train in areas where workers are lacking, such as those related to the low-carbon transition, like electricians and heat pump engineers. Green activities employ 10% more vocationally trained staff than the country-wide average (CONCITO, 2020). The Danish VET system is very well developed and diverse, consisting of a basic programme and a main programme of two to five years alternating education at school and practical training. Around 38% of all upper secondary education students in Denmark are enrolled in VET, which is slightly below the OECD average of 42%. Among 15-19-year-olds, the share of student enrolled in VET is much lower (19% vs. 36% in the OECD).

VET graduates have the same high employment rates as tertiary graduates, yet there has been a steady decline in the number of students wishing to take VET over the last decade. The number of new students enrolled has declined from 2013 to 2021, leading to a sharp fall of 14% in the total number of students taking VET over that period, and a significant decline of 4.2 percentage points in the share of VET students.

This trend is predicted to continue, which will exacerbate an unprecedented drop in the total number of skilled workers as current workers retire.

Denmark should make vocational tracks more attractive to ensure the future supply of critical technical skills. Like in many OECD countries, vocational tracks have an image problem in Denmark, particularly amongst younger students. Large age gaps among students lead to a lack of social community, as the few students that choose VET straight from lower secondary are mixed with many adult VET students. This is a major factor mentioned by those who opt against VET (Reform Commission, 2023). The average VET student starts the basic course at an age of 24 years, and only 2 out of every 10 students go straight from lower secondary to VET. These large age gaps likely reflect both the difficulty young people have in seeing the value and opportunities available from VET which they only discover later, and the high participation rates of adult VET learning in Denmark. Getting insight into the specific vocational education and the industries with opportunities is difficult given the complexity and number of VET programmes in Denmark. Easier to understand, more well-known courses, such as hairdressing, education, and mechanics, have a lower average age and are among the VET courses with the highest proportion of under 18-year-olds.

Measures must be taken to better inform young students about their education and career options. Information is provided via the Ministry of Children and Education’s website and via local schools’ educational counsellors in lower secondary education, but more case-based teaching at schools and more visits to workplaces would help students make more informed choices. The Reform Commission recommended to make short internships (of a week or two) mandatory for all students in the last year of lower secondary education and to enable students to do more practical work one or two days a week to get real life experience early on. The recently announced reform of primary and lower secondary schools goes some way towards this. The reform plans to allow for a new option whereby students in lower secondary school can participate in practically oriented activities outside of school. The Reform Commission’s recommendation to create a new alternative to high school for those that consider VET but are unsure about their choice, the Højere Praktisk Eksamen (HPX), could also go some way to improving VET attractiveness. This new two-year option would offer a more hands-on, practical education without closing the door to potentially a more academic education and have the same sort of social environment as other types of high school, and therefore could make VET more attractive to young people. However, it would increase time at school even further, which is already among the highest in the OECD (see Figure 2.20) and add to the already high complexity of the education system.

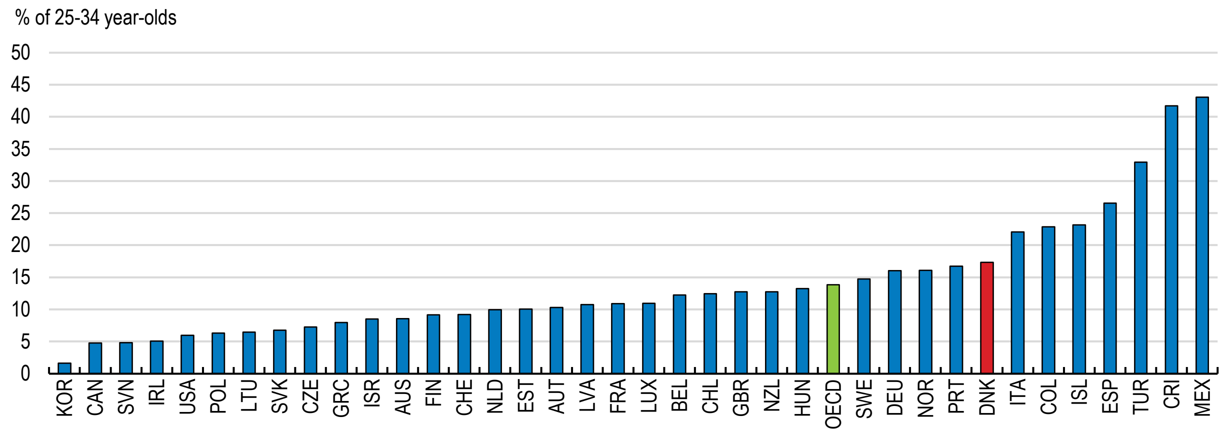
Mobility between academic and vocational tracks should be increased. Flexibility and permeability between tracks are limited: 2 years after the end of secondary education, only around 9% of VET students started higher education between 2015 and 2019, compared to 63% for those in general education. Upper secondary vocational graduates have direct access to business academy programmes (ISCED level 5) and some professional bachelor’s programmes, but they do not have direct access to academic bachelor’s programmes. Many Danish young students state they do not choose VET because they believe it “closes doors” (Reform Commission, 2023). This implies that those choosing VET are likely those that had no real prospect of attending university, but at the same time others are choosing university when they should have chosen VET. The EUX (Erhvervsfaglig studentereksamen i forbindelse med erhvervsuddannelse) vocational path, which allows participants to take the general upper secondary exam offers access to some higher education programmes, but increasing the attractiveness of VET requires multiple links between upper secondary VET and tertiary education. It is thus welcome that the forthcoming university reform commits to initiate a reform process in the future that aims to enhance the coherence and mobility between different educational levels and create multiple pathways into higher education. The introduction of the HPX may help permeability at the pre-vocational stage, but greater permeability is required at all stages to avoid the fear of closing doors. The government could draw from recent reforms in other countries. In Belgium (Flanders), schools are encouraged to organise programmes by domain across tracks. In this way, a “domain school” would offer all tracks across the fields of study. This structure then allows students to transfer from vocational to academic track easily (OECD, 2022f).

Dropout rates for students that start VET are high in Denmark, although they have declined over the last few years. In 2021, only 59% of students that started VET as initial education were expected to finish, which is much lower than the OECD average of 70% in 2020. Dropout rates are high for all students, not only for pupils with documented problems. A lack of suitable training placements in enterprises is frequently cited as a primary reason for learner dropout. Almost half of VET students do not have a training placement after completing the basic VET course (CEDEFOP, 2021), although the situation is improving for many courses as increasing labour shortages translate into increasing demand for apprentices (DA, 2022). This matches the fact that the dropout rate is particularly high at the end of the basic course and in the transition between the basic and main courses. Students with poor mental health are also more likely to drop out (Thøgersen et al., 2020), and this has been an increasing factor given the prevalence and rise of mental disorders among the young. The 2020 tripartite agreement between the Danish government and social partners provides DKK 119 million annually to help secure an apprenticeship contract for at least 80% of VET students before the end of the basic course. It also shifted the responsibility of obtaining an internship from the student to the school, with schools having a clear responsibility for reaching the goals set out in the agreement, and this is having a significant impact on securing apprenticeship places. A further DKK 80 million was allocated annually for higher reimbursement to companies when their apprentices are on a school stay. Increasing the wage reimbursement should help boost engagement of employers. Targeted financial incentives for firms to hire apprentices, especially for SMEs, could be considered in key areas, such as in Australia, which targets funding towards training costs in the care sector.

There is also a relatively high proportion of young adults with low educational attainment in Denmark and this negatively affects their ability to undertake vocational pathways. Around 15% of young adults do not finish high school or have a vocational qualification, above the OECD median (13%), and well behind leading countries such as the United States, Canada, and Korea (Figure 2.27). While not all are detached from the labour market, the percentage of youths neither in employment nor in education or training (NEET) has remained fairly stable over the last decade (7.3% of 15-24 year olds in 2012 and 6.7% in 2022). This low level of education negatively affects their career and capacity to adapt to changing skills requirements. Youth guidance programmes have been shown to be effective in reaching vulnerable populations and those who drop out or risk doing so (Youth in transition, 2021). The Danish municipal youth effort (Kommunal Ungeindsats (KUI)), established in 2019, is thus welcome. Municipalities are obliged to establish a coherent cross-sectoral measure on education and employment for all young people under 25 years. Those who are not in the process of or have not completed a vocationally qualifying youth education can receive guidance on education and jobs. Guidance can help young people navigate the labour market in a changing environment, challenge educational and employment norms embedded in individuals' choices, such as gender stereotypes, and broaden horizons. The "Forberedende grunduddannelse" (FGU), a new basic preparatory education introduced in 2019, also provides an opportunity to address underlying causes and prepare those under 25 to carry out either VET, other youth education, or enter employment. Denmark has ambitions to halve the percentage of NEETs by 2030, and for at least 90% of 25-year-olds to complete a general or vocational upper secondary education. The KUI and FGU can work in collaboration to address young people's needs, and progress should be carefully monitored.

Figure 2.27. There is a relatively high proportion of young adults with low educational attainment

Educational attainment, % of 25-34 year olds with below upper secondary education as the highest level attained, 2022



Source: OECD Education at a glance database.

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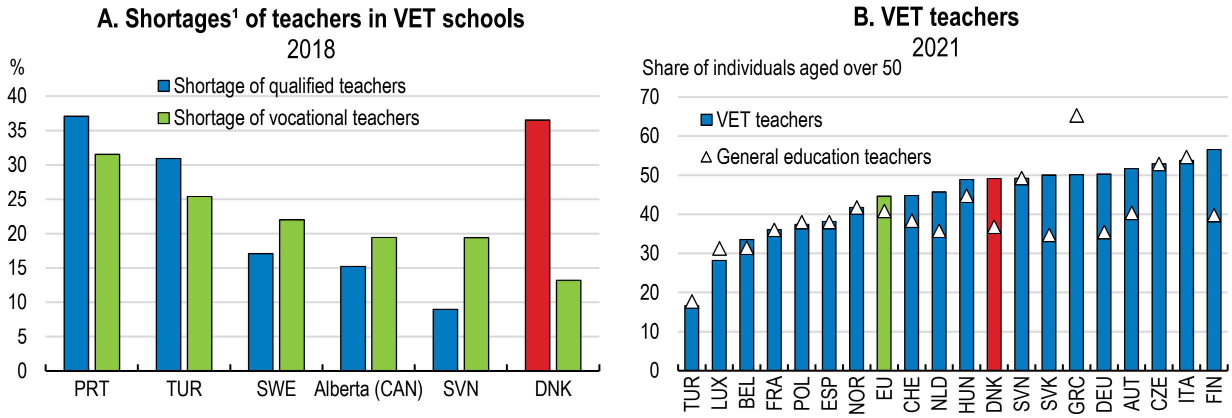
Denmark faces a shortage of qualified VET teachers. In 2018, 37% of upper-secondary VET school leaders reported that shortages significantly hindered the capacity to provide quality education (Figure 2.28). Furthermore, Denmark has a relatively more pronounced ageing issue among VET teachers than other OECD countries and in general education (Figure 2.28). There should be a greater effort to expand the pool of candidates for the recruitment of teachers and hire practitioners, as they can ensure VET students acquire up-to-date knowledge (OECD, 2021i). In Germany and the Netherlands, mid-career entrants have access to shorter, tailored teacher training that helps them meet the pedagogical requirements without overbearing, lengthy and intensive preparation courses that can discourage entrants (OECD, 2022e). Relaxed entry qualification requirements could also be provided to graduates from higher education specialising in relevant subjects. Korea, for example, is planning to relax entry qualification requirements to meet rapid labour market demands in fields that either lack relevant teaching qualifications or training for VET teachers (OECD, 2021i). Allowing practitioners to teach part-time in schools can help with recruitment, particularly with digital skills which are in high demand. A flexible working schedule is the most reported reason for becoming a VET teacher in OECD countries (OECD TALIS data, 2018), but the share of part-time teachers is relatively low in Denmark.

Vocational courses should be modernised and adapt educational programmes to the latest technological developments. Emphasis should be placed on teacher development given the changing requirements of the modern workplace, including more formal ICT training. The newly established knowledge centres, which are collaborative institutions between VET colleges, other educational institutions, and regional professionals that aim to carry out innovation and research to use in practice, can help given their special emphasis on technology, digitisation, and skills for the green transition. Knowledge centres should support VET schools, such as through fund applications to acquire new technological equipment and engage in research to develop and test new ways of teaching and learning to improve VET education. Plans to allocate more funds to VET with the education reform are also welcome. Denmark allocated DKK 100 million yearly in 2021 and 2022 for improving green upskilling in the VET sector, and it will continue with an allocation of DKK 103.9 million yearly in 2024 and 2025 as part of the June 2022 political agreement on the green tax reform. The acquisition of digital equipment and competence development of teachers entails costs. Yet, state grants to vocational schools have decreased by DKK 3 billion from 2013 to 2022 because of the declining number of students. The earmarked digital equipment fund for VET should allow for greater investment into new technology.

Figure 2.28. Reported shortages of VET teachers are high and likely to persist



Note: Percentage of upper secondary VET principals reporting that teacher shortages significantly hinder their school's capacity to provide quality instruction. Upper secondary schools with VET programmes only (TALIS 2018).
Source: OECD (2021), Teachers and Leaders in Vocational Education and Training, OECD Reviews of Vocational Education and Training; and Eurostat (EDUC_UOE_PERP01).

StatLink https://stat.link/2xqvgm

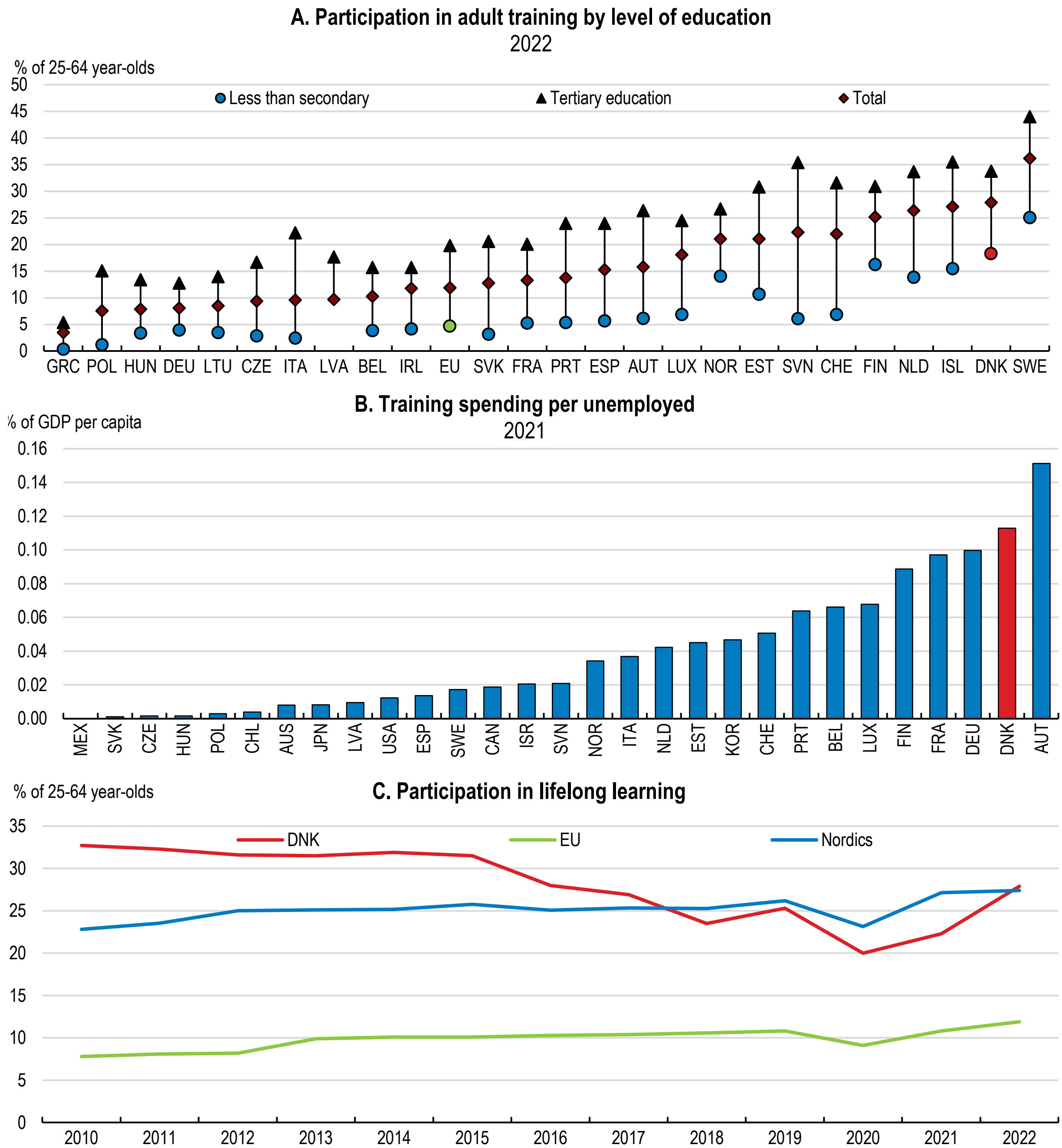
Increasing participation in adult education

Adult education and lifelong learning (LLL) can help individuals acquire new skills that are necessary to adapt to a changing workplace and job market, which is particularly important in an ageing population. Adult education is well established in Denmark. The share of workers in Denmark participating or willing to participate in adult education is among the highest in the OECD (Figure 2.29; OECD, 2021d). Continuing education is almost free of charge for employee covered by the collective agreements, with full or partial salary compensation (CEDEFOP, 2018b). Employers pay a contribution to the fund Uddannelsesbidrag AUB (Competence Development funds) to finance training. Relatively high participation of job seekers reflects the importance of upskilling programmes in Danish active labour market policies and spending per unemployed is very high (Figure 2.29, Panel B). A recent initiative to encourage training included paying unemployment benefit at 110% if education in shortage fields were undertaken.

Denmark should target more public training funds to the low-educated and disadvantaged, with an emphasis on those vulnerable to changing labour market needs. The participation rate of low skilled adults is more than 15 percentage points lower than that of the high-skilled (Figure 2.29, Panel A). Adult education can serve as a route to reintegrate disadvantaged groups into a learning environment. It has a positive impact on employment and wages in the medium run, with greater effects on the low skilled (Bolvig et al., 2017). There should be a focus on reskilling those who work in vulnerable sectors. Employees in occupations where demand is falling were not more likely to have received continuing education than others, with those most exposed less likely to have received continuing education (Whitta-Jacobsen et al., 2019). Although green skills are increasingly in demand, the share of workers in energy-intensive industries taking part in education and training declined from 24.6% in 2015 to 15.6% in 2021 (European Commission, 2023b). The recent tripartite agreement, signed in September 2023, on adult and continuing education is a welcome move. It provides a sustainable financial framework for adult education and secures permanent new investment of approximately DKK 120 million.

Greater emphasis should be put on guidance services and on public awareness campaigns on the training options available, particularly for disadvantaged workers (OECD, 2021e). The Danish adult education system is complex and characterised by many schemes, special rules, administrative procedures, and temporary trial arrangements (STAR, 2018). As such, finding information on training opportunities is difficult, despite several information platforms (Reform Commission, 2022). Information is often fragmented across different documentations from different ministries and agencies. In 2018, the government established a website for guidance and information on the possibilities to take part in adult education. Enhancing this by establishing an online portal of tailored training opportunities and certification history, like the recommendation by the Reform Commission, could help individuals further navigate the training system. Small firms often report that they do not have the resources to plan further education and training for their employees (EPINION, 2017). Guidance services, such as provided in France, should help support SMEs to define their training needs and advise on available financial support options.

Figure 2.29. Participation in adult education is high, but could improve for low skilled workers



Source: Eurostat (TRNG_LFSE_03); OECD Analytical database; and OECD Labour Market Programme database.

StatLink https://stat.link/qsib0v

Participation in adult learning significantly depends on employers' motivation to offer time off for training. There is extensive support for training in Denmark, both through employer-funded, industry-level provided courses, and publicly provided courses, but employee training is primarily linked to firms' needs. While training may be available, it must be approved by the employer, particularly if it requires time off to attend. Hence the firm must see a beneficial need for it. In a recent survey, over half of the companies questioned stated they did not provide further training as they saw no need for it (Damm et al., 2022a). High inter-sectoral mobility in Denmark also reduces firms' incentives due to the risk of losing an employee the firm has invested training resources into, especially for long duration courses, and creates imbalances in training opportunities depending on the company worked for. This opportunity cost of sending staff on training is likely higher for SMEs and when the labour market is tight, and suggests the need for increased collaboration among SMEs, such as training partnerships in networks.

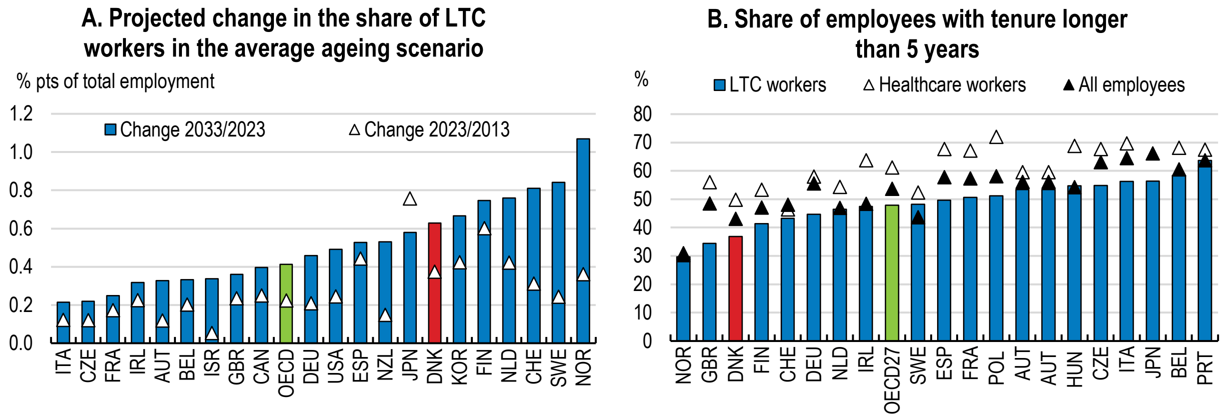
Moving training entitlement to the worker instead of the employer could also reduce barriers to take up and allow training rights to accumulate over time and across jobs, which can be useful when changing jobs, particularly given the relatively high labour turnover in Denmark (OECD, 2019b). In France, individuals are encouraged to take ownership of their learning via a credit scheme ("Compte Personnel de Formation") that enables spending on approved education and/or training. This is fully transferable throughout the individual's working life, with funds made available for individuals who are likely to have to change their job or employment status. Credits accumulate faster for the low skilled, and since the cost of training is also lower for low-skilled workers, this enables them to get more training. Individual training accounts should be accompanied by individual guidance on the choice of training programmes, being careful not to exclude populations with poor digital skills or access.

Addressing recruitment difficulties in long-term care services

Labour shortages in the long-term care (LTC) sector are a key problem. In 2020, the Danish care sector employed 91,398 personal care workers. But in the six months leading up to August 2022, more than 16,400 job vacancies were unfilled nationally within healthcare and personal care, according to government figures. Ageing and a declining supply of care staff is putting increasing pressure on the system both in the short- and long-run. Attrition rates are high and enrolment in social and health education programmes is below the level required. As part of the comprehensive reform plan for the higher education sector, DKK 200 million has been allocated from 2025, with annual increases to DKK 300 million from 2030, for programs in the fields of care and education to encourage more individuals to pursue careers in the welfare sector.

The ratio of care workers to over 65-year-olds has been falling since 2011 (OECD, 2023e). The tenure of care workers in Denmark is among the lowest in the OECD (Figure 2.30, Panel B), and labour shortages have increased since the pandemic. In an average ageing scenario, the share of care workers in total employment is projected to rise significantly (Figure 2.30, Panel A). It is estimated that Denmark will need around 50% more care workers by 2040 just to keep the current ratio of caregivers to the elderly population constant. However, developments in future technology, such care robots, could provide labour-saving technology and improved productivity. Denmark is preparing a 10-year plan to achieve an additional 10,000 equivalent full-time employees in the public sector via automation and digitisation (Ministry of Digital Government and Gender equality, 2023). In Japan for example, initial care robot programmes have allowed for shorter and more flexible working hours for staff (OECD, 2021j).

Figure 2.30. More LTC workers are needed to keep the ratio of caregivers to the elderly population constant, but tenure in the sector is low



Source: OECD (2023), Beyond Applause? Improving Working Conditions in Long-Term Care, https://doi.org/10.1787/27d33ab3-en.

StatLink https://stat.link/ginwp8

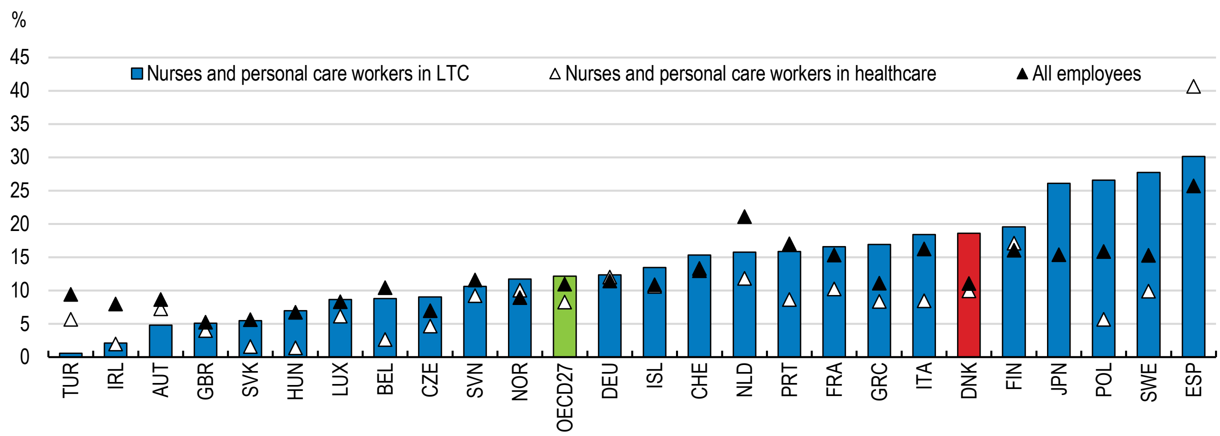
Pay and working conditions need to improve, within the collective bargaining framework, to attract and retain sufficient workers. Low pay and poor working conditions are prevalent in the care sector (OECD, 2023e), although care workers should benefit from the DKK 6.8 billion package of pay-related measures for the public sector that was recently agreed as part of the tripartite negotiations. Around 50% of care workers in Denmark report exposure to physical risk factors, and about 32% report exposure to mental well-being risk. While better than the OECD average, this lags best performing countries (OECD, 2020d). Social health workers in Denmark take on average 19 days of sick leave per year, which is significantly higher than the Danish average (‘Denmark Can do more III’). Empirical evidence has shown that wage improvements in the United States and the Czech Republic had a positive impact on retention, while increasing allowances and benefits for LTC workers reduced turnover in Korea (OECD, 2020d).

Promoting a healthy and more supportive work environment to prevent workplace accidents and illness is essential. The share of Danish care workers reporting an accident sits above the OECD average (OECD, 2020d). The Danish government has ambitions to deregulate the care sector to reduce the heavy bureaucracy that can lead to emotional exhaustion and depersonalisation of care work. High levels of bureaucracy can lead to an unhappy work environment, where for example spending extra time with residents is penalised as bureaucratic efficiency dominates emotional care. To support care workers, Denmark could expand local municipal initiatives, such as SPARK, that provides free support on the psychological work environment. It could take inspiration from the Netherlands, which has developed nationwide coaching programmes for stress management to promote and support the prevention of accidents and burnout.

The type of employment contract is also important for attractiveness. The Danish care sector relies more on non-standard employment, such as temporary contracts, compared to the hospital sector, and more so than the OECD average (Figure 2.31). This limits career progression and increases job insecurity and unpredictability of hours. At the same time, Denmark is one of the few countries that promotes modular training and career development opportunities for care workers seeking access to managerial roles or for nurse aides wanting to become nurses. This is good practice as it presents career structure and recognition of prior experience and learning, something often lacking for care workers.

Figure 2.31. The care sector often uses non-standard employment

Share of employees on fixed-term contracts, 2020-21 or latest year



Source: OECD (2023), Beyond Applause? Improving Working Conditions in Long-Term Care, https://doi.org/10.1787/27d33ab3-en.

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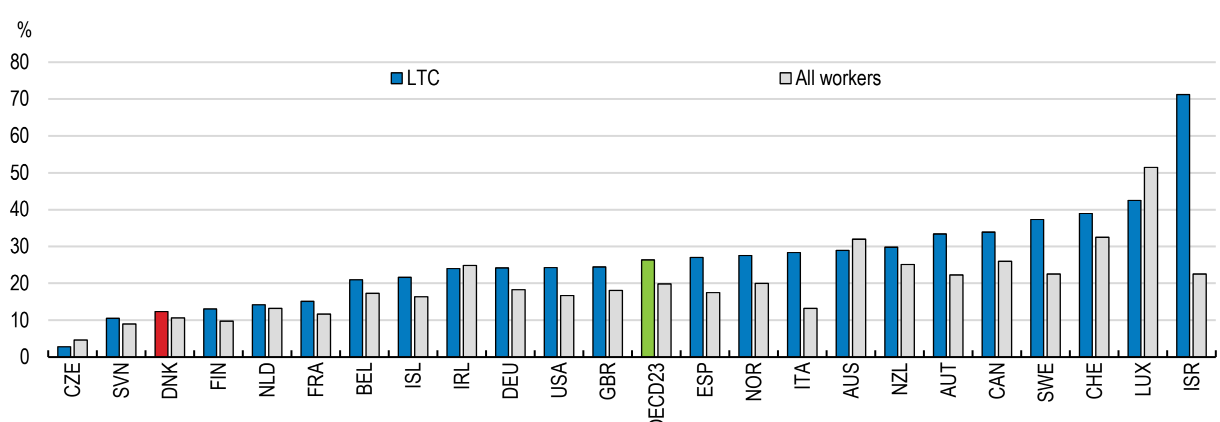
Efforts to widen recruitment in the LTC sector beyond the traditional pool and attract new workers is imperative. Recruiting foreign-born employees can alleviate labour shortages. Denmark currently lags other countries in the recruitment of foreign-born workers (Figure 2.32). Increasing the Danish recruitment of foreign-born care workers to the OECD average would lead to an increase in care staff of around 13,000. Foreign-born workers are usually young, highly skilled, often overqualified (The Global Ageing Network Leading Age LTSS Center, 2018), and work on average more hours than natives (OECD, 2020d). Denmark predominately hires from EU countries due to visa requirements. For example, Lolland municipality has begun an initiative to recruit care workers from Spain, with intensive language learning online. However, efforts could be expanded to recruitment from non-EU countries. The inclusion of social and health care assistants on the Positive list for Skilled Work, and the additional funding allocated to reduce processing times for foreign medical qualifications awaiting authorisation is welcome. The language criteria, which requires passing the Danish language test before entering employment, should be scraped for non-EU LTC workers as was recently done for nurses.

Figure 2.32. Denmark could recruit more foreign-born care workers

Share of foreign-born workers among LTC workers, 2021



Source: OECD (2023), Beyond Applause? Improving Working Conditions in Long-Term Care, https://doi.org/10.1787/27d33ab3-en.

StatLink https://stat.link/d5ltr3

Care jobs suffer from a stigmatised image. This poor image is an important barrier to recruitment, especially for young people and for men who view these jobs as “women’s work” (OECD, 2020d). The previous government implemented several initiatives to make it more attractive to become a care worker, including a salary while studying for students above the age of 25. Denmark should continue its attempts, such as Flere hænder og større arbejdsglæde in 2019, to change this image both to encourage students to choose care work as a profession, but also to encourage job changers to stay, so called “values-based recruitment”. For example, a UK campaign initiative (‘Proud to Care’) tried to improve the public understanding of care work, including through the improvement of information for those who provide social care career advice.

Incentivising male recruitment can also be a promising avenue. Evidence from the UK and the US suggest that men tend to stay longer and are more likely to work full-time and longer hours than women (OECD, 2020d). This could be influenced by self-selection: men who choose care work are perhaps more likely to have done so as a vocation and have stronger motivation. Nevertheless, efforts to change gender stereotypes are needed. Australia, for example, took steps to publicise stories of workers in non-traditional gender roles and reach out to university campuses and schools to break gender stereotypes. Norway was successful in motivating men into care work via a programme set up to recruit unemployed men aged 26-55 into the health and care sector. This involved guided training as part of the recruitment. Similar successful programmes have occurred in Germany and the United Kingdom.

Recommendations to address labour and skills shortages

FINDINGS	RECOMMENDATIONS (key in bold)
Strengthening the policy framework to reduce disincentives to work	
The use of disability schemes may increase more than expected as the legal retirement age rises.	**Strengthen conditions to access senior disability benefits to ensure people who can work are encouraged to stay in the labour market.**
Attitudes towards older workers and the depletion of skills can be barriers to the re-employability of older workers. Health status and physical work demands are important factors determining early retirement in Denmark.	Working with the social partners, encourage firm-level returner or re-entry programmes, alongside promoting healthy working conditions and encouraging the use of early-intervention models for those with reduced work ability.
Youth tend to graduate relatively late, delaying entrance on the labour market. Student grants are very generous by international norms. Around 30% of pupils opt for an additional optional school year before starting upper secondary education (tenth grade).	**Reduce the duration of student allowances to the length of the course as planned.** **Consider introducing an income-contingent loan system for students in master's degrees.** **Target the tenth grade to students with greater learning needs.**
Reform is planned to add shorter master's degrees so that up to 30% are around a one-year duration.	Ensure mutual recognition of shorter master's courses consistent with the Bologna process and evaluate the impact of the reform on educational quality and productivity.
A reform of public employment services is planned to achieve large efficiency gains and savings but has not been detailed yet.	**Increase digitisation of services and phase out ineffective programmes.** **Consider contracting out services to private providers, while ensuring high-quality support to job seekers.**
Immigration rules, heavy administration, and limited transferability of skills acquired abroad hamper the recruitment of qualified foreign workers to address shortages.	**Streamline and reduce administrative burdens on work permit schemes and create assessments of non-formalised skills in shortage areas.** Remove the unemployment condition for hiring non-EU workers in the pay limit scheme. Ease the language criteria for non-EU care workers to facilitate recruitment of the foreign-born.
Second-generation migrants from disadvantaged socio-economic backgrounds are often concentrated in the same schools and are more likely to leave school early.	**Raise awareness of different school enrolment options to immigrant parents via outreach and publicity campaigns.** Develop more effective second-chance programmes that can be used by second-generation migrant school dropouts.
Unmet needs for mental health care negatively affect well-being, employment, and productivity. Policy action in this area is fragmented.	Improve coordination of the provision of mental health prevention and care among regions, municipalities, and employers.
Women with family responsibilities often work shorter hours, which may be related to the availability of childcare services.	Increase flexibility in the provision of childcare services, including outside of regular working hours.
Providing relevant skills to thrive in the demographic, digital and green transitions	
Coordination between different institutions assessing medium-term and future skills needs can improve. Businesses are little involved in the definition of curricular in tertiary education.	Develop a coordinated approach to analyse skills needed, developing timely skill anticipation exercises using the latest methodologies and data sources, and aligning medium- and long-term future skills policies.
Insufficient Danish students pursue STEM degrees, and there is a large gender imbalance. The shortage of ICT graduates is high by international comparison.	Provide girls with the opportunity to interact with STEM and ICT from the earliest stages of compulsory schooling
Enrolment in vocational education is declining, despite the strong potential of vocational education to provide skills needed now and in the future. Low mobility between vocational and academic education is a cause for students opting out of vocational education.	**Increase permeability between academic and vocational tracks by developing programmes across both tracks.** Increase awareness of opportunities available from VET by more case-based teaching at schools and visits to workplaces as envisaged.
Shortages of qualified VET teachers affects the quality education.	Allow practitioners to teach part-time in schools. Relax entry qualification requirements for professionals wanting to become VET teachers.
There is extensive support for training through the social partners and government but take up of training is linked to firms' needs. Inter-sectoral mobility reduces firms' incentives to train and creates imbalances in training opportunities.	Move training entitlement to the worker instead of the employer, so that training rights can be targeted, accumulate over time and across jobs. Provide additional support for low-skilled workers, particularly those vulnerable to changing labour demands.
Shortages in the long-term care sector are particularly high and are increasing pressure on the delivery of services.	Improve pay and working conditions for care workers, within the collective bargaining framework, including by providing standard employment contracts. Promote male participation in the long term care sector with information campaigns and targeted training programmes.

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