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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 the Netherlands were reviewed by the Committee on 18 April 2023. The draft report was then revised in light of the discussions and given final approval as the agreed report of the whole Committee on 16 May 2023.

The Secretariat's draft report was prepared for the Committee by Daniela Glocker and Nicolas Gonne, under the supervision of Aida Caldera Sánchez. Research assistance was provided by Steven Cassimon, editorial support by Karimatou Diallo and communication assistance by Laura Fortin.

The previous Survey of the Netherlands was issued in June 2021.

Information about the latest as well as previous Surveys and more details about how Surveys are prepared is available at www.oecd.org/eco/surveys.

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Basic statistics of the Netherlands, 2022*

(Numbers in parentheses refer to the OECD average)**

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million, 2021)	17.5		Population density per km² (2021)	520.7	(38.7)
Under 15 (%, 2021)	15.5	(17.4)	Life expectancy at birth (years, 2021)	81.5	(78.7)
Over 65 (%, 2021)	20.0	(17.7)	Men (2021)	79.9	(75.9)
International migrant stock (% of population, 2019)	13.4	(13.2)	Women (2021)	83.1	(81.7)
Latest 5-year average growth (%)	0.6	(0.5)	Latest general election	March-2021	
ECONOMY					
Gross domestic product (GDP)			Value added shares (%, 2021)		
In current prices (billion USD)	991.4		Agriculture, forestry and fishing	1.7	(2.6)
In current prices (billion EUR)	941.0		Industry including construction	20.3	(26.6)
Latest 5-year average real growth (%)	1.9	(1.6)	Services	78.0	(70.8)
Per capita (thousand USD PPP, 2021)	63.3	(50.9)			
GENERAL GOVERNMENT					
Per cent of GDP					
Expenditure (OECD: 2021)	44.5	(46.3)	Gross financial debt (OECD: 2021)	54.7	(107.5)
Revenue (OECD: 2021)	44.5	(38.8)	Net financial debt (OECD: 2021)	25.6	(68.7)
EXTERNAL ACCOUNTS					
Exchange rate (EUR per USD)	0.95		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	0.75		Machinery and transport equipment	24.7	
In per cent of GDP			Chemicals and related products, n.e.s.	16.7	
Exports of goods and services	92.6	(33.3)	Mineral fuels, lubricants and related materials	12.6	
Imports of goods and services	83.2	(34.9)	Main imports (% of total merchandise imports)		
Current account balance	4.4	(-1.1)	Machinery and transport equipment	26.5	
Net international investment position	76.0		Mineral fuels, lubricants and related materials	18.4	
			Chemicals and related products, n.e.s.	13.6	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (aged 15 and over, %)	65.5	(57.5)	Unemployment rate, Labour Force Survey (aged 15 and over, %)	3.5	(5.0)
Men	70.0	(65.4)	Youth (aged 15-24, %)	7.6	(10.9)
Women	61.1	(50.2)	Long-term unemployed (1 year and over, %)	0.7	(1.2)
Participation rate (aged 15 and over, %)	67.9	(60.9)	Tertiary educational attainment (aged 25-64, %, 2021)	43.1	(39.9)
Average hours worked per year (OECD: 2021)	1,427	(1,728)	Gross domestic expenditure on R&D (% of GDP, 2020)	2.3	(3.0)
ENVIRONMENT					
Total primary energy supply per capita (toe, 2021)	4.0	(3.8)	CO_2 emissions from fuel combustion per capita (tonnes, 2021)	7.8	(7.9)
Renewables (%, 2021)	10.6	(11.6)	Water abstractions per capita (1 000 m³, 2020)	0.5	
Exposure to air pollution (more than 10 µg/m³ of PM 2.5, % of population, 2019)	98.6	(61.7)	Municipal waste per capita (tonnes, 2021, OECD: 2020)	0.5	(0.5)
SOCIETY					
Income inequality (Gini coefficient, 2021, OECD: latest available)	0.297	(0.315)	Education outcomes (PISA score, 2018)		
Relative poverty rate (%, 2021, OECD: 2019)	8.5	(11.4)	Reading	485	(485)
Median disposable household income (thousand USD PPP, 2020, OECD: 2019)	34.8	(26.6)	Mathematics	519	(487)
Public and private spending (% of GDP)			Science	503	(487)
Health care (2021, OECD: 2020)	11.2	(9.7)	Share of women in parliament (%)	40.7	(32.5)
Pensions (2019)	5.9	(9.5)	Net official development assistance (% of GNI, 2017)	0.6	(0.4)
Education (% of GNI, 2021)	4.7	(4.4)			

*The year is indicated in parenthesis if it deviates from the year in the main title of this table.
**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

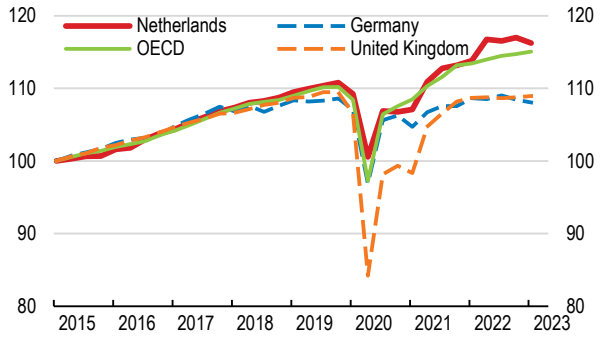
High inflation weighs on the economy

Russia's war of aggression against Ukraine disrupted a strong rebound from the COVID-19 pandemic. The cost of living has increased, spurred by rapidly rising energy prices. The government has acted swiftly to support households and firms, but should now shift from crisis mode to longer-term sustainability considerations.

GDP surpassed its pre-crisis level by mid-2021, faster than in most OECD economies (Figure 1). GDP growth in 2022 continued to be strong at 4.5% despite a slowdown from mid-2022 due to high energy prices, declining producer sentiment and slowing global trade. In the first quarter of 2023, GDP contracted on the back of declining exports and a reduction in gas inventories.

Figure 1. Economic growth has been robust

Real GDP, Q1 2015 = 100



Source: OECD Economic Outlook: Statistics and Projections (database).

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Supply shortages led to an increase in inflation from mid-2021, like in most OECD countries, which was then amplified by surging energy prices due to Russia's invasion of Ukraine from early 2022. High energy prices have been the main driver of inflation in 2022, but prices of goods and services have increased as well. While energy prices have receded, core inflation remains high.

Growth will be supported by private consumption, but is expected to moderate as private investment declines (Table 1). Inflation is expected to remain above the euro-area 2% target, but will gradually moderate owing to the Dutch energy price cap and tighter monetary conditions, although the removal of the price cap could add upward pressure on inflation in early 2024. The outlook is surrounded by risks as rapidly rising interest rates could increase macro-financial vulnerabilities.

Table 1. Private investment will slow

Annual growth rates, % unless specified

	2022	2023	2024
Gross domestic product	4.5	0.9	1.4
Private consumption	6.5	1.7	0.7
Government consumption	1.6	2.8	1.4
Gross fixed capital formation	2.5	2.2	0.0
Exports	4.7	1.0	2.8
Imports	4.2	1.1	2.1
Unemployment rate (%)	3.5	3.7	4.0
Consumer price index	11.6	3.2	2.2
Current account balance[1]	4.4	5.3	6.0
General government fiscal balance[1]	0.0	-1.0	-0.7
General government gross debt (Maastricht)[1]	51.0	50.5	50.3

1. % of GDP.
Source: OECD Economic Outlook: Statistics and Projections (database).

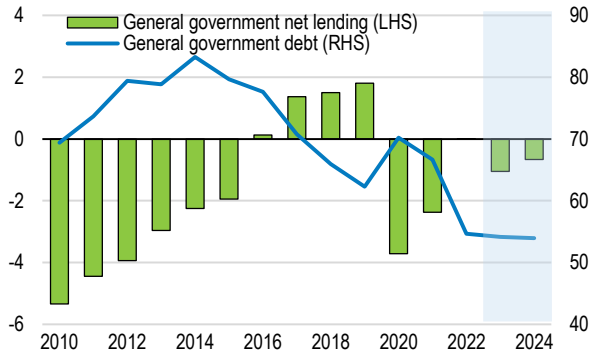
The financial sector has shown few signs of stress so far, but higher interest rates could lead to an increase in credit losses. Households have high mortgage debt on average. While about 75% of loans are fixed for more than five years, households may still face difficulties to meet their mortgage obligations if high inflation continues to erode real incomes. Recent first-time buyers borrowed large sums relative to their income as house prices have seen a steep rise over the last years. The mortgage loan-to-value limit of 100% remains high in international comparison.

A solid fiscal position has enabled the government to provide substantial support to households and firms (Figure 2). In addition to a purchasing power package, which combines targeted and temporary lump-sum payments to help with higher energy costs, and structural measures, such as increases in the minimum wage and social benefits, households and other small users also benefit from an energy price cap in 2023. This exceptional support exceeds annual spending ceilings defined in the trend-based fiscal framework. Ageing-related fiscal pressures and rising interest rates call for fiscal policy to make the

tax system more efficient and for prioritising spending needs to support debt sustainability over the longer run.

Figure 2. The budget deficit and public debt remain moderate

% of GDP



Source: OECD Economic Outlook: Statistics and Projections (database).

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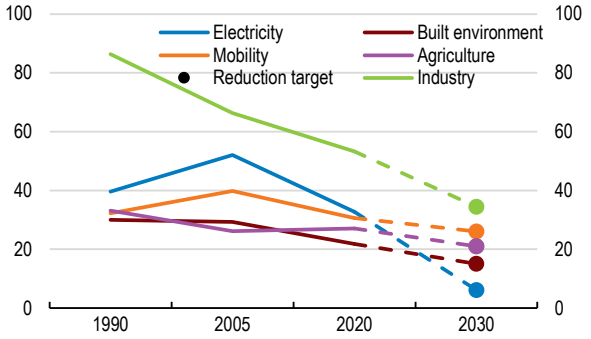
Reforms are needed to boost sustainable growth

Population ageing, sluggish productivity growth and low investment weigh on the country's growth potential. At about one fourth of the OECD average, average annual productivity growth over the past decade has been low. The complex tax system is debt-biased, favours illiquid investment and non-standard forms of employment, exerting a drag on productivity, and adds to wealth inequalities. Sustainable growth also calls for greater fossil fuel independence and advancing the green transition.

The tax system is complex and distorts investment and labour supply decisions. Owner-occupied housing enjoys favourable tax treatment compared to alternative investments and rental housing. Lower rates of income tax and social security contributions for the self-employed incentivises employers to resort to non-standard forms of employment. The complexity of income-dependent benefit schemes discourages labour market entry and working more for fear of losing benefits. Interaction effects of corporate and personal capital income taxation of individuals who own at least 5% of shares in a company favour the retention of earnings, which are only taxed at the corporate level and can benefit from a reduced corporate income tax rate for up to EUR 200 000. As such, the corporate tax system hampers firm growth and increases incentives of splitting into smaller units, weighing on aggregate productivity.

Figure 3. Planned GHG emission reductions are largest in the industry and electricity sector

Megaton CO2-equivalent



Note: Targets displayed are the lower bounds.
Source: OECD Environment Statistics (database); and PBL (2022).

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The Netherlands is set to fall short of its national 2030 target to reduce greenhouse gas emissions. To achieve emission reductions of 55% compared to 1990 levels, the government focuses on greater reductions across sectors, particularly in the electricity and industry sector (Figure 3) through higher use of renewables. Despite improvements, the Netherlands remains heavily reliant on fossil fuels, favoured by tax-exemptions and preferential rates leading to a price advantage over low-carbon technologies. Basic research for the development of green innovations is not explicitly targeted by government funding. A holistic policy strategy extending beyond 2030 is missing, risking a trade-off between short-term gains until 2030 and long-term efficiency.

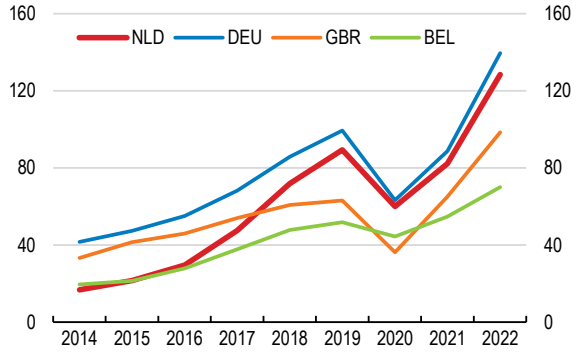
Lifting labour supply is required to tackle staff shortages

The labour market is strong, but shortages weigh on growth prospects. The unprecedently fast post-pandemic recovery brought labour

market tightness to all-time highs (Figure 4), adding to the contraction of the working-age population due to ageing, which cannot be addressed by labour-saving innovation alone.

Figure 4. The labour market is historically tight

Vacancies per 100 unemployed



Source: Eurostat; and OECD Labour Force Statistics (database).

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Fast-changing skill demand, low hours worked, and labour market segmentation contribute to tightness. About 28 000 technical jobs need to be created and filled to meet the country's 2030 climate objectives – more than the current total employment in the energy sector. The incidence of part-time work is the highest in the OECD, with three out of four women and one out of four men working less than 35 hours a week. The 1.7 million workers on flexible contracts with little career prospects have weak incentives to work more.

Training needs are massive and require the development of a stronger culture of lifelong learning. Total public spending on training falls short of estimated requirements by EUR 1.5-1.75 billion a year. Activation spending is high, but the share that goes towards training is low (Figure 5). The budget for the individualised training scheme introduced in 2021 (STAP) is too small, does not prioritise areas of skill shortages and lacks incentives for co-financing by employers.

Access to childcare is inadequate while looking after a child is the main reason for part-time employment. Low availability and affordability are important drivers of the unequal distribution of part-time work and ensuing gender inequalities. While urgent, implementing the reform to make childcare free for all working parents is challenging, as it is expected to strongly increase demand and worsen staff shortages in the short run. The repeal of the link between the amount of the childcare allowance and hours worked weakens work incentives.

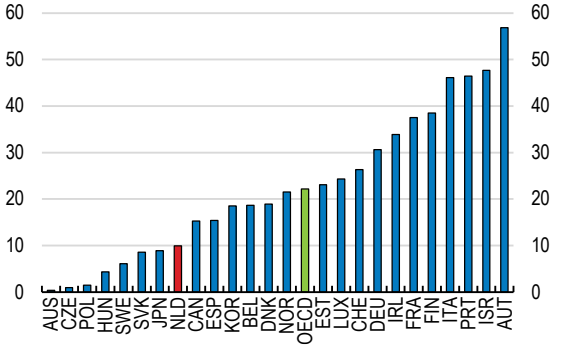
Integration and the immigration system have responded little to labour market developments. The foreign-born have worse labour market outcomes. No migration scheme specifically targets medium-skill workers, despite their importance for the green transition. Hiring non-EU migrants currently requires labour market tests, even for shortage occupations.

Vocational education does not attract students, despite its strong potential to equip them with skills in high demand. Pre-vocational education faces declining enrolment and an image problem. Schools have no financial incentives to organise programmes across tracks or promote mobility between tracks. The existence of too many pre-vocational tracks complexifies education choices by students and their parents.

Cities and disadvantaged schools face acute teacher shortages, while inequalities in education are significant. The share of low-performing students increased from 14% to 24% over ten years. Even though one third of Dutch students attend schools with a lack of teachers, teaching in schools where shortages are significant is not rewarded with extra incentives.

Figure 5. Activation spending on training is low

Public spending on training, % of total, 2019



Source: OECD Labour Market Programmes (database).

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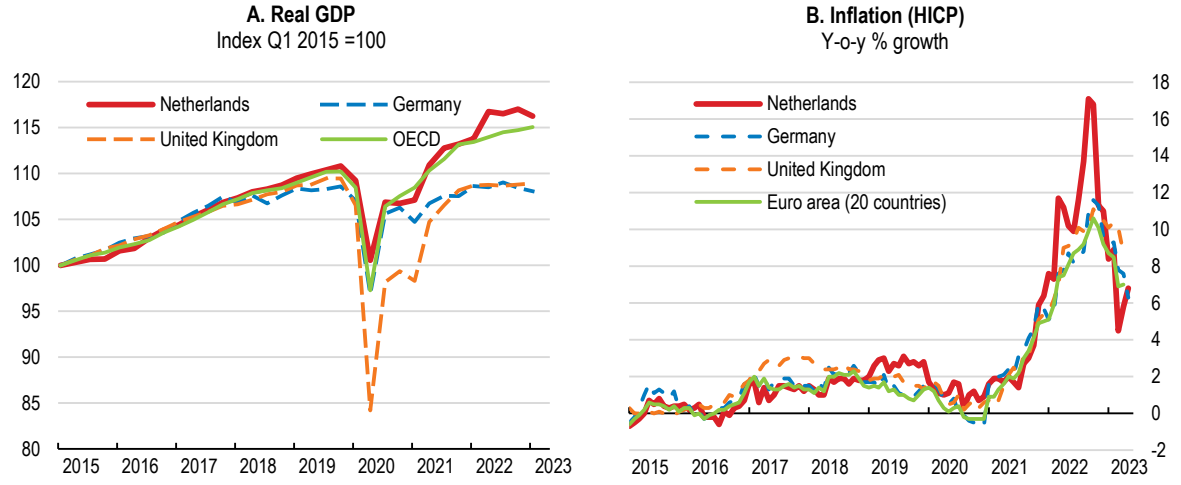
MAIN FINDINGS	KEY RECOMMENDATIONS
Supporting the economy through the energy crisis while maintaining macro-financial stability and debt sustainability	
Fiscal policy is expansionary. Rapidly rising energy prices and cost of living triggered a substantial fiscal support package.	Tighten the fiscal policy stance and target fiscal energy support at the most vulnerable households and ensure it remains temporary.
Exceptions to the national budget rules have been made since 2020, as the COVID-19 pandemic and the energy crisis required fast implementation of fiscal support to prevent permanent damage to the economy.	Clearly justify exceptions to the budget rules and return to the rules as quickly as possible.
Rising mortgage rates could lead to an increase in non-performing loans and to price corrections in the housing market.	Maintain recently tightened macroprudential measures, including higher capital buffers. Lower the maximum loan-to-value ratio to 90%.
Ageing and health-related expenditure are set to rise in the longer term.	Design a multi-year fiscal plan drawing on existing expertise with spending reviews to define priorities.
Streamlining the tax system to reduce distortions holding back productivity growth	
Owner-occupied housing enjoys favourable tax treatment compared to alternative investments and rental housing.	Phase out the favourable tax treatment of owner-occupied housing.
Labour income of workers, self-employed, and business owners is treated unequally. Differences in the tax treatment of work contracts incentivise self-employment and have led to a rise in non-standard form of employment over the past years, which leaves many less well-off and hampers transitions into regular employment and productivity.	Continue to align tax rates and social security contributions between contract types for workers doing similar jobs.
The tax system is complex. The government aims to simplify it and reduce wealth inequalities introduced by distortions in the tax system. The tax system is biased towards retaining earnings over profit distribution for private limited companies, weighing on aggregate productivity. The reduced corporate income tax (CIT) rate on profits up to EUR 200 000 deters firm growth and incentivises firms to split into smaller units to avoid taxation at the statutory CIT rate.	Abolish the reduced CIT rate and move towards a single uniform VAT rate so reforms are revenue neutral within each tax domain.
The complexity of the tax and benefits system discourages labour market entry or working more for fear of losing benefits.	Streamline existing income-dependent benefits into a system of fewer allowances and tax credits based on a limited number of household characteristics.
Advancing the green transition to increase energy independence	
Greenhouse gas emissions reduction targets will not be met under current policies. Uncertainty regarding future policy stringency holds back investment.	Expand the current Climate Strategy beyond 2030, with further concrete deadlines, policies and priorities in line with legal targets.
The country remains reliant on fossil fuels. Although the share of renewables in the energy mix has been increasing in recent years, it remains below the EU average. Only little support is available in the scale-up phase.	Provide specific support to green technologies at early stages of development, including public investment in green infrastructure, and the development and deployment of green technologies, such as carbon capture, utilisation and storage.
Lifting labour supply to tackle staff shortages	
Spending on lifelong learning falls far short of estimated needs given massive skill demand related to the green and digital transitions. The outcomes of lifelong learning activities are not systematically assessed, and concerns have surfaced regarding the quality and relevance of some trainings.	Shift the composition of active labour market policies towards training, especially green and digital. Ensure quality control of lifelong learning programmes and prioritise sectors with the most pressing labour needs.
High effective taxation on increasing hours worked reduces work incentives for middle-income mothers, compounding cultural norms regarding childcare responsibilities.	Keep lowering the effective tax rate on moving from part-time to full-time employment while delivering on the childcare overhaul.
The reform to make childcare free for all working parents is expected to strongly increase childcare demand and worsen staff shortages, raising doubts about feasibility.	Phase in the childcare reform gradually, monitor access and evaluate the repeal of the link between hours worked and the amount of the childcare support.
Most highly educated foreign-born work in jobs that require a lower level of formal education than what they hold or are not in employment. The immigration system is not responsive to labour market needs and no migration scheme exists for medium-skill workers, despite their importance for the green transition.	Streamline and accelerate the existing processes of recognition and validation of qualifications acquired abroad for shortage skills. Consider eliminating the labour market test for shortage occupations.
Teacher shortages are acute in cities and disadvantaged schools, while teachers have low salaries compared to similarly educated workers.	Reward teaching in locations and schools where shortages are the most significant with extra financial incentives or priority transfer to a school of choice after a given tenure.
Enrolment in pre-vocational education is declining, despite the strong potential of vocational education to provide the skills needed in tight occupations.	Increase mobility between academic and vocational tracks by merging some of the existing pre-vocational tracks and providing schools with incentives to organise programmes across tracks.
Few Dutch students pursue STEM degrees, and the share of ICT graduates is low in international comparison.	Provide higher education establishments with financial incentives to increase enrolment in STEM fields.

1 Key policy insights

The Dutch economy recovered quickly from the COVID-19 shock, returning to its pre-pandemic growth path by early 2022. But rising inflation, amplified by rapidly rising global energy prices following Russia's war of aggression against Ukraine, has been weighing on growth. A healthy fiscal position allowed for temporary support against high energy costs, but support should become more targeted to vulnerable households. Streamlining the tax system would enhance macro-financial stability and productivity by reducing debt bias and distortions in investment and labour supply decisions. Policy reforms to advance the green transition can reduce dependence on fossil fuel energy and the country's exposure to global energy price fluctuations.

Strong institutions, a high degree of digitalisation and effective support policies secured a vigorous recovery from the COVID-19 crisis, but the impact of Russia's war of aggression against Ukraine disrupted this strong economic performance. GDP surpassed its pre-crisis level by mid-2021 – faster than in most OECD economies (Figure 1.1, Panel A). As the global recovery took hold and demand surged, supply shortages led to an increase in inflation from mid-2021 across OECD countries, amplified by soaring energy prices following Russia's invasion of Ukraine in early 2022 (Figure 1.1, Panel B). These new developments have magnified some pre-existing challenges, such as macro-financial vulnerabilities due to high debt levels incentivised by the tax system, a persistent dependence on fossil fuel energy, low productivity growth and an extremely tight labour market.

Figure 1.1. Economic growth remains robust despite high inflation



Note: The Netherlands' inflation (HICP) is calculated based on the assumption that all energy consumers are on new contracts. This leads to an overestimation of inflation when prices rise sharply and an underestimation when they fall sharply. As from reporting month June 2023, Statistics Netherlands will employ a new method to measure energy prices in the CPI, using transaction data provided by energy suppliers, so that the tariffs paid under long-standing energy contracts can also be taken into account.
Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database); and OECD Consumer Price Indices (database).

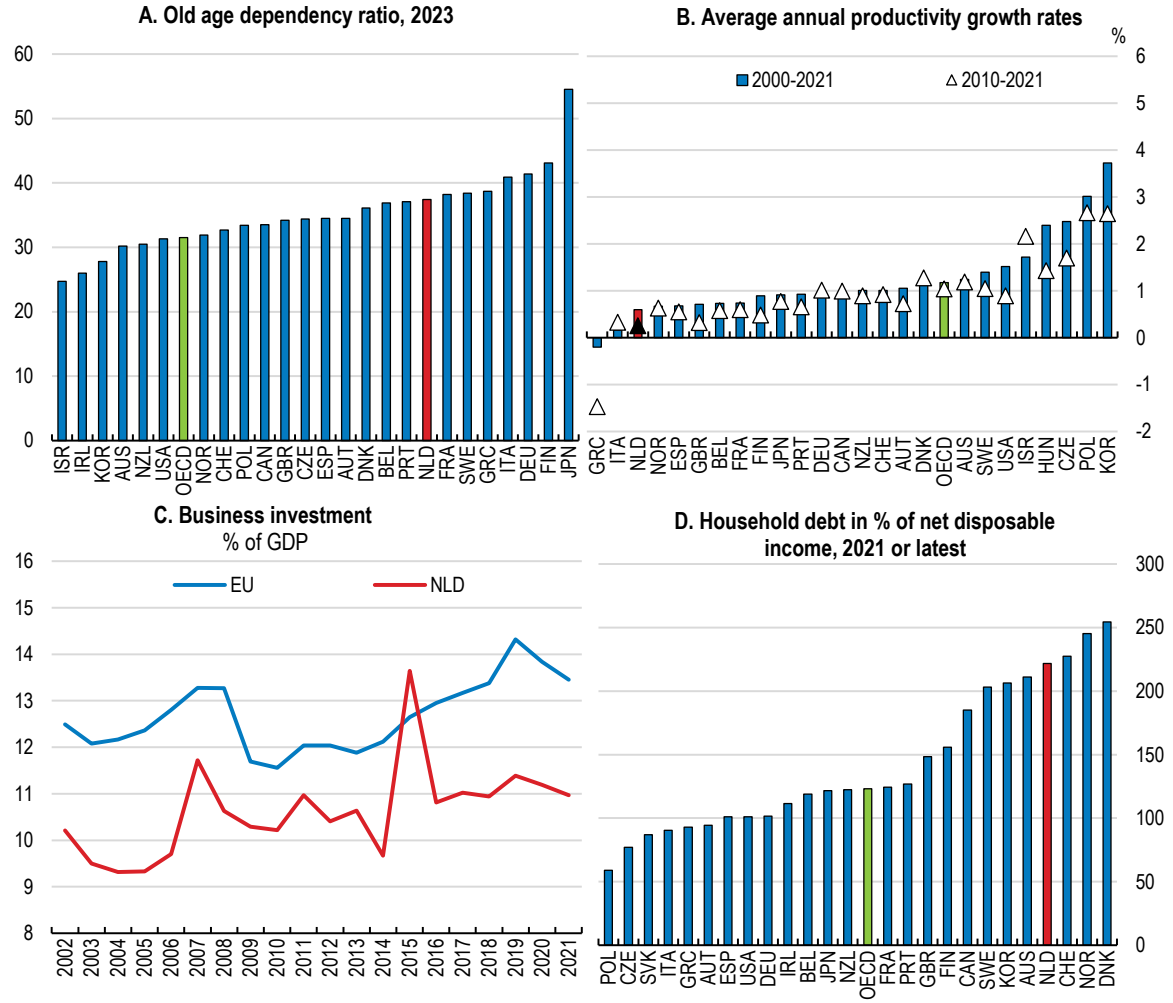
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Fiscal prudence up to the COVID-19 crisis created ample space to provide substantial fiscal support during the pandemic, followed by support packages to protect households and firms from rapidly rising energy prices. Still, gross public debt, at 55% of GDP in 2022, is low in international comparison. Fiscal support to protect the most vulnerable households is warranted, but should not work at cross-purpose with monetary policy to tackle high inflation. The current energy price cap is not well targeted and thereby comes at a risk of high fiscal costs, stimulating demand while also reducing incentives for energy savings. An ageing population (Figure 1.2, Panel A) in combination with an already tight labour market will increase fiscal pressure going forward, both through higher ageing-related spending and lower revenues.

Rapid population ageing aggravates skill shortages and labour market tightness, calling for a more efficient use of resources to maintain economic growth. The labour market is very tight despite high employment, due to low hours worked and significant skill mismatch. Productivity growth has been sluggish over the past decade and is lower than in many other advanced OECD economies, largely driven by lower private investment (Figure 1.2, Panels B and C). While public investment was boosted through the launch of the National Growth Fund in 2021, the Dutch tax system distorts private investment and labour supply decisions, with negative consequences for productivity growth. Tax subsidised housing debt contributes to high household debt in the Netherlands, which is at 222% of net disposable income among the highest in the OECD (Figure 1.2, Panel D). Not only do high debt levels increase macro-financial vulnerabilities as

interest rates rise, but tax-induced incentive to finance certain assets may bind capital that would otherwise be available for more productive investments. The tax system is also skewed towards non-standard employment, which has increased over the past years and may weigh on productivity in the longer term by lowering the uprating of skills.

Figure 1.2. An ageing population meets low productivity growth and low investment



Note: Panel A shows the old-age to working-age demographic ratio which is defined as the number of individuals aged 65 and over per 100 people of working age defined as those aged 20 to 64. The evolution of old-age to working-age ratios depends on mortality rates, fertility rates and migration. In panel B, labour productivity is measured as GDP per hour worked at constant prices, USD purchasing power parities. Panel C depicts gross fixed capital formation expressed as a percentage of GDP for the business sector. The spike in 2015 is due to a EUR 22 billion R&D purchase by a Dutch multinational enterprise.
Source: OECD (2021), Pensions at a Glance 2021; OECD (2023), Productivity database; OECD (2023), Economic Outlook: Projections and Statistics Database; Eurostat; and OECD (2023) National accounts at a glance database.

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The energy crisis highlighted the importance of reducing the country's strong reliance on fossil fuels and advancing the green transition is a key policy priority for the government. Since 1990, the Netherlands has reduced greenhouse gas (GHG) emissions by 25% and the government has put forward the legally binding target to cut emissions by 55% by 2030 compared to 1990 levels. Policies mainly focus on increasing the share of renewables in the energy mix and reducing emissions in the industry sector. However, implemented policies are not yet sufficient to meet the 2030 target. Advancing the green transition also faces bottlenecks in terms of physical capacity and skill shortages.

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

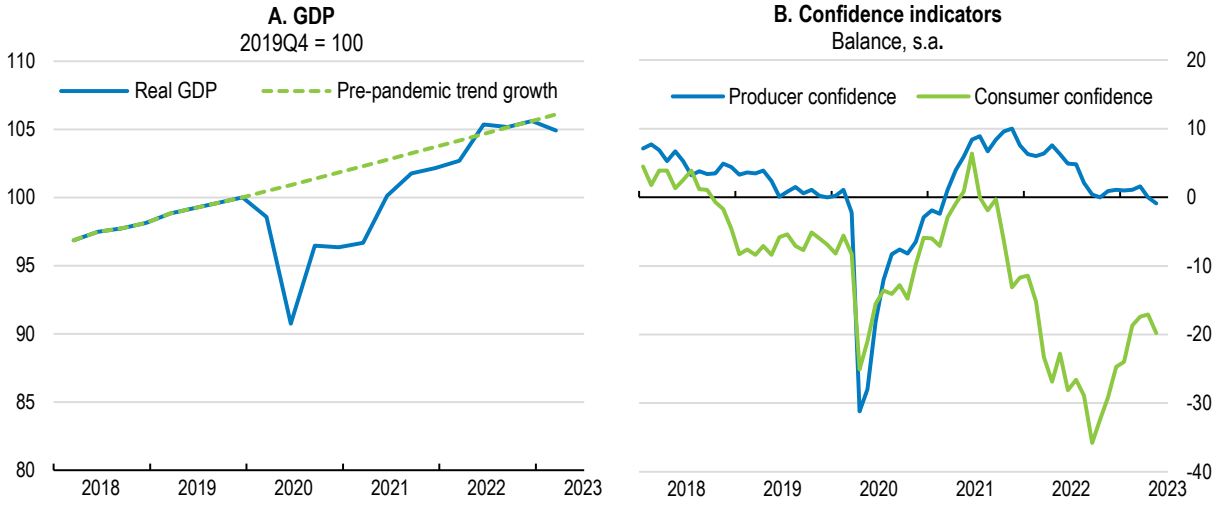
- Fiscal support to protect households against high energy prices is not well targeted and thereby comes at a risk of an unduly high fiscal cost and at the expense of climate objectives. A longer-term fiscal strategy is needed to alleviate fiscal pressures from ageing-related spending and rising interest rates.
- A holistic long-term strategy for reaching net zero by 2050 is needed, including carbon pricing, regulation, innovation and skills policies across sectors. Detailing pathways beyond 2030 could avoid trade-offs between measures favouring short-term success and efficient longer-term solutions.
- Tackling the tight labour market requires implementing a comprehensive policy package to increase the labour market integration of women, elderly, and low-skilled workers, and expand adult learning opportunities.

The economy is slowing amidst high price pressures

Economic growth started to slow following a quick recovery from the pandemic

After a strong rebound from the COVID-19 recession, economic growth in the Netherlands has started to slow. Although the COVID-19 pandemic led to a contraction of 3.9% in 2020, GDP quickly recovered to pre-pandemic levels by mid-2021 and resumed its pre-pandemic growth path by early 2022 (Figure 1.3, Panel A). GDP growth in 2022 continued to be strong at 4.5%, although the impact of Russia's invasion of Ukraine in February 2022 disrupted the Dutch economy. GDP growth started to slow from mid-2022 on the back of high inflation, lower investment and a weakening trade balance. In the first quarter of 2023, GDP contracted by 0.7% as exports dwindled and gas inventories declined due to lower domestic gas production and colder weather, among other factors. Private investments contributed positively to growth, but producer sentiment remained subdued. Private consumption stalled in the first quarter of 2023, and consumer confidence remained fragile (Figure 1.3, Panel B).

Figure 1.3. GDP has recovered, but confidence remains low



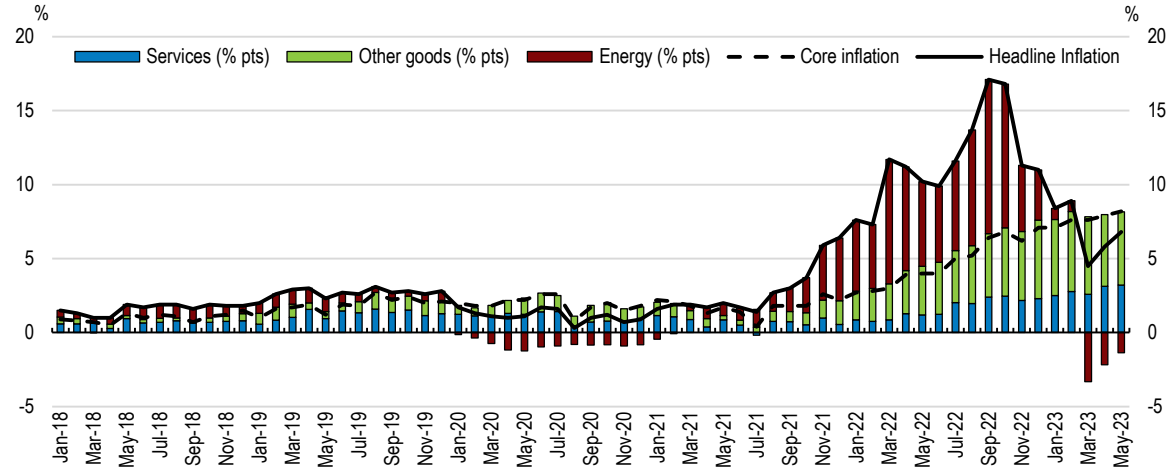
Note: In panel A, the pre-pandemic trend growth is calculated as the average growth between 2018 and 2020Q1, and is projected from 2020Q2 onwards. In panel B, production confidence refers to confidence of the manufacturing industry.
Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database); OECD (2023), OECD Main Economic Indicators (database).

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Headline consumer price inflation has risen sharply from mid-2021, peaking at 17.1% in September 2022 before slowing to 6.8% in May 2023 (Figure 1.4). The early rise in inflation was largely driven by global supply chain disruptions, higher transport costs and a sharp increase in global commodity prices. The sharp rise in prices of raw material and energy in late 2021 was modest, however, compared to the explosive price increases of natural gas, oil, food and commodities since the start of the war in Ukraine. In recent years, only 3-4% of the Netherlands' energy consumption was imported from Russia, thus direct exposure to sanctions on Russia's oil and gas is limited. But the Netherlands is a net-importer of gas and therefore vulnerable to spill over effects from rising global energy prices. High energy prices have been the initial driver of inflation, but prices of other goods and services have picked up as well. Core inflation rose to 8.2% in May 2023, up from 2.7% at the beginning of 2022 as higher prices for energy, commodities and transport fed into prices of goods and services (Figure 1.4).

Figure 1.4. Inflation has peaked but remains high as core inflation continues to rise

Year-on-year growth in the harmonised index of consumer prices (HICP)



Note: The Netherlands' inflation (HICP) is calculated based on the assumption that all energy consumers are on new contracts. This leads to an overestimation of inflation when prices rise sharply and an underestimation when they fall sharply. As from reporting month June 2023, Statistics Netherlands will employ a new method to measure energy prices in the CPI, using transaction data provided by energy suppliers, so that the tariffs paid under long-standing energy contracts can also be taken into account.
Source: Statistics Netherlands (CBS).

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Rapidly rising energy prices triggered a new wave of fiscal support to businesses and households (Box 1.1). To help energy-intensive small and medium-sized Enterprises (SMEs), the government introduced the Energy Cost Contribution Scheme (*Tegemoetkoming Energiekosten-regeling*) for the period from November 2022 to December 2023. The government also supports small energy consumers such as households, the self-employed, shops, associations, small social organisations and some of the small SMEs through an energy price cap up to a maximum consumption threshold put in place from January to December 2023. As rising energy prices disproportionally affect lower-income households who spend a relatively large part of their income on energy (Figure 1.5) and often have a smaller financial buffer to absorb large increases in the cost of living, the support measures are welcome. However, in the context of high inflation, fiscal measures that provide additional demand stimulus should be avoided. Untargeted measures such as the cut in excise duty on petrol and diesel should be phased out. Moreover, the energy price cap should maintain energy saving incentives and remain a temporary solution, targeted towards vulnerable households and be complemented by a structural approach to aid households with higher energy costs, for example through energy savings measures. To ensure an efficiently functioning energy and electricity market, it is important that energy support measures remain temporary.

Box 1.1. Fiscal support to help households in the cost-of-living crisis

Support to cope with high energy prices:

In 2022

- A temporary VAT reduction on energy (natural gas, electricity, and district heating) from 21% to 9% from July to December 2022.
- A cut in excise duty on petrol and diesel by 21% from April 2022 to July 2023.
- A one-off energy allowance of EUR 1300 for people with an income around the social assistance level.
- The government brought forward spending of EUR 150 million, originally earmarked for 2026, to help low-income households take energy-saving measures.
- EUR 190 discount on households' energy bills both in November and in December.
- A decrease of the energy tax on electricity of 8 ct/kWh, and an increase of the energy tax credit, from EUR 560 to EUR 790.

In 2023

- A price cap on energy bills from January to December 2023. For gas the maximum rate will be EUR 1.45 per cubic metre up to a consumption of 1 200 cubic metres. For electricity the maximum rate will be lowered to EUR 0.40 per kWh with a maximum consumption of 2 900 kWh. For all usage that exceeds these thresholds, the rates for small consumers remain as is stated in their energy contract.
- A one-off energy allowance of EUR 1 300 for people with an income around the social assistance level.
- VAT on solar panels is cut to 0% without an end period so far.

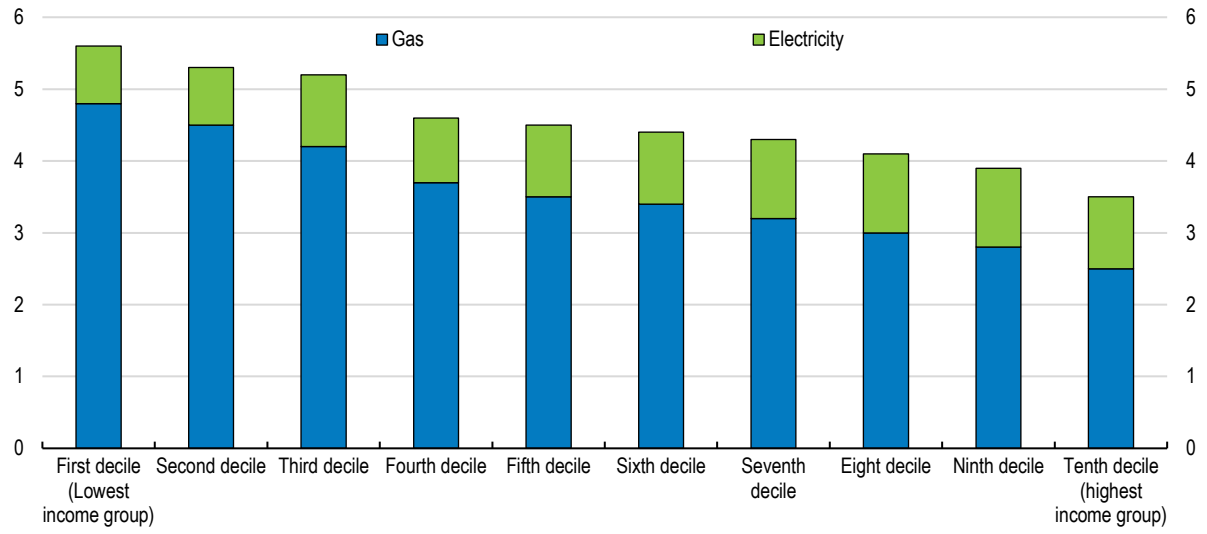
Other measures to aid with high cost of living effective from January 2023

- The minimum wage was raised by 10.15%, to EUR 1934.40 gross per month. Related benefits, including the state pension under the National Old Age Pensions Act (*Algemene Ouderdomswet)* and the unemployment benefit under the Unemployment Insurance Act (*Werkloosheidswet*), went up by the same percentage.
- Housing, healthcare and child benefits also increased. These measures will support purchasing power for the average family, which is set to decrease 0.2% in 2023, following a decline of 2.7% in 2022.
- In the income tax system, the rate in the first tax bracket has been reduced from 37.07% to 36.93%. The annual income ceiling for this rate has been raised from EUR 69 398 to EUR 73 031. The maximum labour tax credit was increased by EUR 523 to EUR 5 052.
- The extra spending will be partly paid for by an extra 'contribution' from oil and gas companies as well as a higher corporate income tax rate and an increase in the tax rate on income from savings and investment.

Source: Ministry of Finance (2022[1]), CPB (2022[2]; 2023[3]).

Figure 1.5. Lower-income households are more affected by higher energy prices

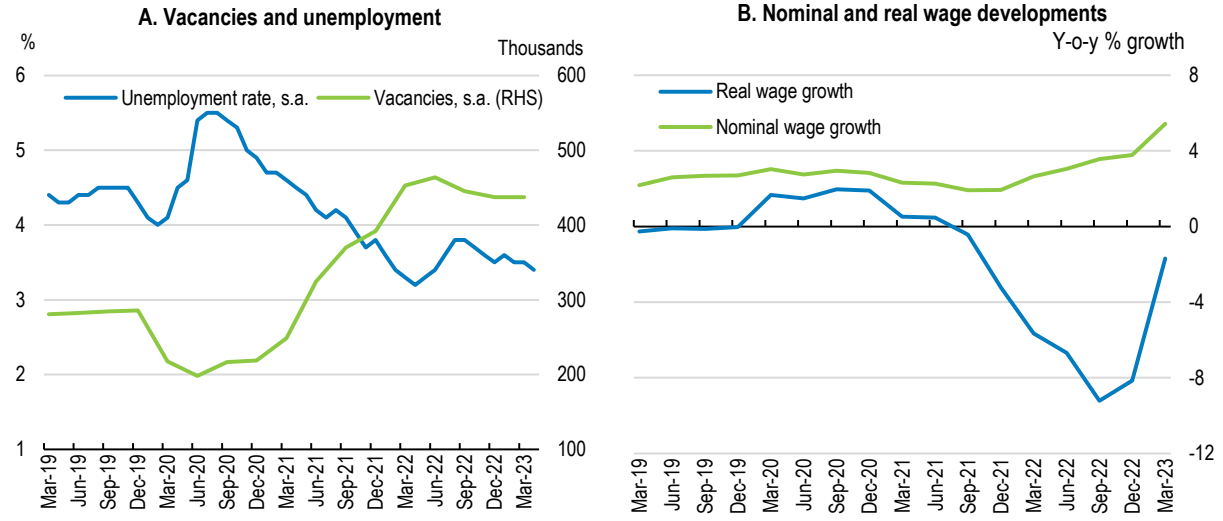
% of disposable income spent on energy, 2020



Source: Statistics Netherlands (CBS).

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Figure 1.6. The labour market remains tight



Source: Statistics Netherlands (CBS); and OECD (2023), OECD Consumer Price Indices (database).

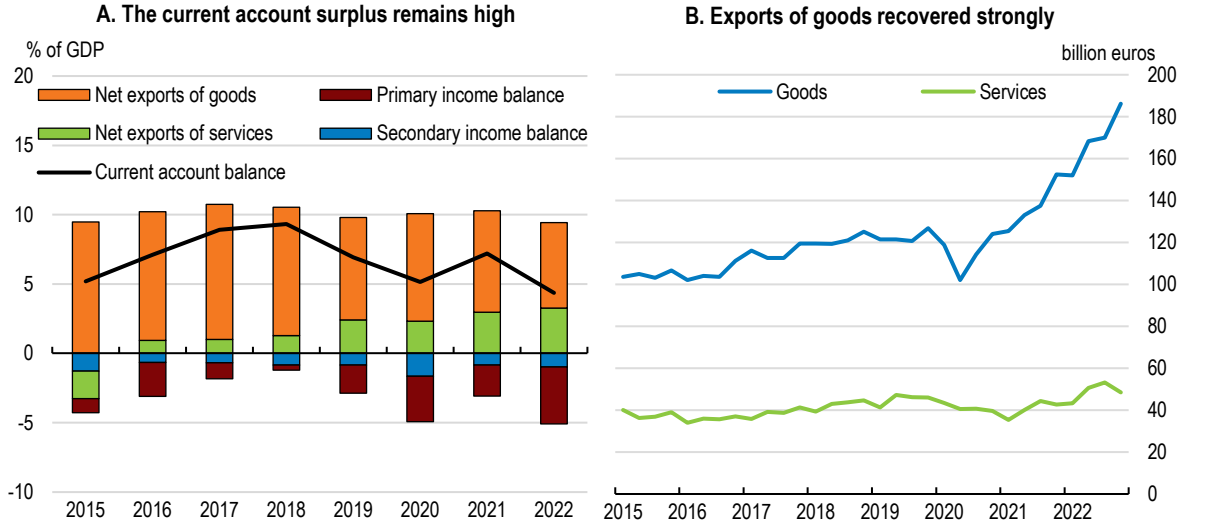
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A tight labour market has not yet translated into significant domestic price pressures. Already prior to the pandemic, the labour market was tight, but since the end of 2019, the ratio of job vacancies per 100 unemployed increased from 0.7 to 1.2 by the first quarter of 2023 (Figure 1.6, Panel A). As highlighted in the previous *Economic Survey* (OECD, 2021[4]), the first COVID-19 lockdown resulted in higher inactivity and unemployment, but the labour market recovered strongly thereafter. The unemployment rate declined to a two-decade low of 3.3% in the second quarter of 2022 before picking up to 3.5% in the first quarter of 2023. The employment rate recovered as well, surpassing the pre-pandemic rate of 80.1% by the third

quarter of 2021, and reached 82.1% at the beginning of 2023. Staff shortages are being felt across the economy (see Chapter 2) and collectively negotiated wages rose by 5.4% in the first quarter of 2023 compared to a year earlier, the largest increase over the past decade. Yet, nominal wages have lagged consumer prices and although improving, leading to a decline of 1.7% in real terms in the first quarter of 2023 (Figure 1.6, Panel B). Similarly, the Dutch national minimum wage has fallen in real terms over the course of 2022, and at 46% of the median wage was already below that of most OECD countries before the crisis (OECD, 2023[5]; OECD, 2022[6]).Therefore second-round effects on inflation are expected to be limited from the 10.2% increase in the minimum wage in January 2023.

As a small and very open economy, the Netherlands is sensitive to global developments. The current account surplus remains strong, albeit declining to 4.4% of GDP in 2022 (Figure 1.7, Panel A). The strong current account reflects persistently higher saving than investment of corporations residing in the Netherlands. High saving on the part of non-financial corporations is mainly high foreign investment of multinationals in the form of retained earnings as reflected by a positive financial and capital account. In 2022, the capital account surplus was exceptionally high, at 11% of GDP, largely driven by the sale of intellectual property by a Dutch business unit of a foreign multinational to a foreign unit of the same multinational. The current account surplus also reflects the Netherlands' strong export performance (DNB, 2022[7]). Exports of goods recovered quickly following global production disruptions during the COVID-19 crisis, surpassing pre-crisis levels by early 2021 (Figure 1.7, Panel B). Exports of services were more severely affected by recurring lockdowns and travel restrictions during the COVID-19 pandemic and only started to recover to pre-pandemic levels by mid-2022 (Figure 1.7, Panel B).

Figure 1.7. The current account surplus is driven by net exports



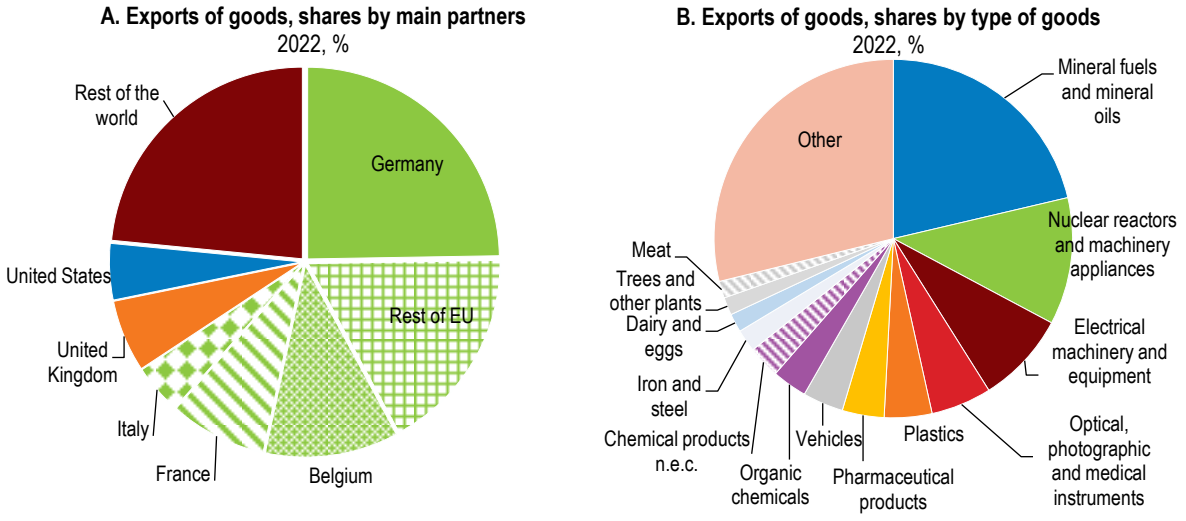
Source: De Nederlandsche Bank (DNB), Balance of Payments.

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The Dutch economy has important trade linkages within the European Union. In 2022, Germany, Belgium and France were the largest export destinations for the Netherlands (Figure 1.8, Panel A). More than a third of imports in 2022 came from Germany, Belgium and China. Imports from China are increasingly important in Dutch supply chains. Imported Chinese goods are used throughout the economy, with the manufacturing sector and the construction sector leading in using imported goods from China in their production processes (CPB and Statistics Netherlands, 2022[8]). While increasing trade with China brings the benefit of a larger and more diverse product supply at lower prices, it also comes with greater dependence and risks of supply chain disruptions as seen during the pandemic. In particular for sectors

relevant for exports, such as manufacturing of machinery and electrical equipment (Figure 1.8, Panel B), supply disruptions could severely affect growth. The Netherlands has only limited direct trade linkages with Russia and Ukraine, but is exposed to disruptions to the supply of commodities and materials from this region, as well as to logistics and transport blockages. Continuing disruptions to global supply chains, sanctions and surging commodity prices are weighing on world trade. As such, Russia's invasion of Ukraine has implications for the Dutch economy not only through high energy prices and increased uncertainty, but also through depressed growth of world trade.

Figure 1.8. Exports of goods by trading partner and type of goods



Source: OECD (2023), OECD International Trade by Commodity Statistics (database).

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Economic growth is expected to moderate

GDP is expected to slow to 0.9% in 2023 and to pick up to 1.4% in 2024 (Table 1.1). Growth in 2023 is supported by private consumption, aided by the purchasing power package that came into effect at the beginning of 2023. Slowing private residential and non-residential investments weigh on growth over the projection horizon amidst uncertainty, rising interest rates and credit tightening. Headline inflation is expected to fall further due to lower energy prices, but core inflation is likely to remain elevated until 2024. Wages react to inflation with a time lag and are projected to rise by 5.3% in 2023 and by 4.9% in 2024. The unemployment rate will gradually rise to 4.1% by the second half of 2024.

The outlook is surrounded by several risks, including a severe 2023/24 winter with higher-than-expected energy prices, and increasing macro-financial vulnerabilities as rapidly rising interest rates could increase the risk of financial contagion through the global financial system (Table 1.2). Bankruptcies, which are still below the pre-pandemic level, could rise significantly due to the increasing pressure on businesses from higher interest rates, labour costs and uncertainty. A faster return of inflation to the target than expected could allow central banks to loosen monetary policy, stimulating domestic demand.

Table 1.1. Macroeconomic indicators and projections

Annual percentage change, volume (2015 prices)

	2019	2020	2021	2022	2023	2024
	Current prices (EUR billion)					
Gross domestic product (GDP)	**812.9**	**-3.9**	**4.9**	**4.5**	**0.9**	**1.4**
Private consumption	353.5	-6.4	3.6	6.5	1.7	0.7
Government consumption	200.1	1.5	5.2	1.6	2.8	1.4
Gross fixed capital formation	172.9	-2.6	3.2	2.5	2.2	0.0
Housing	41.1	-0.6	3.2	0.6	4.0	-1.4
Business	104.1	-5.3	4.8	5.2	0.4	-0.9
Government	27.6	4.4	-2.0	-4.4	2.1	5.7
Final domestic demand	726.5	-3.3	4.0	4.1	2.1	0.7
Stockbuilding[1]	6.9	-0.8	-0.1	0.0	-1.0	0.0
Total domestic demand	733.3	-4.2	3.9	4.1	1.0	0.7
Exports of goods and services	670.7	-4.4	5.2	4.7	1.0	2.8
Imports of goods and services	591.1	-4.8	4.0	4.2	1.1	2.1
Net exports[1]	79.6	-0.1	1.4	0.9	0.0	0.8
Other indicators (growth rates, unless specified)						
Potential GDP	. .	2.2	2.3	1.9	1.7	1.4
Output gap[2]	. .	-4.6	-2.2	0.3	-0.5	-0.5
Employment	. .	0.0	1.5	3.2	1.9	0.4
Unemployment rate	. .	4.9	4.2	3.5	3.7	4.0
GDP deflator	. .	1.9	2.4	5.3	5.6	2.0
Consumer price index (harmonised)	. .	1.1	2.8	11.6	3.2	2.2
Core consumer prices (harmonised)	. .	1.9	1.8	4.8	6.8	3.9
Household saving ratio, net[3]	. .	18.8	17.6	12.7	10.7	13.2
Current account balance[4]	. .	5.1	7.3	4.4	5.3	6.0
General government fiscal balance[4]	. .	-3.7	-2.4	0.0	-1.0	-0.7
Underlying general government fiscal balance[2]	. .	-0.7	-1.0	-0.2	-0.9	-0.5
Underlying government primary fiscal balance[2]	. .	-0.3	-0.6	0.2	-0.5	0.1
General government gross debt[4]		70.2	66.7	54.7	54.1	54.0
General government gross debt (Maastricht)[4]	. .	54.7	52.5	51.0	50.5	50.3
General government net debt[4]	. .	35.0	33.1	25.6	25.1	24.9
Three-month money market rate, average	. .	-0.4	-0.5	0.3	3.2	3.4

1. Contributions to changes in real GDP, actual amount in the first column.
2. As a percentage of potential GDP.
3. As a percentage of household disposable income.
4. As a percentage of GDP.

Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database).

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

Uncertainty	Possible outcome
A more virulent COVID resurgence or another pandemic.	New containment measures could constrain consumption, leading to firm failures and increased unemployment. Disrupted supply chains would hurt production, while depressed global demand would weigh on trade.
Large-scale cyber-attacks.	A cyber-attack could disrupt business operations or shut down domestic infrastructure vital for the functioning of the economy.
High and persistent inflation in the euro area requiring steep monetary tightening. Rapidly rising interest rates could increase the risk of financial contagion through the global financial system.	High mortgage rates could lead to falling housing prices, reducing mortgage values, which together with falling real incomes could raise loan defaults and expose vulnerabilities in the financial system. Financial contagion could lead to insufficient liquidity of banks, insurers and pension funds that could affect the domestic market.
Geopolitical tensions decrease.	Confidence could recover spurring investment and private consumption. Energy prices could decrease faster than expected, lowering inflationary pressures, and allowing central banks to loosen monetary policy, which would stimulate domestic demand.

Macro-financial vulnerabilities have increased

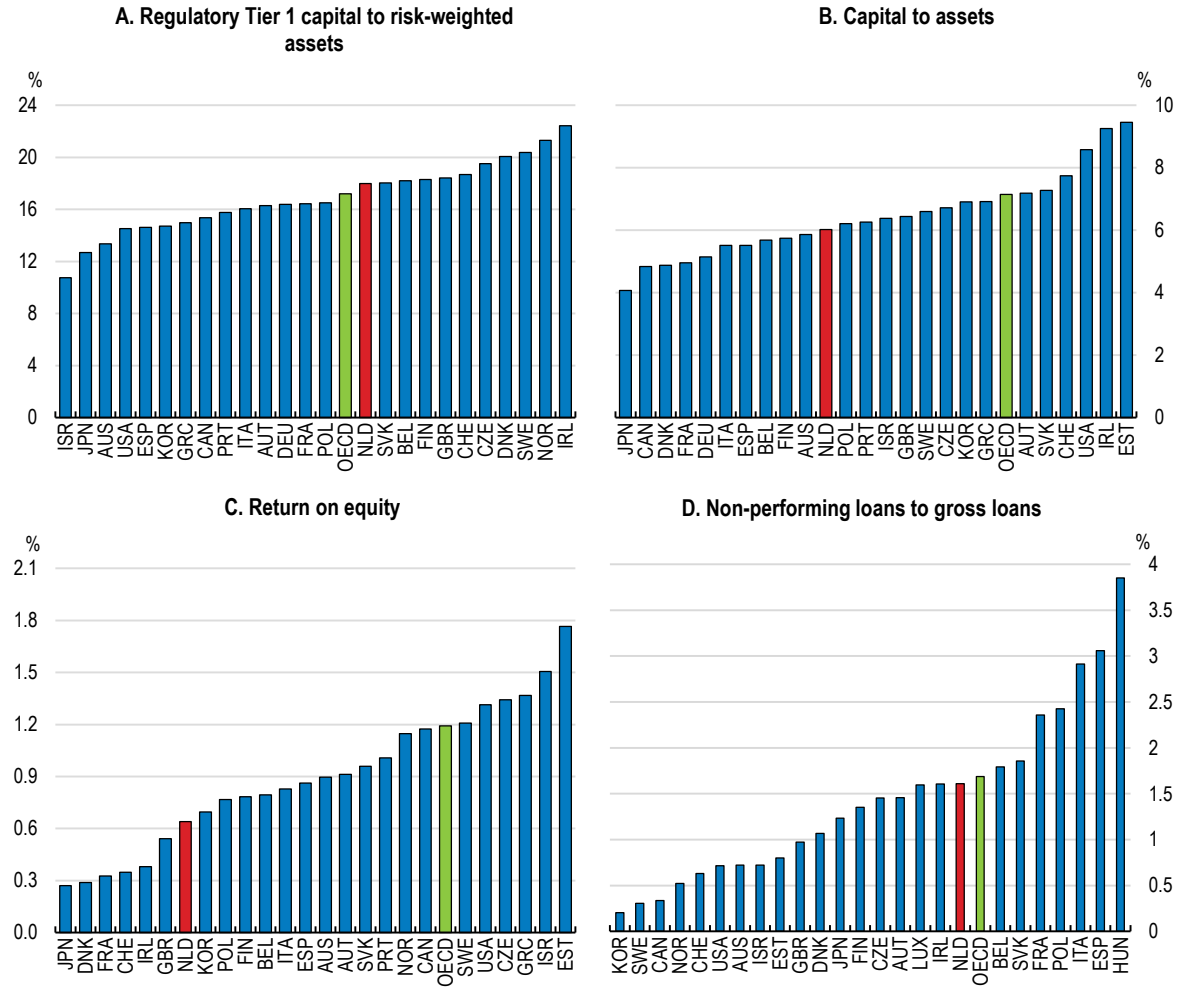
The Dutch financial sector has been stable and resilient, maintaining capitalisation and liquidity positions well above the statutory minimum requirements. While banks are still highly leveraged in gross terms, the risk weighted capital ratio is well above the OECD average (Figure 1.9, Panels A and B) and even increased during the COVID-19 crisis from 16.9% in the fourth quarter of 2019 to 18% in the fourth quarter of 2022. During the COVID-19 crisis, the Nederlandsche Bank (DNB) and the European Central Bank (ECB) allowed banks to use capital buffers to keep lending to firms and households in order to prevent the economic crisis from spreading to the financial sector. The DNB decided to replace systemic buffers with a gradual build-up of the countercyclical capital buffer (CCyB) and raised the CCyB from 1% in May 2022 to 2% in May 2023. Banks will have to comply with this requirement by May 2024, provided there is no substantial change in the risk assessment. This development is welcome as the combination of high inflation, rising interest rates and slowing economic growth is putting the financial sector to the test once again, as recently shown by the collapse of some regional banks in the United States and its effect on global stock markets. Rising interest rates can ease the long-standing pressure on banks' profitability (Figure 1.9, Panel C) through higher interest income, but may lead to losses from their fixed income trading portfolio as rising interest rates are resulting in declining bond prices. In addition, an increase in non-performing loans may occur, although so far, their share remains low (Figure 1.9, Panel D). A recent stress test by the DNB (2022[9]) based on prolonged high inflation and a further rise in interest rates suggests that the positive impact of high interest rates is more than offset by rising credit losses and an increase in credit risks. Even so, banks are expected to be able to absorb the losses based on their good starting position.

Vulnerabilities that have accumulated over a protracted period of low interest rates are now surfacing. Favoured by a tax system that subsidises debt financed housing (see below), households have high mortgage debt on average and may face difficulties to meet their mortgage obligations if high inflation continues to reduce real incomes. In particular, recent first-time buyers borrowed large sums relative to their income, as house prices have seen a steep rise over the last years (Figure 1.10, Panel A). Although the maximum loan-to-value ratio on new mortgages has been lowered to 100% since the Global Financial Crisis, the debt-to-income ratio has steadily increased in recent years. Around 60% of households under the age of 36, and 45% of older households have a debt-to-income ratio above 450% (DNB, 2022[9]). Continuing to lower the maximum loan-to-value ratio to 90% could support financial stability in the longer term. As the share of fixed rate loans is high, with about 75% of outstanding mortgage debt in 2022 bearing an interest rate that was fixed for more than five years, the recent rise in mortgage rates is not likely to lead to significant losses in banks' mortgage portfolio in the short term, but could have indirect effects through decreasing housing prices (DNB, 2022[9]).

The housing market shows signs of cooling, as selling prices started to fall from August 2022. Real house prices dropped almost 2% on average in the third quarter of 2022, compared to the second quarter, the steepest drop in more than eight years. Still, house prices are significantly above the OECD and euro area average (Figure 1.10, Panel A), driven by high demand stimulated through tax advantages for home ownership (see below) that meets a housing supply shortage. As discussed in the previous *Economic Survey* (OECD, 2021[4]), housing supply has not kept pace with demand since the Global Financial Crisis, partially due to slow planning procedures. More recently, the availability and prices of construction materials and labour as well as the nitrogen problem (Box 1.2) are significant obstacles for the government to meet its ambition to add 100 000 new dwellings to the housing stock per year until 2026-27. Even though supply is limited, the rise in house prices started to slow from mid-2022 as demand declined (Figure 1.10, Panel B) on the back of rising mortgage rates. The developments in the housing market should be closely followed and banks should be prepared to absorb the impact of price corrections in the housing market. Against this backdrop, the DNB introduced a requirement on 1 January 2022 for banks to hold a certain minimum of capital for their mortgage portfolio for at least two years.

Figure 1.9. Financial stability indicators are in the mid-range of other OECD countries

2022Q4 or latest quarter



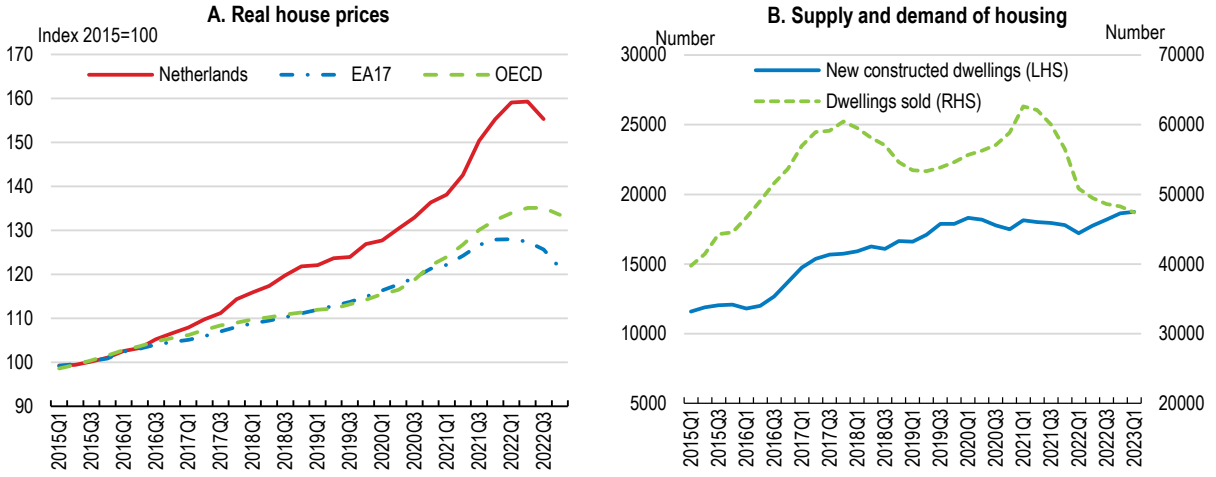
Source: IMF (2023), IMF Financial Soundness Indicators Database.

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Despite recent developments, the government's overarching ambition to increase affordability for first-time buyers is likely to come under additional pressure, as the rise in interest rates outpaces the restraining effect on house prices. Even though the Netherlands records a large share of renters, which at 40% is nearly double the OECD average, these renters are living in social rental housing as the private rental market is small. Affordable alternatives in the rental market are limited (OECD, 2022[10]), due to a considerable tax-favoured owner-occupied housing stock and rent controls for housing defined as social housing. Households with limited savings and limited ability to obtain a sufficient mortgage and that do not qualify for social housing are left with limited housing options. Plans to tighten rental controls to also cover the mid-market segment are motivated by the need to provide affordable housing, but also lower incentives for investors. To balance the housing market and increase the size of the private rental market, the government should re-evaluate the large role attributed to rent controls and closely monitor developments on the housing market in response to the tightening of rental controls. The government should develop a medium-term strategy to gradually limit rent controls to a narrower part of the market as stressed in the previous *Economic Survey* (OECD, 2021[4]). Such a strategy should be gradually phased in to create a better balance between supply of and demand for housing and make rental housing available to people

when and where they need it. First steps in a coherent housing reform package should include reducing the favourable tax treatment of owner-occupied housing to create room for private rental investments, and speeding up planning procedures to boost housing supply. These two reforms would contribute to increased supply and lower price pressures on existing housing and market rents, and could therefore lead to a situation where rent controls, at least on the mid-market segment, are no longer necessary.

Figure 1.10. House prices are falling



Note: In panel B, a four-quarter moving average is applied to the series of dwellings sold and new constructed dwellings.
Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database); CBS (2023), House Prices: new and existing dwellings price index (database), CBS (2023), Dwellings and non-residential stock; changes, utility function, regions (database).

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Rising interest rates can increase profitability for insurers and improve the financial position of pension funds, but also gives rise to new risks. As highlighted in the previous *Economic Survey* (OECD, 2021[4]), pension funds' funding ratios had been under pressure from low interest rates for a long time. Rising interest rates since the beginning of 2022 improved the funding ratio, but also increased the margin requirements under derivative contracts. In the first half of 2022, Dutch pension funds sold a record EUR 88 billion worth of assets, approximately 4.6% of pension funds' total invested assets, of which EUR 82 billion were used to fund margin calls (DNB, 2022[9]). While a gradual rise in interest rates does not pose a liquidity risk, a rapid rise in interest rates may require the realisation of investment within a short period, causing liquidity risks with a potential market impact. Non-banking housing finance in the Netherlands is higher than on average in the European Union, and thus Dutch insurance companies and pension funds are exposed to price corrections on the housing market and rising NPLs on the back of rising interest rates (OECD, 2021[11]). It should be monitored that investments of pension funds and insurances are sufficiently diversified to accommodate market corrections accompanied by high financial market volatility.

Box 1.2. The Dutch nitrogen problem

As highlighted in the previous *Economic Survey* (2021[4]), excessive nitrogen deposits in natural preservation areas in the Netherlands are not only polluting nature, air, soil and water, but also limit the available nitrogen space for new developments, slowing down new investment projects due to unclarities in the permitting procedure for nitrogen emitting projects. Without policy action, moving forward with much-needed building activities in the Netherlands is severely hampered.

Background

In the Netherlands, nitrogen pollution mainly derives from two main sources – burning fossil fuels for energy or transport (nitrogen oxides), and from the manure created by the livestock farming industry (ammonia and nitrous oxide). The Netherlands has 162 Natura 2000 areas, which are special preservation zones covering about 15% of the country and protected by the European Habitat Directive. Of these areas, 129 are sensitive to nitrogen and 118 exceeded the critical limits for nitrogen in 2018. In May 2019, the Council of State ruled that the existing policy framework at that time (PAS) did not provide the required assurance that the nitrogen deposition would not affect the natural features of the Natura 2000 sites, and was therefore in conflict with EU law. The Council of State also found that many of the programme's measures were necessary as a minimum requirement to fulfil the goals set out in the Habitats Directive, and therefore could not be used to offset emissions from new activities causing nitrogen deposition on the Natura 2000 sites. As a result of the ruling, projects have been postponed or cancelled as the necessary evaluation whether the emissions of a project could potentially harm a Natura 2000 area has to be done on a case-by-case basis and often require additional mitigating measures to offset the potential damage of the project.

A special committee, the Remkes Commission, advised the government to take several steps to reduce nitrogen emissions and deposits. Several short-term solutions were implemented in 2020, such as reducing maximum speed limits during daytime from 130km/h to 100km/h, and buy-out schemes for farmers near Natura 2000 areas. Long-term solutions are outlined in the 2021 nitrogen law, which comprises: i) a legally binding obligation to ensure that the share of nitrogen-sensitive hectares in Natura 2000 areas below the critical deposition load is brought back to 40% by 2025, to 50% by 2030 and to 74% by 2030, ii) a comprehensive programme with nitrogen reduction measures, iii) a nature improvement programme, and iv) a system of regular monitoring and adjustment.

In the Coalition Agreement for 2021-25, the Dutch government announced it would meet these objectives by means of an integrated, area-oriented approach regarding nature, nitrogen, climate and water. For this purpose, the National Programme for Rural Areas was established. The government also brought forward from 2035 to 2030 the ambition to have 74% of the Natura 2000 areas below the critical deposition load. A transition fund of EUR 24.3 billion was announced to make substantial investments in sustainable farming and robust natural habitats to redress the balance.

After having been appointed as a moderator between government, farmers organisations and other stakeholders, Mr Remkes issued another report in 2022, which contains various policy suggestions, including the recommendation to buy out several hundred enterprises causing a very high deposition of nitrogen on vulnerable Natura 2000-areas (so called ‘peak loaders’) in order to significantly reduce nitrogen emissions for nature recovery, the legalisation of PAS-reporters and to enable further economic development. In November 2022, the government announced amongst other policy initiatives a specific approach for peak loaders. This approach aims to reduce emissions by a buy-out scheme for farmers, while simultaneously preparing obligatory measures if insufficient reduction is achieved. The government also announced it would develop new regulatory measures and pricing mechanisms to contribute to achieve the targets of the integrated approach (nature/nitrogen, water and climate targets). It also announced several limiting measures concerning permitting. The objective of these measures is to ensure the validity of permits and to limit the unintentional increase of nitrogen deposition in the permitting process (transfer of rights).

Source: OECD (2021[4]), Remkes Commission (2020[12]), Remkes (2022[13]), Ministry of Agriculture, Nature and Food Quality (2022[14]).

The DNB is a frontrunner of stress-testing “non-traditional” risks, such as the effects of cybercrime and climate change. Amidst increasing geopolitical tensions, banks and other financial institutions are increasingly exposed to cyber-attacks, which can be a powerful weapon to disrupt the economy and the financial system. Climate change increases the scale and frequency of natural disasters such as floods

and storms, raising the claim burden for insurers and re-insurers, even though this will be reflected in premiums over time. Climate change policies, technological developments and changing consumer preferences in favour of sustainable solutions, could also pose a significant risk to the financial sector, particularly in the transition period (Merten and Verhoeven, 2022[15]). Current investments in companies with relatively large GHG emissions can decrease in value faster than expected leading to losses in banks' asset position. While the current macroprudential toolkit for banks is able to hedge most of the systemic risks, data collection on non-traditional risks that could become systemic should be improved to evaluate whether these risks could be addressed within the existing framework or whether adjustments would be needed, e.g., a broader perspective on the resilience of financial infrastructures or limiting exposure to cyber-risks by reducing the concentration of operational services (European Systemic Risk Board, 2022[16]).

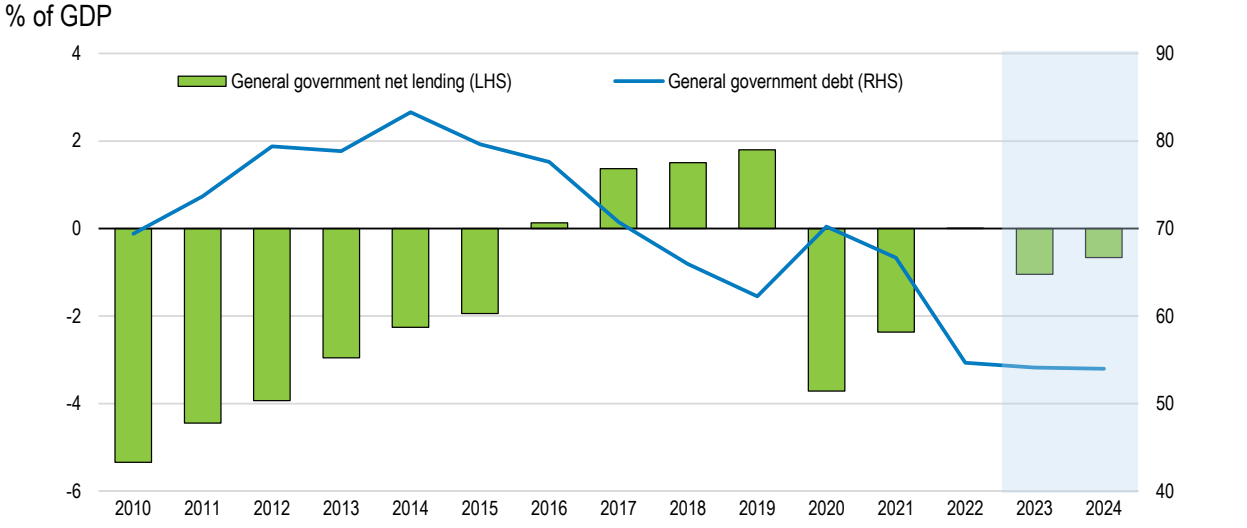
Table 1.3. Past recommendations on financial stability

Recommendations in previous Surveys	Action taken since the previous 2021 Survey
Continue to gradually reduce the maximum loan-to-value ratio on new mortgages from 100% in 2018 to 90% in 2028.	No action taken.
Gradually limit rent controls to a narrower part of the market.	Rent controls are to be expanded from 2024.

Addressing long-term fiscal challenges to maintain debt sustainability

The Netherlands' solid fiscal position enabled the government to provide unprecedented support to businesses and households during the COVID-19 pandemic. Fiscal surpluses turned into deficits, reaching 3.7% in 2020 before moderating to 0% of GDP in 2022 (Figure 1.11) due to lower COVID-19-related expenses and high economic growth. The Netherlands follows a trend-based fiscal policy framework, and at the start of a government term, the cabinet agrees on a maximum amount it may spend each year with limited room for exceeding commitments calling for explicit explanations for expenditure ceiling corrections. Since 2020, these annual real expenditure ceilings have been exceeded, as the COVID-19 pandemic and the energy crisis required fast implementation of fiscal support to prevent permanent damage to the economy (CPB, 2022[2]). Although deviations from the rules in situations of crisis are understandable, the government should clearly justify exceptions and ensure a quick return to compliance with budget rules.

Figure 1.11. The budget deficit and public debt remain moderate



Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database).

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The fiscal stance is expected to remain expansionary, as rapidly rising energy prices and cost of living prompted the government to provide support to households and firms once again (Table 1.4). In its 2022 September Budget (Ministry of Finance, 2022[1]), the government announced support measures totalling about EUR 16 billion (2% of GDP) in 2023 of which about EUR 11 billion are allocated to a purchasing power package to help households with the high cost of living. The package that came into effect January 2023 includes around EUR 6 billion in temporary measures, such as an energy discount for lower-income households, and about EUR 5 billion in structural measures, including amongst others a 10.2% rise in the minimum wage, rising social benefits, and a decrease in the rate of income tax payable in the first tax band (Box 1.1). The cost of the energy price cap will depend on energy prices in 2023, but is estimated at around EUR 5.1 billion (CPB, 2023[3]), coming on top of the purchasing power package. The debt-to-GDP ratio is likely to remain stable at around 50% of GDP in 2023 and 2024, as the energy price cap is expected to end December 2023 and that the government will not be able to spend some of the budgeted funds in the short term due to the tight labour market. In the context of high inflation, the government should better target the energy price cap at households in need and ensure that consumption thresholds are low enough to incentive energy saving. To improve targeting of future support measures, the government should accelerate the development of data and IT infrastructure to identify vulnerable households.

Table 1.4. A strong fiscal position allows for temporary support measures

Per cent of GDP

	2020	2021	2022	2023[1]	2024[1]
Spending and revenue					
Total revenue	44.1	44.4	44.5	44.4	44.3
Of which:					
Income tax	13.2	13.6	14.3	14.5	14.6
Social contributions	14.1	13.7	13.3	13.2	13.1
Other receipts	16.8	17.1	16.8	16.7	16.6
Total expenditure	47.9	46.7	44.5	45.4	45.0
Of which:					
Government consumption	26.1	26.2	25.5	25.2	25.2
Social transfers	11.1	10.7	10.1	10.1	10.4
Gross fixed capital formation	3.7	3.4	3.2	3.3	3.5
Gross interest payments	0.7	0.6	0.5	0.6	0.7
Budget balance					
Fiscal balance	-3.7	-2.4	0.0	-1.0	-0.7
Primary fiscal balance	-3.2	-2.0	0.4	-0.6	-0.1
Cyclically adjusted fiscal balance[2]	-0.7	-1.0	-0.2	-0.7	-0.4
Underlying primary fiscal balance[2]	-0.3	-0.6	0.2	-0.5	0.1
Public debt					
Gross debt (Maastricht definition)	54.7	52.5	51.0	50.5	50.3
Gross debt (national accounts definition)[3]	70.2	66.7	54.7	54.1	54.0
Gross financial assets (EUR billion)	280.3	286.7	273.3	291.1	301.1
Net debt	35.0	33.1	25.6	25.1	24.9

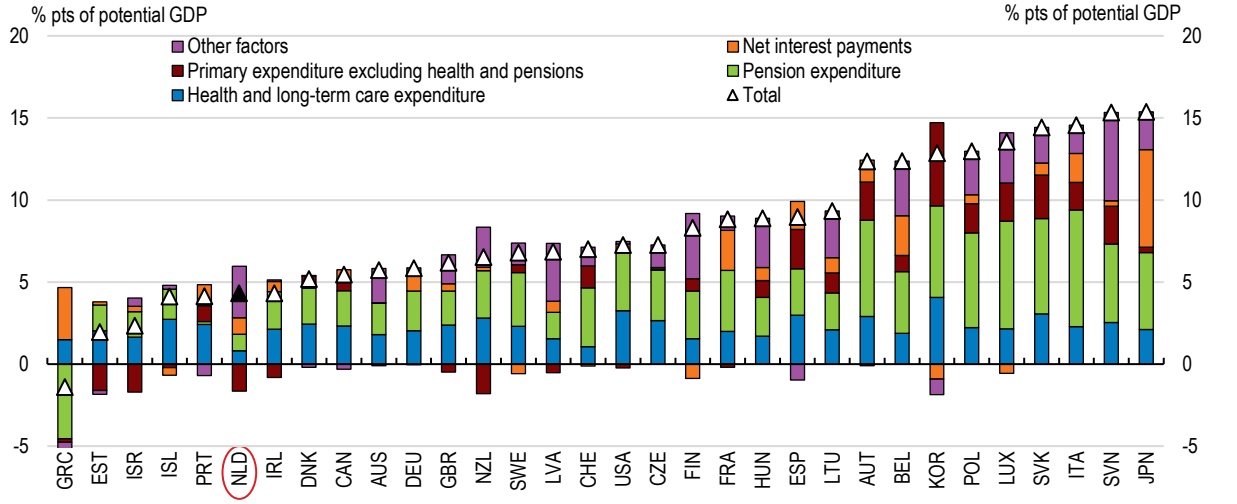
1. OECD estimates except otherwise stated.
2. As a percentage of potential GDP.
3. National Accounts definition includes state guarantees, among other items.
Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database)

Shifting from crisis mode to long-term fiscal management

In the longer term, debt sustainability is challenged not only by the fiscal cost of ageing, but also by the risk of rising interest rates. In early 2022, the CPB projected that the policy package announced in the 2021 Coalition Agreement (Box 1.3, Government of the Netherlands (2021[17])) would lead to an increase in the debt-to-GDP ratio by 2060 to 92% compared to a baseline scenario of no policy change at 28%, due to structural spending increases on education, social security, climate, environment and defence (CPB, 2022[18]). While these projections assumed a zero interest rate for the entire period, simulations for an interest rate of 1.5% or 3% show that debt could be pushed up to 113% and 151%, respectively (CPB, 2022[19]). Given the recent pension agreement linking the retirement age to life expectancy and the fully funded pillar two pensions, ageing pressures are relatively mild in a cross-country comparison (Figure 1.12). Moreover, the government announced in its 2021 Coalition Agreement measures aiming at limiting the increasing expenditure on health and long-term care (Box 1.3), but those have not yet been sufficiently worked out to be included in the analysis. Thus, in order to maintain the current debt-to-GDP ratio constant, subject to the assumptions of the OECD long-term model (Guillemette and Turner, 2023[20]), the structural primary revenue would have to increase by 4.3% of GDP, or corresponding savings would need to be implemented in the longer term. To preserve intergenerational equity and ensure that public debt remains sustainable, the government should prepare a multi-year fiscal strategy. Implementing labour market reforms that increase the employment rate and working hours (see Goos et al., (2022[21]) and Chapter 2), as well as reducing pathways into early retirement would boost medium-term growth and significantly reduce the public debt ratio in the longer term (Figure 1.13). The Netherland has a long tradition in providing spending reviews as part of the annual budget cycle. This expertise can be valuable in informing spending priorities and adapting to fiscal challenges, in particular ageing.

Figure 1.12. Population ageing will add to future spending pressures

Revenue increases needed to maintain a constant debt to GDP ratio from 2023 to 2060, by spending category



Note: The chart shows how the ratio of structural primary revenue to GDP must evolve between 2023 and 2060 to keep the gross debt-to-GDP ratio stable near its current value over the projection period (which also implies a stable net debt-to-GDP ratio given the assumption that government financial assets remain stable as a share of GDP). The underlying projected growth rates, interest rates, etc., are from the baseline long-term scenario. The necessary change in structural primary revenue is decomposed into specific spending categories and 'other factors'. This latter component captures anything that affects debt dynamics other than the explicit expenditure components and includes potential new sources of expenditure pressure, for instance the energy transition, climate change adaptation or defence.
Source: Simulations using the OECD Economics Department Long-term Model.

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Box 1.3. The 2021-25 Coalition Agreement

On 14 December 2021, the People's Party for Freedom and Democracy (VVD), the Christian Democratic Alliance (CDA), Democrats '66 (D66) and the Christian Union (CU) approved the 2021-25 coalition agreement "Looking after each other and looking ahead to the future". The outlined policy plans of the new government focus amongst others on:

Climate and environment

- Cutting greenhouse gases by 55% by 2030, with the focus on long-term impact, including the development of a new national power grid. Plans include spending of EUR 35 billion over 10 years on climate change.
- Providing a total of EUR 24.3 billion up to 2035 for a National Rural Areas Programme. Part of it is likely to be used for the buying out of livestock farmers, who are partly responsible for the high level of nitrogen pollution near nature reserves (Box 1.2).
- Building of two nuclear power plants.
- Setting up a new fund to stimulate homeowners to insulate their properties as part of the move to a carbon neutral society.

Housing

- Increasing the supply of new homes by 100 000 a year. At least two-thirds of these must be affordable rental homes or private homes with a selling price below the ceiling of the National Mortgage Guarantee (EUR 355 000 in 2022).
- Permitting the building of new housing both within and outside city limits, abandoning previous standards to only build within existing built-up areas.
- Improving the co-operation across the entire housing chain – from local authorities and national government to developers and investors.

Social welfare

- Reducing childcare expenditure for parents, by raising the childcare allowance for working parents to 95% of the costs, with the ambition of increasing this further to100%.
- Reducing healthcare spending by EUR 4.5 billion up to 2052 including planned measures in the basic health insurance package such as no longer reimbursing certain (alternative) therapies and treatments, and the concentration of highly complex care in a limited number of hospitals. Planned measures also include, amongst other, collective framework agreements in which healthcare providers and insurers agree on a yearly ceiling on net expenditure growth, an agenda to improve the functioning of the healthcare system by promoting "the right care at the right place" and accelerate the shift from residential care to non-residential care.
- Gradually increasing the minimum wage by 7.5%. This proposal was adjusted significantly in September 2022 and the minimum wage rose by 10.2% in January 2023.
- Implementation of the new pension system, which has been finalised but not yet put into effect. Under the new system, the second pillar occupational pensions move from defined benefit to defined contribution pension rights. The new system gives more room for individual choices, although the provision of these choices is up to the pension funds. Furthermore, a new option is introduced which allows a withdrawal of 10% of the individual's pension wealth around the statutory retirement age. The reform is likely to be fully phased in by 2027.

Budget:

- Aiming for the budget deficit to be restored to a downward trajectory as soon as possible, while accepting temporarily a higher debt to solve problems facing the society. The associated underlying EMU balance is -1.75% of GDP (Table 1.5).

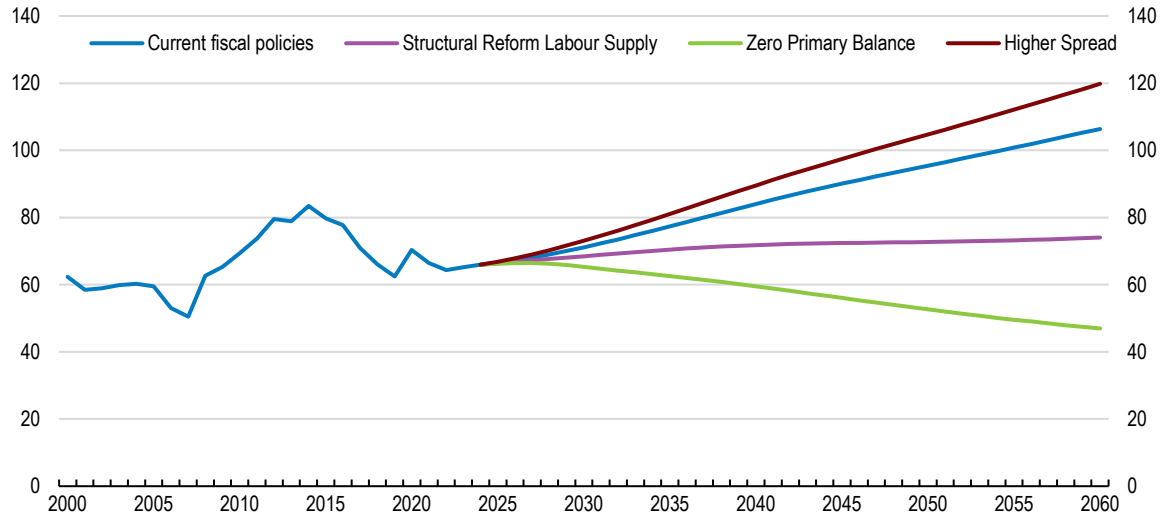
Table 1.5. Budget balance as outlined in the 2021 coalition agreement

% of GDP		2022	2023	2024	2025	Structural
EMU balance	Government's calculations in the coalition agreement assume an earning effect of 42% for the government's term of office.	-3.2	-2.3	-2.4	-2.5	
EMU debt		58.6	59.0	59.6	60.4	
Underlying balance (coalition target).	With a balance of -1.75%, the debt will stabilise at 60% of GDP, assuming an interest rate of 0% and nominal GDP growth of 3%.					-1.75

Source: Government of the Netherlands (2021[17]).

Figure 1.13. Reforms are needed to stabilise public debt

Gross public debt, % of GDP



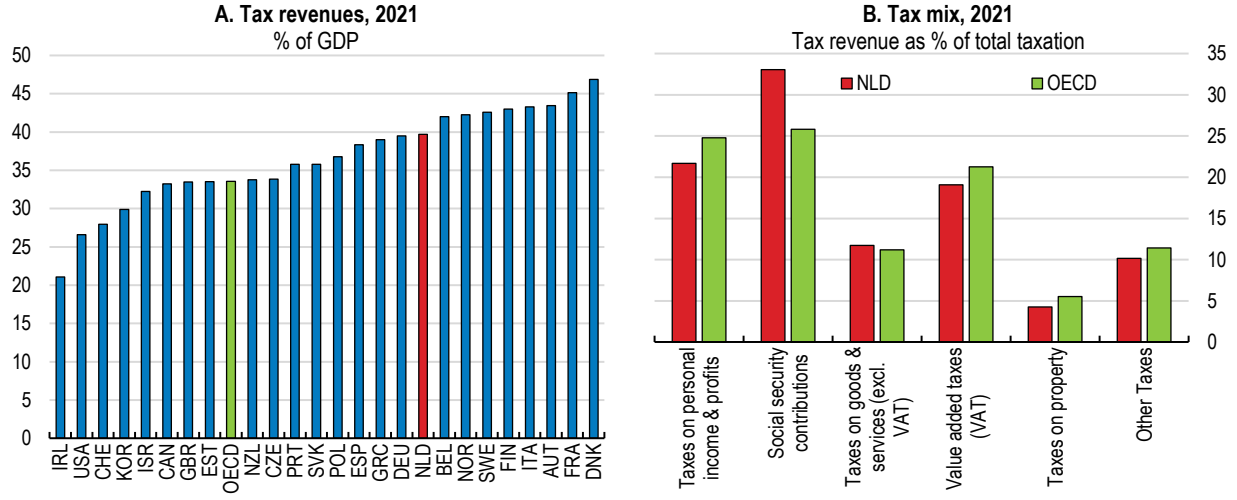
Note: The Current fiscal policies scenario assumes the continuation of current fiscal policies and no offsetting of the rise in ageing related costs; the Structural Reform Labour Supply scenario assumes a stabilisation of the primary deficit to 2024 levels over the projection period and a progressive increase in the proportion of women working full-time from one quarter to one third over 5 years, which amounts to a 1% increase in labour input by 2030; the Zero Primary Balance scenario assumes a fiscal consolidation of 0.25 % points per year from 2025 until 2030 and the primary balance to stabilise to that level over the projection period, and no structural reform; the Higher Spread scenario assumes an increase in the Dutch sovereign spread of 50 basis points over the projection period, and no structural reform nor fiscal consolidation.
Source: Simulations based on preliminary projections from the OECD Economics Department Long-term Model.

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The tax system can be made more efficient, equitable and environmentally friendly. The Dutch tax-to-GDP ratio is at 40% well above the OECD average of 34% (Figure 1.14, Panel A), driven by high labour taxation (Figure 1.14, Panel B). Social security contributions, which are earmarked to fund pension, health and long-term-care spending, are particularly high compared to the OECD average. In the context of rapid population ageing, reforms should shift the tax burden from labour towards other taxes, such as capital

income, property and consumption taxes, while also reducing the overall complexity of the tax system. Numerous deductions, exemptions and income transfers make the system overly complex, resulting in different income tax treatment of households in similar economic situations (Cnossen and Jacobs, 2021[22]). The government has stressed its ambition to simplify the tax system by abolishing the system of benefits administered by the Benefits Office, and has further explored policy options to address wealth inequalities introduced by the tax system (Ministry of Finance, 2022[23]; Government of the Netherlands, 2021[17]). Those are promising ambitions. The government could further focus on identifying and ending reliefs and exemptions that do not serve an economic, social or environmental purpose. The standard value-added tax (VAT) rate is 21%, but a 9% rate is applied to a wide range of goods and services. The government could consider moving towards a single uniform VAT rate in the medium term by broadening the VAT base and compensating lower income groups through the tax-transfer system to reduce distortions and address equity concerns. Environmental taxes represented 2.9% of GDP in 2021, significantly more than the OECD average of 1.1%, and constitute about 6.5% of Dutch government revenues (OECD, 2022[24]). But regressive rates apply on natural gas and energy taxes are significantly lower for energy-intensive firms than for small users, particularly households (OECD, 2021[25]; OECD, 2019[26]). In its Coalition Agreement and the 2022 September Budget, the government announced it would reduce the regressivity of these rates to incentivise decarbonisation and from 2024 and 2025, natural gas taxes will be higher than electricity taxes (Government of the Netherlands, 2021[17]; Ministry of Finance, 2022[1]). Electricity generation is covered by the European Union's emission trading scheme (EU-ETS), but tax exemptions and reductions for fossil fuel not only distorts carbon price signals, but also led to an estimated EUR 4.48 billion (0.6% of GDP) in foregone revenues in 2021 (OECD/IEA, 2020[27]) and should be phased out.

Figure 1.14. High labour taxes push Dutch tax revenues above the OECD average



Source: OECD (2023), OECD Global revenue Statistics.

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Table 1.6. Past recommendation on fiscal policy

Recommendations from previous Surveys	Action taken since 2021 Survey
Fully implement the tri-partite occupational pension agreement moving to defined contributions.	The pension reform has been delayed and it is expected that the new pension system will now not come into effect until at least July 2023.

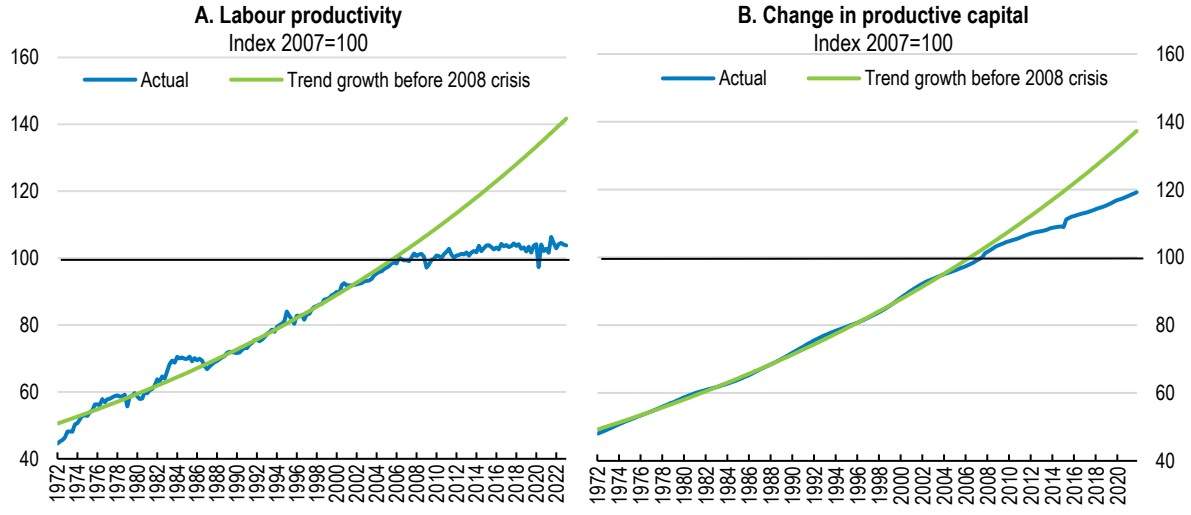
Streamlining the tax system to remove distortions that hold back productivity

Reviving productivity growth is needed, as it has stalled since the global financial crisis (Figure 1.15, Panel A). With a strong ICT infrastructure and well-educated workforce, the Netherlands is well positioned to boost productivity through digitalisation as discussed in the previous *Economic Survey* (OECD, 2021[4]). However, the digitalisation process is held back by labour shortages of ICT professionals and lagging digital adoption of SMEs (OECD, 2023[28]). Smaller enterprises continue to significantly lag behind larger firms due to a lack of awareness and the fixed cost nature of investment in digital technologies, which drags on productivity growth. SMEs account for a relatively large share of employment and value added, the government developed policies to support the financing and digitalisation of SMEs in line with recommendations of the previous *Economic Survey* (OECD, 2021[4]). It should continue its efforts and provide direct support to SMEs, including business advisory services and testing facilities, in order to increase awareness and help SMEs overcome barriers to the adoption of digital tools.

Weak investment is a key impediment to productivity growth as described in the previous *Economic Survey* (OECD, 2021[4]) (Figure 1.15, Panel B). The Netherlands has made significant advances to support investment through a multitude of investment packages and funds to support productivity, such as the National Growth Fund launched in 2021, which subsidises projects in the areas of knowledge development, research and development and innovation with a total of EUR 4 billion per year until 2025. As highlighted in the previous *Economic Survey* (OECD, 2021[4]), the increase in public investment is a welcome development, particularly in areas where private incentives to invest are too weak. The government could consider streamlining administrative procedures between different funds, as different timelines and procedures pose the risk of higher administrative cost for businesses (see below).

Private investment remains subdued as the tax system favours illiquid wealth accumulation, which may bind resources that would otherwise be available for more productive uses. In particular, tax deductions and exemptions on owner-occupied housing and on pensions result in households accumulating a relatively large amount of illiquid wealth (Figure 1.16). Similarly, a tax system that distorts labour supply decisions towards less productive uses can lead to lower productivity growth, if for example non-standard employment contracts with little incentives for skill accumulation are favoured.

Figure 1.15. Weak investments have contributed to lacklustre labour productivity growth

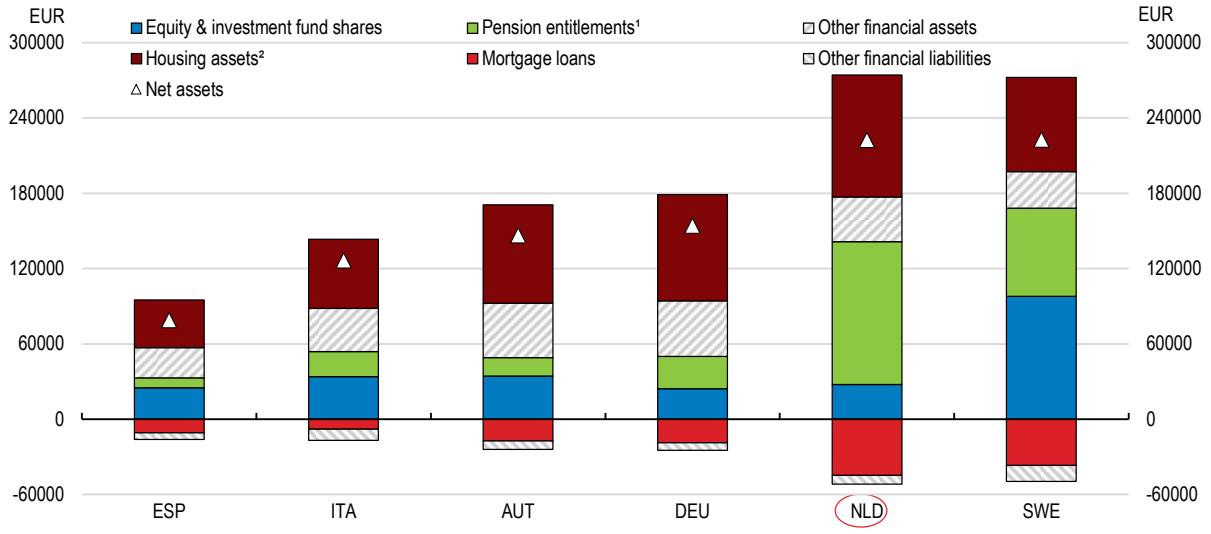


Note: Pre-crisis trend growth is calculated between 1972 Q1 and 2007 Q4, and is projected from 2008 onwards. In panel A, labour productivity refers to real GDP divided per total hours worked. Panel B refers to productive capital stocks. The increase in 2015 is due to a EUR 22 billion R&D purchase by a Dutch multinational enterprise.
Source: OECD (2023), OECD Economic Outlook: Statistics and Projections (database).

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Figure 1.16. Households hold high assets and high debt on average in the Netherlands

Household assets and liabilities per capita, 2021 or latest



Note: 1. Including life insurance and annuity entitlements. 2. Gross housing assets is proxied by the sum of net housing assets and mortgage loans.
Source: OECD (2023), "Financial Balance Sheets", "Households' financial assets and liabilities", "Population and employment by main activity", and "PPPs and exchange rates" in the OECD National Accounts Statistics (database); and Eurostat, Balance sheets for non-financial assets.

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Making taxation neutral across assets

Investment decisions are influenced by the tax system. In December 2021, the Dutch Supreme Court ruled the taxation of income from savings and investments based on presumptive returns incompatible with the European Convention on Human Rights (Box 1.4). As a result, the government adjusted capital income taxation, which will be based on actual returns as of 2026. This is a welcome step, but further efforts are needed to reduce distortions in investment decisions. As such, the government could consider the ruling as starting point to revisit and streamline the taxation of different types of income to reduce tax avoidance.

Box 1.4. The Dutch personal income and wealth tax system and the 2021 Supreme Court Ruling

The personal income and wealth tax system

Governed by the 2001 Income Tax Law, income is divided into three separate "boxes" (see Table 1.7). Each box taxes a different type of income according to different tax rules. Box 1 taxes labour income, self-employment income, pension benefits, transfer income and imputed rental income from owner-occupied housing at progressive rates varying in 2023 from 36.9% to 49.5%. Box 2 taxes profits distributed to, and capital gains realised by taxpayers who own at least 5% of a corporation, called substantial ownership, at a 26.9% rate in 2023. As long as no dividends are paid out and capital gains are not realised, income is only taxed at the corporate level. Box 3 covers all wealth except for owner-occupied housing, substantial ownership and pension wealth. Among other types of wealth, the Box 3 tax base includes bank deposits, bonds, non-substantial ownership of shares, and second homes.

Table 1.7. The three income boxes

Rates refer to 2023

Box 1	Box 2	Box 3 (Bridging Act Bill, until 2026)
Employment income Business income of unincorporated firms Owner-occupied property - Imputed rent of 0.5% of the property value up to EUR 1.11 million, and 2.35% on the excess - Mortgage rate deduction (36.9%) Pension income - Pay-out at reduced rates - Contributions are tax deductible Tax rates: 36.93% for up to EUR 73 031; above 49.5%. Tax credit of EUR 3 070 for up to EUR 22 661; EUR 3 070-6.095% x (taxable income from work and home – EUR 22 660) for up to EUR 73 031.	Income from substantial interest or holding (at least 5%) in a limited company. Income includes: Dividend income Capital gains Tax rate: 26.9% (in addition to corporate level taxes).	Income from assets such as savings and investments are taxed on the returns of the assets, where returns vary by type of asset and are considered as follows: Savings: 0.01% Investment: 6.17% Debts: 2.46% Tax free capital limit: EUR 57 000. Tax rate: 32%.

The 2021 Dutch Supreme Court ruling

On 24 December 2021, the Dutch Supreme Court ruled that the presumptive income tax regime in effect since 2017 violates the European Convention on Human Rights (ECHR). The ruling concerns the years 2017 and 2018, with the tax authorities being ordered to review the tax declarations of at least 60 000 people who had objected to the presumptive capital income tax.

In the system that has been in force between 2017 and 2021, savers and investors paid tax of 31% on a set presumptive return on their assets. In doing so, the tax authorities have since 2017 assumed that taxpayers have a larger portion of their assets invested - and a smaller portion in their savings accounts - the richer they are (see Table 1.8). This system ignored the actual asset distribution of taxpayers, and a higher presumed proportion of investments in the asset mix implied a higher fictive return, resulting in overpayment for those with more savings. The Supreme Court not only ruled that the system violated the ECHR for all taxpayers whose actual returns were lower than the presumed – and taxed – returns, but also that legal redress had to be provided to all plaintiffs in the mass objection procedure. In 2022, the government paid a reimbursement to the plaintiffs totalling about EUR 2.8 billion (0.4% of GDP).

Table 1.8. Assumed portfolio allocation and return for the different tax brackets

2017

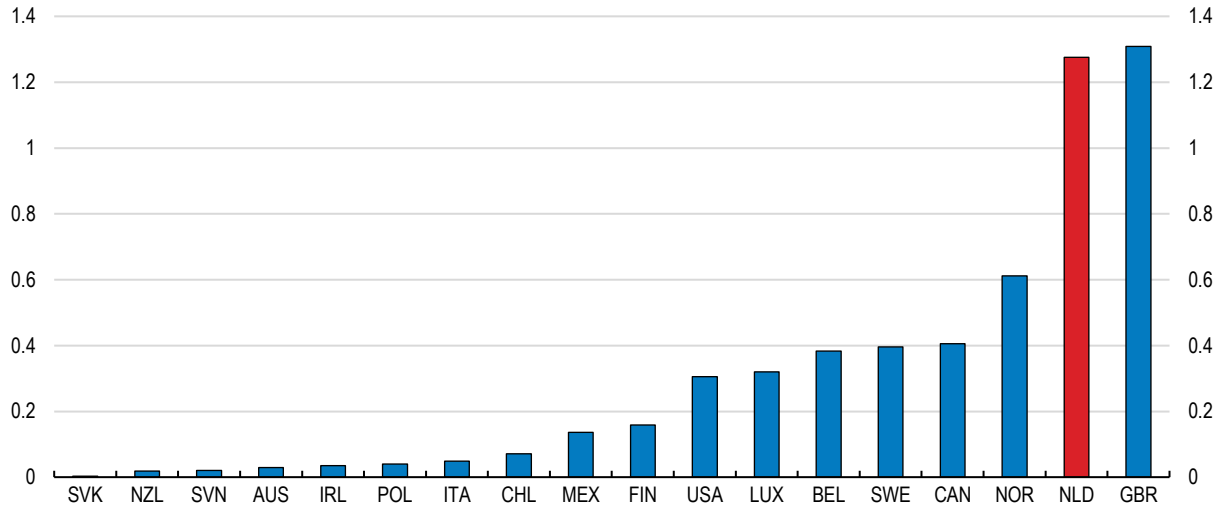
Tax brackets	Assumed portfolio allocation		Assumed returns
	Savings	Investment	
EUR 0 – EUR 25 000	Exempt		
EUR 25 000 – EUR 100 000	67%	33%	2.90%
EUR 100 000 – EUR 1000000	21%	79%	4.70%
Above EUR 1 million	0%	100%	5.50%

Source: Ministry of Finance (2022[29]; 2022[1]), OECD (2018[30]).

Owner-occupied housing enjoys favourable tax treatment compared to alternative investments. Although past policy measures have reduced some distortions, housing remains under-taxed compared to other wealth assets. Not only does this result in foregone tax revenue from tax relief for homeownership, which amounted to around 1.3% of GDP in 2020 (Figure 1.17), but also binds resourced that could be invested more productively. Although the mortgage rate deduction has been gradually lowered to match the basic income tax rate in the so-called "Box 1" of the Dutch tax code at about 37% in 2023 (Table 1.7), distortions towards debt biased homeownership remain. Moreover, individuals who live in their own home but have little or no mortgage debt left still benefit from the tax system, as imputed rents are subject to a deduction of 86.7% (2022), even though this deduction is reduced each year by 3.3% until being phased out by 2048. As stressed in the previous *Economic Survey* (OECD, 2021[4]), this tax bias has important implications for the functioning of the housing market, and more neutral taxation of different forms of wealth could free resources for more productive uses, help curb housing price growth, boost supply in the free private rental segment and increase residential mobility. The latter could play an important role when trying to attract labour to address labour shortages.

Figure 1.17. Foregone tax revenue from tax relief for home ownership is high

In percent of GDP, 2020



Note: Spending is missing for one of the policy instruments and the reported amount is therefore a lower-bound estimate for NOR, SWE, LUX, USA, CHL, POL, AUS. For more details on the exact calculations see https://www.oecd.org/els/family/PH2-2-Tax-relief-for-home-ownership.pdf.
Source: OECD Questionnaire on Affordable and Social Housing (2019, 2021).

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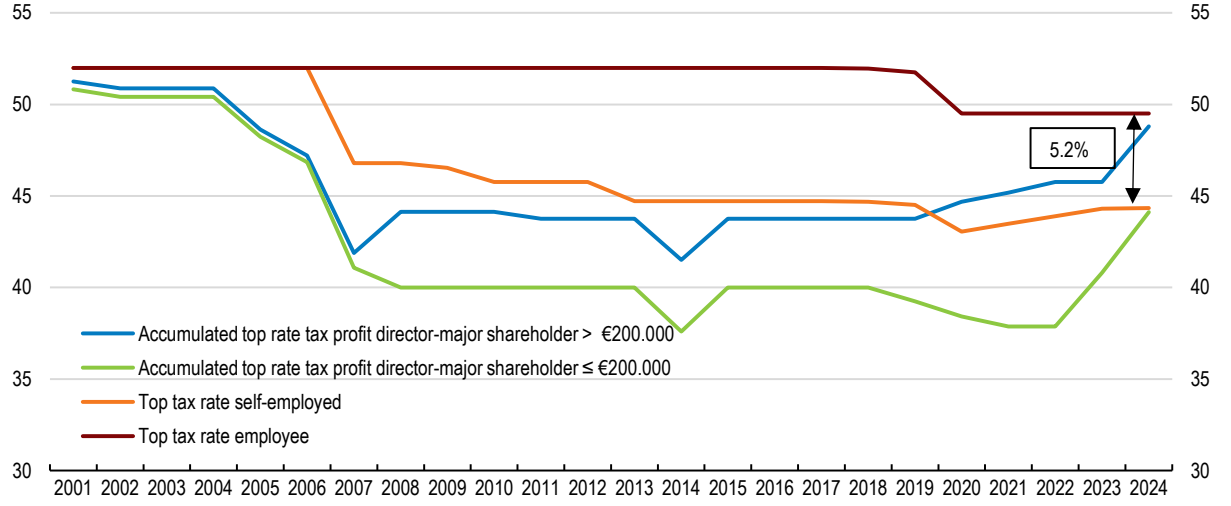
Taxing homeowners in line with other wealth would help to attenuate inequalities. The tax system benefits homeowners, who tend to have higher incomes than renters, who are more likely to be young, of immigrant background and on non-standard work contracts (OECD, 2021[4]). Thus, the tax system leads to redistribution from households without an owner-occupied home or with a relatively cheap home to households with expensive homes, high mortgage payments and a high income, aggravating already high wealth inequality (Ministry of Finance, 2022[23]; OECD, 2022[31]). This incentive is reinforced because the profit on the sale of the owner-occupied home is not taxed. Phasing out the favourable tax treatment of owner-occupied housing through removing the mortgage interest deduction would allow for a more neutral taxation of different forms of wealth.

Reducing tax distortions across forms of employment

Labour income of workers, self-employed, and business owners is treated unequally. Differences in the tax treatment of work contracts creates incentives for self-employment. Over the past years, the self-employed without employees have consistently accounted for a substantial part of the increase in the share of non-standard employment (see Chapter 2). While non-standard types of work can reflect individual preferences for more flexibility in working relationships, they can also result in a deterioration of work quality, with weaker job and income security and greater wage inequality, as well as hamper productivity in the longer term, as incentives to invest in skill improvements are small (Goos et al., 2022[21]). Although tax rates were set to be neutral across forms of employment when the Box system was introduced in 2001, large discrepancies emerged over the years (Figure 1.18). Some tax relief is only available for self-employed entrepreneurs, resulting in beneficial tax treatment compared to employees. While both wages and income from self-employment are taxed in the same box of the tax system (Box 1.4, Table 1.7), own-account workers benefit from a self-employment deduction, a one-year starter's deduction and also from a SME profit exemption allowing a lower taxable rate of earnings at 14%. The self-employed are not required to have mandatory insurance for illness, invalidity, or unemployment, nor pillar two pensions. This creates incentives for employers to hire people as own-account workers as their tax wedge is lower, and it may also leave the self-employed less protected in case they fail to arrange sufficient insurance from their net income (see previous *Economic Surveys* (OECD, 2021[4]; OECD, 2018[32]) for a discussion).

Figure 1.18. Differences in the top marginal tax rate by worker status have increased

Top marginal tax rates by worker status



Source: Ministry of Finance (2022[23]).

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The government has made several advances to reduce differences in the tax treatment of employees and self-employed. With its Tax 2023 plan (Ministry of Finance, 2022[1]), it accelerates the phasing out of the permanent self-employment deduction, from EUR 6 310 in 2022 to EUR 900 by 2027, compared to a previously slower phasing out to EUR 1 200 by 2030. The CPB estimates that this decrease could result in a structural revenue gain of about EUR 650 million, although subject to behavioural adjustment effects and a potential decline in self-employment (van Essen et al., 2022[33]). The gradual reduction of the permanent self-employment deduction is welcome, and in addition to recently announced government plans (Government of the Netherlands, 2023[34]), further adjustments could be made in line with the recommendations of the Commission for Work Regulation ("Borstlap" commission, see Chapter 2) to align tax rates and social security contributions between contract types for workers doing similar jobs.

Interaction effects of corporate and personal capital income taxation also create additional distortions in the way that labour is treated. A person who owns 5% or more shares in a company is, for tax purposes, treated as a combination of employee, entrepreneur and investor. For such a director and major shareholder, income can be taxed either as salary for labour input or as capital income. In the Netherlands, these income types are taxed differently: salary is taxed under Box 1 of the tax code; profits are first taxed with corporate income tax (CIT) and then income deriving from the substantial interest (dividends and the gain on the sale of one or more of the shares) is taxed under Box 2 of the tax code. The director and major shareholder has an incentive to keep the salary to the minimum legal requirement, as it faces the highest tax rate. Box 2 taxation can be deferred until profits are paid out as a dividend (or a capital gain on the sale). In 2022, about 97% of corporate income taxpayer fell below the threshold for the reduced rate, indicating that the system drives tax avoidance behaviour (Ministry of Finance, 2022[23]). The reduced CIT rate increases the incentive to defer profit distribution and hence Box 2 taxation. It also creates an incentive to define income as much as possible as capital income instead of labour income. By deterring firms from growing and providing incentives of splitting into smaller units, the current CIT system can weigh on productivity (IMF, 2016[35]). At the beginning of 2023, the government has increased the reduced CIT rate for profits from 15% to 19%, which is a step in the right direction, and reduced the ceiling from EUR 395 000 in 2022 to EUR 200 000. In 2024, the tax rate of Box 2 will be adjusted by introducing two brackets: a reduced rate of 24.5% for the first EUR 67 000 in income per person and a rate of 31% for the remainder. The basic rate of 24.5% increases the incentive to distribute profits. The government could further consider abolishing the reduced CIT rate, as the comparatively lower taxation of retained earnings creates a strong incentive to keep savings inside the corporations, and reduce the statutory CIT rate such that tax revenues remain neutral.

Table 1.9. Past recommendation on reducing distortions in investment and labour supply

Recommendations in previous Surveys	Action taken since the previous 2021 Survey
Phase out the permanent self-employment tax deduction.	The phasing out of the permanent self-employment tax deduction has been sped up, to reach EUR 900 in 2027, compared to previous plans of reaching EUR 1200 in 2030.
Align tax rates and social security contributions between contract types for workers doing similar jobs.	In December 2021, the Dutch government adopted legislation that will make it compulsory for self-employed professionals to take out disability insurance (AOV). This legislation is expected to come into effect in 2024.
Lower social security expenses, for instance by reducing the generosity for sickness insurance.	No action taken.
Reduce severance pay for employees who are dismissed under reasonable grounds.	No action taken.

Box 1.5. Quantifying the impact of selected recommendations

This box summarises potential medium-term impacts of selected structural reforms included in this Survey on GDP (Table 1.10) and fiscal balance (Table 1.11). The quantification impacts are merely 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.

Table 1.10. Illustrative GDP impact of selected recommendations

Policy	Scenario	Impact
Increase spending on training subsidies.	Increase ALMP by EUR 1 billion to 0.7% of GDP to reduce the spending gap in training.	0.5% increase in GDP per capita in 5 years, 2.7% long-term effect.
Further stimulate business R&D.	Raise business R&D by 0.4ppt of GDP to the OECD average.	0.3% increase in GDP per capita in 5 years, 1.6% long-term effect.

Streamlining the tax system[1]		Positive
Labour market reforms[1]	A gradual increase in the proportion of women working full-time from one quarter to one third over five years, which amounts to a 1% increase in the labour input by 2030.	Positive

Note: 1. These reforms cannot be quantified within the model framework, but are likely to have a positive impact on GDP.
Source: OECD calculations based on the framework in Égert (2018[36]).

Table 1.11. Illustrative fiscal impact of recommended reforms

Measure	Description	Additional fiscal revenue (% of GDP)
Expenditures		
Increase spending on training subsidies.	Increase ALMP by EUR 1 billion to 0.7% of GDP to reduce the spending gap in training.	-0.1
Implement the childcare reform for people in work as planned.	Increasing the subsidy for childcare costs to 96% for working parents.	-0.3
Taxes		
Reduce favourable tax treatment of owner-occupied housing.	The fiscal impact reflects additional tax revenue from scrapping mortgage interest rate deductions amounting to about EUR 6.4 billion.[2]	0.8
Reduce tax exemptions and reduced rates for fossil fuels.	Tax exemptions and reduced rates for fossil fuels for energy intensive industries and other end-users are phased out.	0.1
Introduce a single VAT rate.	Move from the current dual rate structure of 9% and 21% to a single rate of 17.5% without compensating measures based on simple back-of-the envelope calculations.	0.05
Reduce discrepancies in the tax treatment for different types of work contracts.	Abolishment of low corporate income tax rate, and align tax rate and social security contributions between contract types for workers doing similar jobs.[3]	0.1
Lower labour taxation.	Reduce the marginal tax wedge, including on moving from part-time to full-time employment.[4]	-0.8

Note: The estimations for selected reforms show only the direct budget impact. The simulated fiscal effect of the increase in ALMP is based on 2019. 1. The Government of the Netherlands (2021[17]) estimates that increasing the subsidy for childcare costs to 95% for working parents will lead to a structural expenditure of EUR 2.25bn. 2. CPB (2022[37]) estimates indicate that abolishing mortgage interest deductions will result in a structural budgetary revenue of about EUR 6.4 billion. 3. Based on estimates published by the Ministry of Finance (2022[23]). 4. To quantify a potential impact, the OECD average is chosen as a taxation target for illustrative purposes only. The true impact is likely to be smaller, as this simple back-of-the envelope calculation is not taking into account increases in labour supply and growth effects that increase fiscal revenues.
Source: OECD calculations.

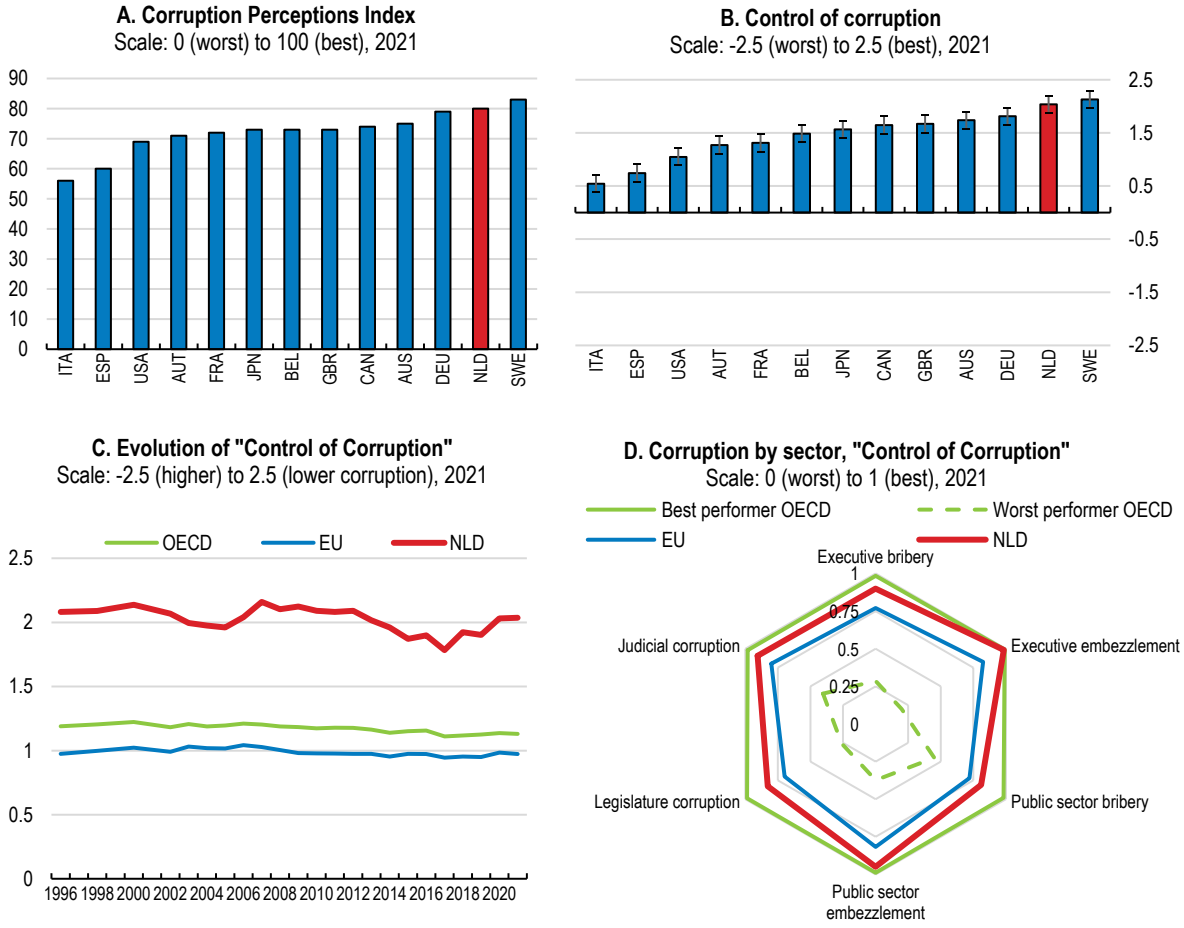
Further improving tax avoidance and anti-money laundering measures

The Netherlands has made significant improvements in its framework and standards to tackle money laundering (FATF, 2022[38]). Dutch strengths include the degree of national cooperation and coordination, both from a policy and operational perspective, and the use of data and intelligence. Corruption appears to be low (Figure 1.19), and the Netherlands improved measures to address tax avoidance. The government could further improve tax transparency (Figure 1.20, Panel A) and some anti-money laundering measures, in particular preventive measures (Figure 1.20, Panel B). While banks have invested heavily in the monitoring of unusual transactions (DNB, 2022[39]), technologically innovative solutions, such as machine learning, could be used more broadly to sharpen the focus towards detecting suspicious transactions in order to support the fight against money laundering.

The Netherlands has been a supporter of the minimum tax as part of a broader deal to overhaul the international tax system, which was led by the OECD and agreed by 137 countries. This international agreement reallocates taxing rights to market jurisdictions, reduces the potential gains from profit-shifting to low-tax jurisdictions, and places multilaterally agreed limits on tax competition. The Netherlands is among the first countries proposing new legislation from 2024 to ensure that companies with global sales of EUR 750 million or more are subject to the minimum tax rate of 15% in each jurisdiction where they operate. These advances are welcome.

Regulations on lobbying are a potential weak spot. A recent assessment in *Lobbying in the 21st Century* (OECD, 2021[40]) finds that the Netherlands is among several countries with no systematic framework for lobbying transparency. Since then, the government introduced a new code of conduct for cabinet members in December 2022 to increase transparency. Meeting schedules must be published, and new legislation proposals must include disclosure about relevant lobbying in the explanatory memorandum. Nevertheless, an exploration of the adequacy of transparency and checks on lobbying, and the potential gain from a more systematic framework is warranted.

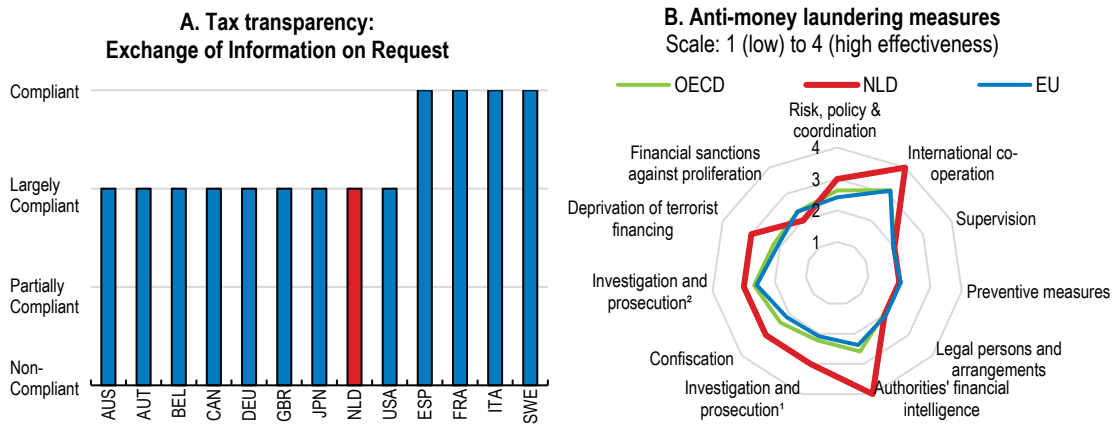
Figure 1.19. Corruption appears to be low



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 1.20. Tax transparency could be improved



Note: Panel A summarises the overall assessment on the exchange of information in practice from peer reviews by the Global Forum on Transparency and Exchange of Information for Tax Purposes. Peer reviews assess member jurisdictions' ability to ensure the transparency of their legal entities and arrangements and to co-operate with other tax administrations in accordance with the internationally agreed standard. The figure shows first round results; a second round is ongoing. Panel B shows ratings from the FATF peer reviews of each member to assess levels of implementation of the FATF Recommendations. The ratings reflect the extent to which a country's measures are effective against 11 immediate outcomes. "Investigation and prosecution¹" refers to money laundering. "Investigation and prosecution²" 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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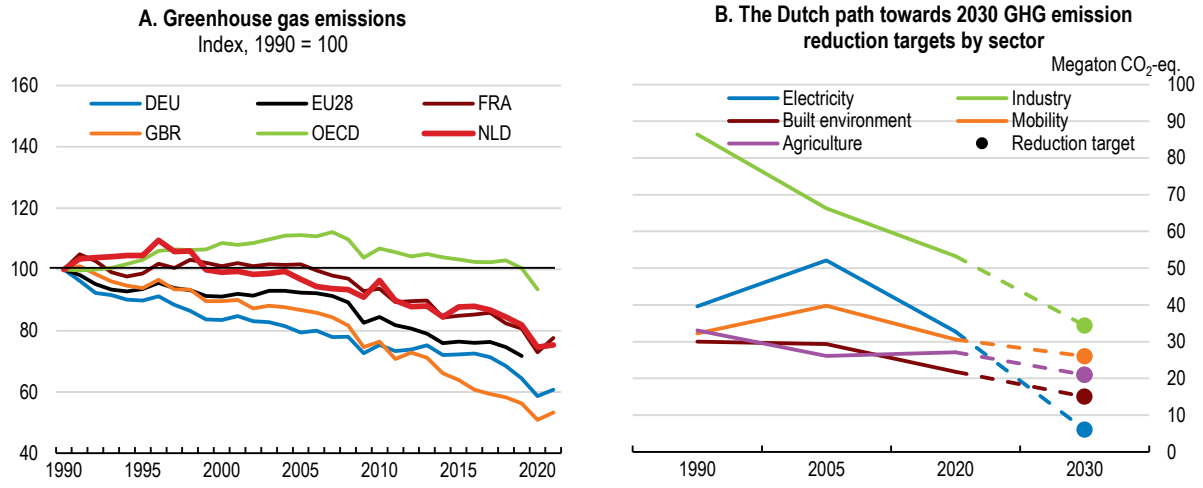
Faster transition to net zero to raise energy independence

Advancing the green transition is a key priority for the Dutch government. The Netherlands is particularly vulnerable to climate risks as about one fifth of the country is below sea level, and a rising sea level and more frequent natural disasters, like storms and floodings, could entail significant economic costs. The current energy crisis further highlights the importance of reducing dependence on fossil fuels, and points to the potential macroeconomic and financial cost of mismanaging the transition to net zero. The Netherlands has been stepping up its efforts to reduce greenhouse gas (GHG) emissions and further advance the green transition. In 2019, the Netherlands adopted the National Climate Act, a strategy that sets out targets to reduce net GHG emissions by 49% by 2030 compared to 1990 levels and by 95% by 2050. These targets were further tightened in 2021 to a legally binding reduction in carbon emissions of at least 55% by 2030, and the government stressed its ambition to achieve a 60% reduction by 2030 and to be climate neutral by 2050 in its 2021 Coalition Agreement (Government of the Netherlands, 2021[17]).

The Netherlands has made important improvements in dealing with environmental pressures, but a long-term strategy is missing. The country successfully managed to decouple GHG emissions, all major pollutants and waste generation from economic growth. In 2021, GHG emissions were 25% below 1990 levels, a stronger reduction than the OECD average but lagging peer countries such as the United Kingdom (49%) and Germany (41%) (Figure 1.21, Panel A). Despite a clear downward trend since 1990, per capita nitrogen and GHG emissions are among the highest in the European Union, not least because of the country's dense population, being home to Europe's main seaport, a high concentration of emission-intensive industry and high agricultural production. To achieve the 2030 target, the government focuses its policies on greater reductions across sectors (Table 1.12), particularly in the electricity and industry sector (Figure 1.21, Panel B). Estimates suggest that the 2030 target remains out of reach with implemented and proposed policies as of May 2022 (PBL, 2022[41]). GHG emissions are only expected to be 39%-50% lower

in 2030 than in 1990, and even including less elaborated policies on the government agenda, GHG emission reductions in 2030 could still fall 3 to 14 percentage points short of the 55% target (PBL, 2022[41]). A successful transition towards a climate neutral economy is a sizeable structural change that requires a holistic strategy, across sectors, government levels and different fields of government. Although the National Climate Act sets out a vision for 2050, it lacks a detailed and holistic longer-term strategy beyond 2030 risking that solutions may focus predominantly on reaching the 2030 target rather than being efficient in the long term.

Figure 1.21. GHG emission reductions are driven by the industry and electricity sector



Note: Panel A shows total greenhouse gas emissions excluding land use, land-use change and forestry. In panel B, the targets displayed are the lower bounds of the reduction targets defined by the government.
Source: OECD (2023), Environment Statistics (database); and PBL (2022).

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Table 1.12. Most important policy measures to reach 2030 GHG emission reduction target

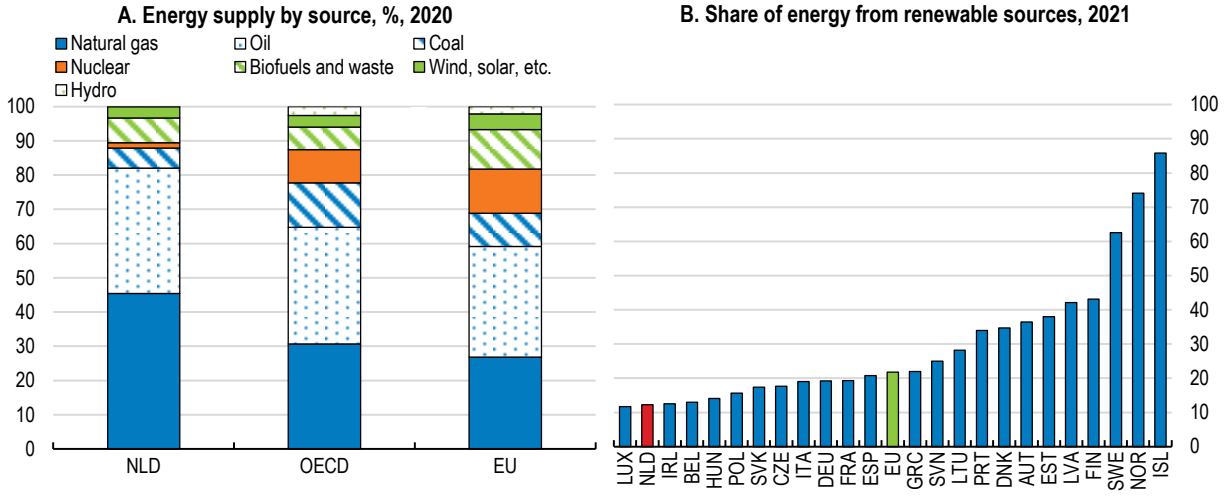
Sector	Measures
Electricity	- Growth in offshore wind from 11 to 20 GW in 2030. - Building of two nuclear power plants by 2035. - The production of green, sustainable hydrogen will be further stimulated in the coming years through standards and subsidies.
Industry	- Tightening of the CO_2-levy and introduction of a floor-price. - Customized agreements with 20 largest emitters. - CCS is considered to have the largest contribution in emission reduction in the industry in the coming years.
Built environment	- Mandatory hybrid heat pump from 2026 onwards, minimum energy label D for rental homes from 2030 onwards and improve the 15% worst energy labels in non-residential construction by 2027. - Subsidies and support for buyers, tenants, social organisations and companies.
Mobility	- By 2030 at the latest all new cars will be emission-free, by 2025 all new buses will be emission-free, and by 2030 there will be 1.7 million charging points. - Exploring the option of setting standards for the car lease market.
Agriculture	- Cohesive package for greenhouse horticulture (pricing instrument, limiting tax exemptions in combination with subsidies for sustainability). - Holistic policy approach to address nitrogen, climate, nature, and water in rural areas.

Source: PBL (2022[41]).

Advancing the green transition will require investment in technology and infrastructure

A change in energy production is essential to advance the green transition. The Netherlands remains heavily reliant on fossil fuels (Figure 1.22, Panel A), with a concentration of emission-intensive industries, reflecting the country's historic status as important gas producer in Europe (IEA, 2020[42]). But multiple earthquakes in the North of the Netherlands induced by natural gas extraction led to the government's commitment to phase out Europe's largest gas field in Groningen with limited extraction until its expected closure by the end of 2024. Since 2018, the Netherlands turned into a net gas importer, increasing its vulnerability to global energy market developments. The share of renewables in the energy mix has more than doubled between 2011 and 2020 from 4.5% to 14%, meaning that the Netherlands met its 2020 national target of renewables in its energy mix set out under the EU's Renewable Energy Directive (2009/28/EC). Still, it remains below the EU average and far below leading OECD countries (Figure 1.22, Panel B). Increasing the share of renewables in the energy mix is at the heart of the policy agenda and supported with the 2022 launch of the climate fund worth EUR 35 billon over a period of 10 years. As such, the government is supporting with about EUR 3 billion in subsidies the generation of renewable energy, mainly with a boost in offshore wind and the production of green and sustainable hydrogen. About EUR 5 billion are earmarked for plans for increasing supply with nuclear power. In addition, the Stimulation of Sustainable Energy Production and Climate Transition scheme (SDE++) has been expanded, granting subsidies to renewable energy production and CO_2 reducing projects. Under the SDE++, funding of EUR 13 billion was available in 2022 for renewable electricity, renewable heat, renewable gas, low carbon heat and low-CO_2 production for companies and organisations (non-profit and otherwise) in sectors such as manufacturing, transport and logistics, electricity, agriculture and the built environment (Ministry of Economic Affairs and Climate Policy, 2022[43]).These developments are welcome. Building on the National Climate Act, the government should continue to develop a holistic policy framework extending beyond 2030 with further concrete deadlines, policies and priorities in line with legal targets to provide more certainty and thereby stimulate investment in infrastructure required for renewables. Denmark for example has been successful in using a holistic policy approach, which reduced the costs of renewables, in particular of wind energy, and increased its competitiveness with fossil fuels generated energy (Box 1.6).

Figure 1.22. The Dutch share of energy from renewables is below the OECD and EU average



Source: IEA, World Energy Balances (database); and Eurostat (2022), Share of energy from renewable sources (database).

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Box 1.6. Denmark - The hub for clean technology

In Denmark, support for renewable energy generation through a complementary combination of R&D funding, streamlined planning processes, subsidies and national targets has driven down costs through learning-by-doing and economies of scale. This is particularly the case in offshore wind, where it took decades of sustained support to bring down high installation costs. Key initiatives to incentivise deployment included, first, feed-in tariffs, complemented by the introduction of a carbon tax in 1992, then an environmental premium added to the market price and, finally, tenders for new renewable capacity.

This approach has seen risk gradually shift from the government and electricity consumers to investors. A range of renewable technologies is now competitive with fossil-fuel generation, particularly after considering a mid-range estimate of the cost of carbon consistent with the Paris Agreement. While sunk capital reduces the economic cost of existing plants, renewable energy facilities are still set to be installed without subsidies in the decade ahead. Denmark's lead in wind energy has contributed to the development of a sophisticated export industry. The manufacture of wind turbines embodies a continuous accumulation of sophisticated knowledge, with the technological advantage of a few leading companies growing over time.

Source: OECD (2022[44]; 2022[45]; 2021[46]).

Significant investment is needed to make low-carbon technologies broadly attractive, in particular by boosting complementary investments in network infrastructure. Meeting the Climate Agreement emissions reduction targets will require the share of renewables in electricity generation to reach around 70% by 2030. Most is expected to come from offshore wind due to wind resources in the North Sea and limits to the deployment of large-scale onshore renewable projects (IEA, 2020[42]), requiring off-grid connection with the onshore grid. As announced in the 2022 September Budget, the grid operator Stedin will get a capital injection of EUR 500 million to adapt its power grids for the supply of more solar and wind energy. Advancing the green transition also requires public policies to trigger investments that bring down the costs and improve the productivity of existing or close-to-the-market clean technologies, such as Carbon Capture and Storage (CCS), electrification, green hydrogen, and bio-based material. In its 2022 September Budget, the government announced that it set aside EUR 233 million for building an infrastructure for hydrogen production. Given the Netherlands' central location in Europe, extensive cross-border energy infrastructure and large port facilities, the country has a great potential to play a role in developing a robust regional and global market for low-carbon hydrogen. International coordination will therefore become increasingly important, to ensure that energy networks will be integrated across the border (Box 1.7). As highlighted in the previous *Economic Survey* (OECD, 2021[4]), about half of the EUR 5 billion of the National Growth Fund is reserved for low-carbon public transit infrastructure projects. However, physical capacity bottlenecks might hamper advancing infrastructure projects as envisioned. Labour market shortages are a big challenge for many sectors, including the energy sector (Chapter 2). It is therefore important that the government monitors and addresses capacity constraints, not only in terms of infrastructure needs but also skills development.

Box 1.7. The Dutch Hydrogen Strategy

The Netherlands aims for low-carbon hydrogen to play a major role in supporting the achievement of emission reduction targets and has taken measures to promote low-carbon hydrogen through the Hydrogen Strategy. Under this strategy, the government is developing a broad policy framework to scale up low-carbon hydrogen production, infrastructure and demand.

The Netherlands has numerous assets that could be leveraged to support rapid progress on low-carbon hydrogen. The country already has significant hydrogen production (from natural gas) linked to strong hydrogen demand in the Dutch chemical, petrochemical and refining sectors. The Netherlands plans to rapidly scale up low-carbon hydrogen production in industrial clusters via carbon capture and storage (CCS) and electrolysis powered by renewable energy, with a focus on leveraging the low cost and high availability of Dutch offshore wind generation.

The Netherlands is also taking an integrated approach to electricity and gas infrastructure development, with a clear intention to support the production, transport and storage of hydrogen, including by leveraging existing natural gas infrastructure. The programme will focus on developing optimal hydrogen infrastructure. During the period up to 2025, it is expected that there will be a need for regional infrastructure for green hydrogen in the different industrial clusters and energy clusters. With an installed capacity of 3-4 GW, there will also be a need for hydrogen storage and a connection to several clusters. The Dutch government reserved a maximum of EUR 750 million for the development of the green hydrogen network that will consist of 85% recycled natural gas pipes. The Netherlands' central location in Europe, extensive cross-border energy infrastructure and large port facilities also support the potential for the country to play a role in developing a robust regional and global market for low-carbon hydrogen.

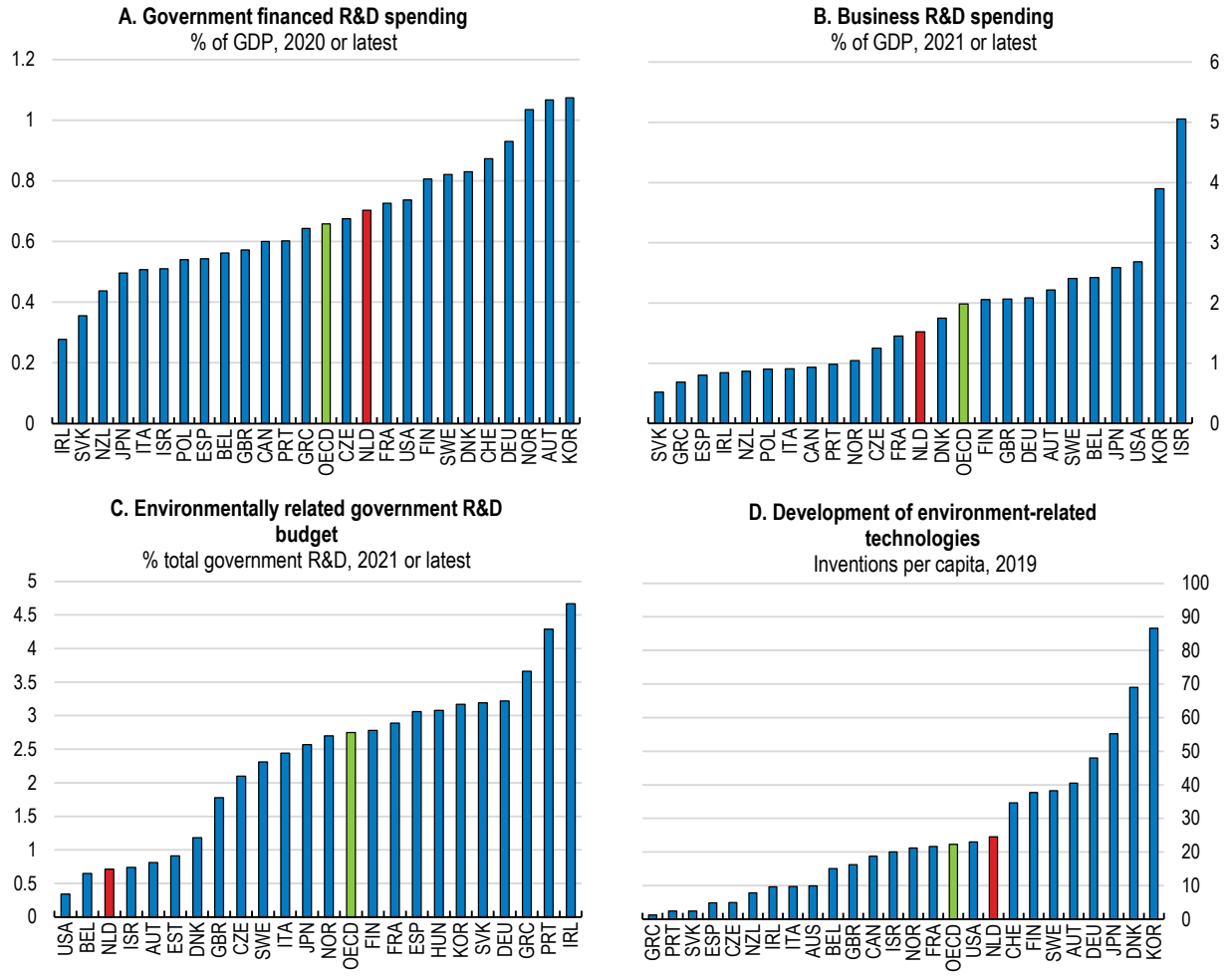
Source: Government of the Netherlands (2022[47]); OECD (2021[4]); IEA (2020[42]).

A clear and predictable regulatory environment would help to reduce the overall reliance on fossil fuels. This will not only directly reduce emissions, but also enhance the effect of pricing measures if well-tailored. Regulations can be particularly useful to target household energy use to phase in higher efficiency, clean heating and zero emission vehicles. The Dutch government has made several advances in that direction. In the building sector, hybrid heat pumps will be mandatory from 2026 onwards, and all rental homes will at a minimum need a D energy label from 2030 onwards. While this is a step in the right direction, the government should consider to be more ambitious in this regard and increase minimum energy efficiency standards in the rental sector. In the United Kingdom for example, all rental properties will at a minimum need a C energy label from 2028 onwards (BEIS, 2020[48]). It is welcome that the government already implements high energy efficiency standards in new-built housing under the current plans to increase annual housing supply by 100 000 homes. To further decarbonise the residential sector, government plans outlined in the 2022 September Budget (Ministry of Finance, 2022[1]) include a requirement for the construction sector to use low-carbon materials. The Netherlands also aims to increase the share of electric vehicles: all new buses are planned to be emission-free by 2025, all new cars should be emission-free by 2030 at the latest, and investment in complementary infrastructure will increased from over 100 000 by the end of 2022 to 1.7 million charging points by 2030. These are welcome developments.

Innovation helps to broaden the range and increase the efficiency of low-carbon technology options available to governments and the private sector. Public and private spending on generic R&D in the Netherlands, at 2.2% of GDP, is below the Dutch government's own goal and the OECD average of 2.5%, as well as below forerunners such as Denmark (2.6%), Sweden (3.3%) and Germany (3%) (Figure 1.23, Panels A and B). While public R&D is well above the OECD average, business R&D investment is lagging, reflecting the general trend of weak private investment and limited access to finance, particularly for SMEs, as detailed in the previous *Economic Survey* (OECD, 2021[4]). About 0.7% of the public R&D budget is

associated with environmentally-related R&D, lower than many peer countries such as Germany (3.2%), France (1.8%) or Denmark (1.1%) (Figure 1.23, Panel C). Although the Netherlands performs better than the OECD average in terms of climate-related inventions per capita (Figure 1.23, Panel D), more could be done to better align environmental and innovation instruments with the goal to achieve climate neutrality by 2050. Current rules do not explicitly prevent companies from using innovation schemes for brown innovation. The government could consider to explicitly exclude brown technology from government subsidies to align innovation incentives and climate goals.

Figure 1.23. R&D spending in the Netherlands



Source: OECD (2023), Main Science and Technology Indicators (database); OECD (2023) Green Growth Indicators (database).

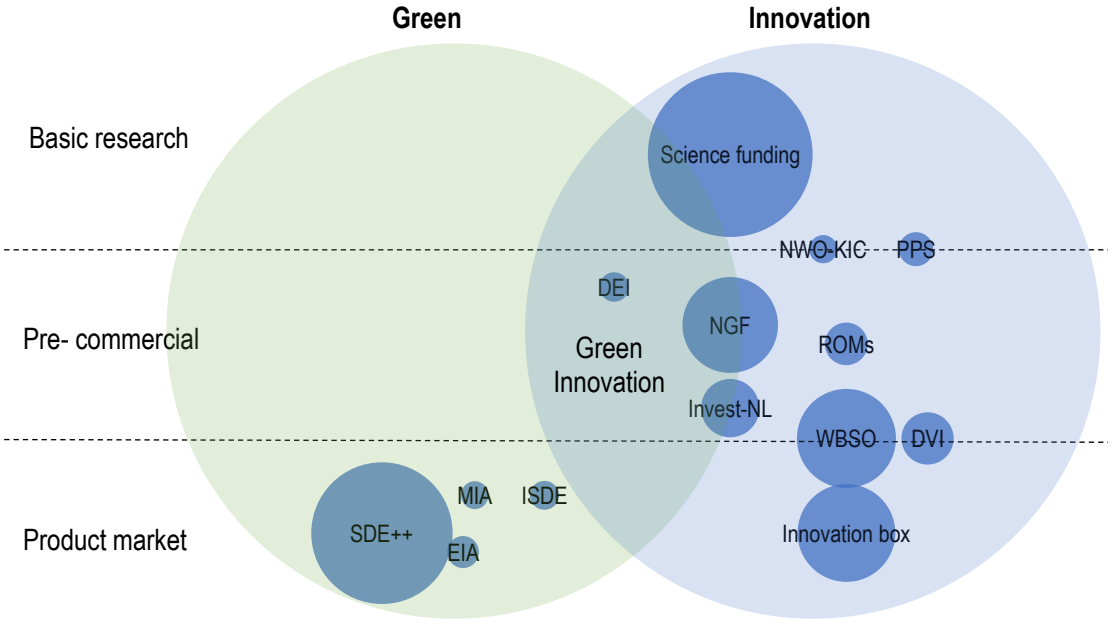
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The Netherlands supports innovation through several funds, but different administrative requirements and timelines increase the administrative burden to access those funds. In addition, timelines for projects vary and are often too short, requiring repeated applications for funds and interfering with the necessary continuity for projects. This is particularly challenging for green innovation, which can take a long time from basic research to commercialisation (OECD, 2021[25]). Funding does not specifically target the development of green technologies (Figure 1.24). The SDE++ mainly concerns adoption subsidies, whereas other "green" instruments are small in size and only pertain to the application of specific technologies, limiting the incentive to develop new knowledge. While projects on green innovation can also

apply for general innovation measures, public spending on R&D is mostly supported through broad tax credits (WBSO) and the Innovation Box. Those are technology neutral but benefit technologies that are closer to the market by design (Figure 1.24). While the WBSO can help companies with liquidity in early stages of innovation, profit-based instruments, such as the Innovation box, are unlikely to help with funding R&D in this stage when the companies tend to have small revenues and large costs (Rusu, Mot and Trinks, 2021[49]; OECD, 2021[25]). The government should aim to reduce fragmentation in funds and investment packages to lower the administrative burden for firms and provide a more balanced approach that supports both emerging and mature technologies. For example, separate tenders across technology readiness level could be held for deployment instruments, and horizontal R&D support could be combined with targeted support for emerging technologies.

Figure 1.24. Public funding for green innovation lacks specific support on early research stages

Public support by size of funding, 2021



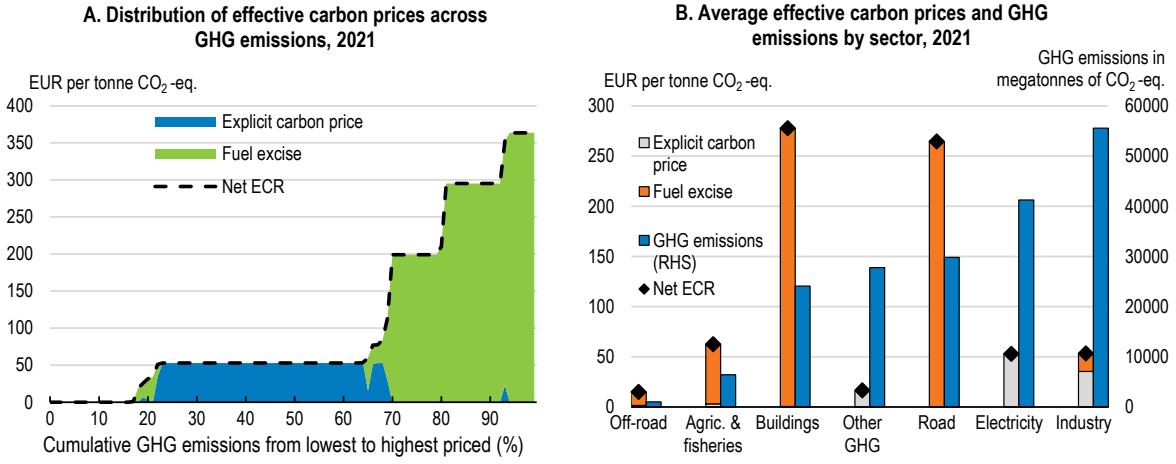
Note: The size of the circles refers to the budget size. SDE++:Subsidy for renewable energy production and CO_2 reduction; EIA: Tax credit for investments in sustainable energy and energy efficiency covered by the Environment list; ISDE: Subsidy scheme for home insulation and sustainable energy; MIA: Tax credit for investments in goods and technologies covered by the Environment List; WBSO: Tax credit covering social security contributions of employees involved in R&D activities; Innovation box: Lower corporate income taxes for income deriving from intellectual property; DVI: Public co-investment in venture capital funds that target small and medium-size enterprises; ROMs: Regional development companies, investing in local companies active in energy transition and sustainability. 10% of budget goes to green projects.PPS: Fiscal program stimulating private-public partnerships between companies and research institutes; Science funding: Financing of scientific research; NGF: National Growth fund, a public fund that provides subsidies to a variety of R&D and innovation projects, both green and non-green; Invest NL: State-backed VC fund acting as impact investor. Strong focus on sustainable energy and circular economy; NWO_KIC: Financing of basic and practical research in public-private cooperation. Some calls target green innovation; DEI: Subsidy scheme for early-stage innovation in carbon capture, energy efficiency, renewable energy, CO_2 reduction and local integration of large-scale wind and solar energy.
Source: Rusu et al., (2021[49]).

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Strengthening price signals across sectors to reduce emissions

The Netherlands priced 80% of its GHG emissions in 2021, explicitly or implicitly, with an average effective marginal carbon rate of EUR 111 (Figure 1.25, Panel A). However, heterogeneity across sectors is large (Figure 1.25, Panel B). Industry and electricity are responsible for almost half of the Dutch GHG emissions and are therefore at the core of government policy. Aiming to reduce industry emissions by at least 46% by 2030 and by 59% by 2050, the government has made significant advances in carbon pricing as highlighted in a recent OECD study (OECD, 2021[25]). In 2021, the Netherlands implemented a new carbon levy on industrial emissions that sets out an ambitious price trajectory until 2030, providing a clear signal to invest in long-term low-carbon assets and infrastructure. If EU ETS prices fall under a certain level, emitters pay the differential to the floor price. Gradually increasing, the carbon levy is expected to reach a total of EUR 125 per tCO_2 in 2030 (including EU ETS prices) adding some certainty to sectors subject to variable prices under the EU ETS. This is a welcome development as the levy provides a strong incentive to encourage low-carbon investment in industry and is designed in a way that the additional carbon price phases in gradually. However, as detailed in OECD (2021[25]), the carbon pricing signal is eroded by accompanying tax exemptions aimed to avoid carbon leakage and loss of competitiveness resulting in a highly heterogeneous effective carbon price. The government should therefore gradually broaden the tax base and remove exemptions and preferential rates to reduce economic inefficiency and strengthen price signals, in line with EU regulation.

Figure 1.25. Less than 35% of GHG emissions have a net Effective Carbon Rate above EUR 60 per tonne CO2-equivalent in the Netherlands



Note: Panel A shows the average price for each percentile bracket. In panel B, other GHG is excluding LUCF.
Source: OECD (2022), Pricing Greenhouse Gas Emissions: Turning Climate Targets into Climate Action.

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Ensuring a just transition

The green transition is a sizeable structural change that will require adjustments to maintain high living standards. Well-being outcomes in the Netherlands are high and poverty and income inequalities below the OECD average (OECD, 2023[50]). However, the current energy price crisis highlights that lower and middle-income households are more affected by high energy prices (see above). Perceptions of distributional fairness and personal losses and gains can play a significant role in public acceptability around climate action (Dechezleprêtre et al., 2022[51]). While the energy price cap provides some relief in the current energy crisis, longer term solutions have to be found to limit increases in poverty and financial

vulnerability amongst low-income households, as increased prices of carbon-intensive products will affect the cost of energy, food and transport (OECD, 2021[52]). The government should ensure that low-income households receive support to make their homes energy efficient, including stepping up efforts and outreach to inform households about available financing possibilities. Using revenues to finance green infrastructure increases both the political acceptability and the effectiveness of carbon pricing (Dechezleprêtre et al., 2022[51]).

In combination with increasing digitalisation, the adoption of new technologies to speed up the green transition implies an ever-growing need for workers to update their skills to meet new skill requirements. As such, labour market and skills policies play a key role in the country's capacities to manage the green transition. Policies for the green transition need to ensure that green-related skills are accessible in initial curricula and on-the-job training and that workers can smoothly transition to other sectors (Chapter 2). Moreover, the provision of green skills will facilitate the deployment and development of green technologies and thereby increase the efficiency of measures to support the green transition (OECD, 2021[53]).

Table 1.13. Past recommendations on investing in the environment for growth and well-being

Recommendations from previous Surveys	Action taken since the 2021 Survey
Make emission pricing more consistent across sectors and fuels not covered by the EU emissions trading scheme.	A minimum price for greenhouse gasses was implemented in the carbon tax as of 1 January 2023. The minimum price ensures that if the EU ETS price drops below a certain amount, the difference is levied as a tax. This minimum price is set at EUR 16.40 in 2023 and will incrementally increase to EUR 31.90 in 2030. This minimum price will also affect certain emitters that do not fall under the EU ETS system.
Introduce digital passports as part of Ecolabel and Ecodesign regulation to encourage recycle, reuse, and repair of materials.	No action taken.
Consolidate instruments to manage transferable nitrogen emission rights to further facilitate standardisation and transfer of rights.	No action taken.

Table 1.14. Findings and recommendations

FINDINGS	RECOMMENDATIONS (key recommendations in bold)
Supporting the economy through the energy crisis and ensure debt sustainability	
Fiscal policy is expansionary. Rapidly rising energy prices and cost of living triggered a substantial fiscal support package.	**Tighten the fiscal policy stance and target fiscal energy support at the most vulnerable households and ensure it remains temporary.** Accelerate the development of data and IT infrastructure to be better able to target support to vulnerable households in the future. Ensure that consumption thresholds for the energy price cap are sufficiently low to maintain incentives for efficient energy use.
Exceptions to the national budget rules have been made since 2020, as the COVID-19 pandemic and the energy crisis required fast implementation of fiscal support to prevent permanent damage to the economy.	**Clearly justify exceptions to the budget rules and return to the rules as quickly as possible.**
Ageing and health related expenditure are set to rise in the longer term.	**Design a multi-year fiscal plan drawing on existing expertise with spending reviews to define priorities.**
Maintaining macro-financial stability	
Rising mortgage rates could lead to an increase in non-performing loans and to price corrections in the housing market.	**Maintain recently tightened macroprudential measures, including higher capital buffers.** **Lower the maximum loan-to-value ratio to 90%.**
Pension funds and insurers face rising margin requirements under derivative contracts as interest rates rise. Rapid rate rises pose the risk of large margin calls requiring a sufficient liquidity of assets.	Monitor that investments of pension funds and insurances are sufficiently diversified to accommodate market corrections accompanied by high financial market volatility.
The current macroprudential toolkit for banks covers most of the systemic risks, but non-traditional risks, e.g., related to cyber-attacks or climate change are not systematically included.	Improve data collection and assess whether rising non-traditional risks could be addressed within the existing toolkit or whether adjustments are needed.
Rising mortgage rates and limited housing supply weigh on affordability.	Continue to increase housing supply and aim for greater balance in housing tenure by developing a medium-term strategy to gradually limit rent controls to a narrower part of the market.

Streamlining the tax system to remove distortions holding back productivity	
Digital adoption is lagging, particularly in SMEs, because of a lack of awareness and the fixed cost nature of investment in digital technologies, weighing on productivity.	Increase direct support to SMEs to facilitate the adoption of digital tools, including business advisory services and testing facilities.
Owner-occupied housing enjoys favourable tax treatment compared to alternative investments and rental housing.	**Phase out the favourable tax treatment of owner-occupied housing.**
Labour income of workers, self-employed, and business owners is treated unequally. Differences in the tax treatment of work contracts incentivise self-employment and have led to a rise in non-standard form of employment over the past years, which leaves many less well-off and hampers transitions into regular employment and productivity.	**Continue to align tax rates and social security contributions between contract types for workers doing similar jobs.**
The tax system is complex. The government aims to simplify it and reduce wealth inequalities introduced by distortions in the tax system. The tax system is biased towards retaining earnings over profit distribution for private limited companies, weighing on aggregate productivity. The reduced corporate income tax (CIT) rate on profits up to EUR 200 000 deters firm growth and incentivises firms to split into smaller units to avoid taxation at the statutory CIT rate.	**Abolish the reduced CIT rate and move towards a single uniform VAT rate so reforms are revenue neutral within each tax domain.**
The Netherlands has made significant improvements in its framework and standards to tackle money laundering and banks have invested heavily in the monitoring of unusual transactions.	Use technologically innovative solutions such as machine learning more broadly to sharpen the focus towards detecting suspicious transactions.
The Netherlands is lagging in implementing the OECD Principles for Transparency and Integrity in lobbying.	Ensure that processes for tracking and checking lobbying of officials and policymakers are adequate.
Advancing the green transition to increase energy independence	
Greenhouse gas emissions reduction targets will not be met under current policies. Uncertainty regarding future policy stringency holds back investment.	**Expand on the current Climate Strategy beyond 2030, with further concrete deadlines, policies and priorities in line with legal targets.**
CO2 prices vary by emission sources and for different fuels and implicit and explicit fossil fuel subsidies reduce the price competitiveness of renewables.	Continue to align emission pricing across sectors and fuels, including by reducing implicit and explicit fuel subsidies, in line with EU-regulation.
The country remains reliant on fossil fuels. Although the share of renewables in the energy mix has been increasing in recent years, it remains below the EU average. Only little support is available in the scale-up phase.	**Provide specific support to green technologies at early stages of development, including further public investment in green infrastructure and technology deployment, such as carbon capture, utilisation and storage.**
R&D support for green innovation is fragmented.	Reduce fragmentation in funds and investment packages to lower the administrative burden for firms and provide a more balanced approach that supports both emerging and mature technologies.
Higher energy prices disproportionally hit low-and medium-income households, at the risk of triggering public resentment towards climate policies. Rental homes will at a minimum need a D energy label from 2030 onwards.	Continue supporting low-income households to make their homes energy-efficient and step up information efforts and outreach for take-up. Further increase minimum energy efficiency standards for rental homes.

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2 Lifting labour supply to tackle tightness

Nicolas Gonne

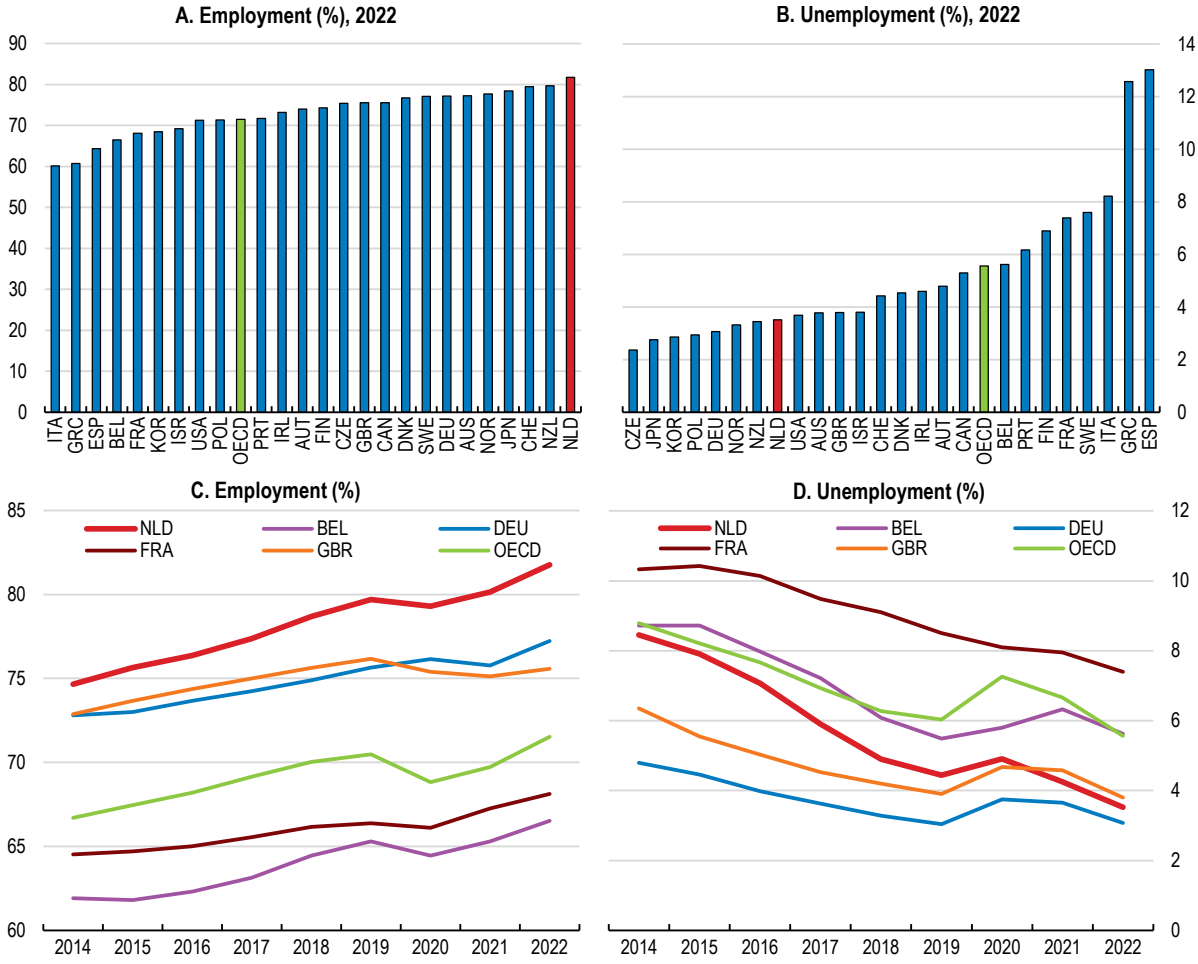
The Dutch labour market is strong but very tight. The unprecedently fast recovery from the pandemic, fast-changing skill demand, low hours worked, and the segmentation of the labour market contribute to labour shortages, weighing on growth potential and jeopardising the green and digital transitions. To tackle shortages, lifting labour supply is a necessary complement to raising productivity, as labour-saving innovation alone is unlikely to significantly reduce overall labour demand. Lowering the effective tax rate on moving from part-time to full-time employment and streamlining income-dependent benefits while improving access to childcare would both increase labour input and reduce gender inequalities in career prospects, incomes, and social protection. Narrowing regulatory gaps between regular and non-standard forms of employment further would alleviate shortages by facilitating transitions between occupations. Better integrating people with a migrant background and easing medium-skill labour migration in specific occupations would help to fill vacancies, especially those related to the low-carbon transition. Scaling up the individualised training scheme while ensuring quality and providing stronger incentives for co-financing by employers would boost the supply of skills and promote growth in expanding industries. Rewarding teachers in schools where shortages are significant and facilitating mobility between vocational and academic tracks would improve equality in education and better prepare the future workforce.

The labour market is strong, but shortages weigh on growth prospects

The Dutch labour market is very strong in international comparison. The employment rate is one of the highest in the OECD, at 81.8% of the population aged 15 to 64 in 2022 (Figure 2.1, Panel A), while the unemployment rate is relatively low, at 3.5% (Figure 2.1, Panel B). Moreover, workers are paid well on average, with wages among the highest in the OECD in purchasing power parity terms (OECD, 2022[1]). Finally, the share of employees experiencing job strain appears significantly lower than the OECD average (Cazes, Hijzen and Saint-Martin, 2015[2]). This contributes to making the Netherlands one of the OECD countries with the highest reported life satisfaction (OECD, 2020[3]).

The Dutch employment rate has been increasing steadily since the mid-2010s, reaching historically high levels (Figure 2.1, Panel C). This mostly reflects rising participation and inflows from inactivity to non-standard forms of employment (OECD, 2021[4]), particularly own-account workers (*zelfstandigen zonder personeel*, ZZP). Major labour law reforms underlie these trends, including the 2015 Law on work and security (*Wet werk en zekerheid*) and the Law on participation (*Participatiewet*), which increased labour market flexibility but contributed to polarisation between regular and non-standard employment. The unemployment rate also decreased steadily (Figure 2.1, Panel D), due to the reforms but also to stronger incentives for municipalities to activate the long-term unemployed (OECD, 2023[5]).

Figure 2.1. Employment is historically high and unemployment, historically low



Note: Panels A and C refer to the share of the population aged 15-64. Panels B and D refer to the share of the labour force aged 15-64.
Source: OECD Labour Force Statistics (database).

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The Netherlands performs well on many, though not all, measures of labour market equality. Relative to other OECD countries, employment rates are equally high across gender, age groups and education levels. Women's employment rate at 78% in 2022 is the second highest in the OECD, despite remaining about seven percentage points lower than men's (OECD, 2022[6]). Moreover, wages are distributed relatively equally. Wage earners at the ninth decile of the distribution make a bit more than two and a half times as much as those at the first decile in 2021, comparable to Nordic countries and much lower than the OECD average of more than three times as much (OECD, 2022[7]). Yet, large gender gaps remain in hours worked and, therefore, in earnings.

The labour market is also very tight in the Netherlands. Labour demand largely exceeds supply: vacancies are plenty, but available workers are scarce, with almost 130 vacancies per 100 unemployed in 2022, one of the largest vacancy-to-unemployment ratios in the OECD (Figure 2.2, Panel A). All measures of labour market demand and supply point to acute tightness in the Netherlands (Box 2.1). The vacancy rate, measured as the ratio of vacancies to the total of jobs, both occupied and vacant, stood above 5% in the second quarter of 2022, second only to the United States and substantially higher than the euro area average of 3.2% (OECD, 2022[8]). The number of people not in employment (either unemployed or inactive) has declined steadily in recent years, and an increasingly small fraction is available for work (CBS, 2022[9]).

Box 2.1. Measuring labour market tightness and shortages

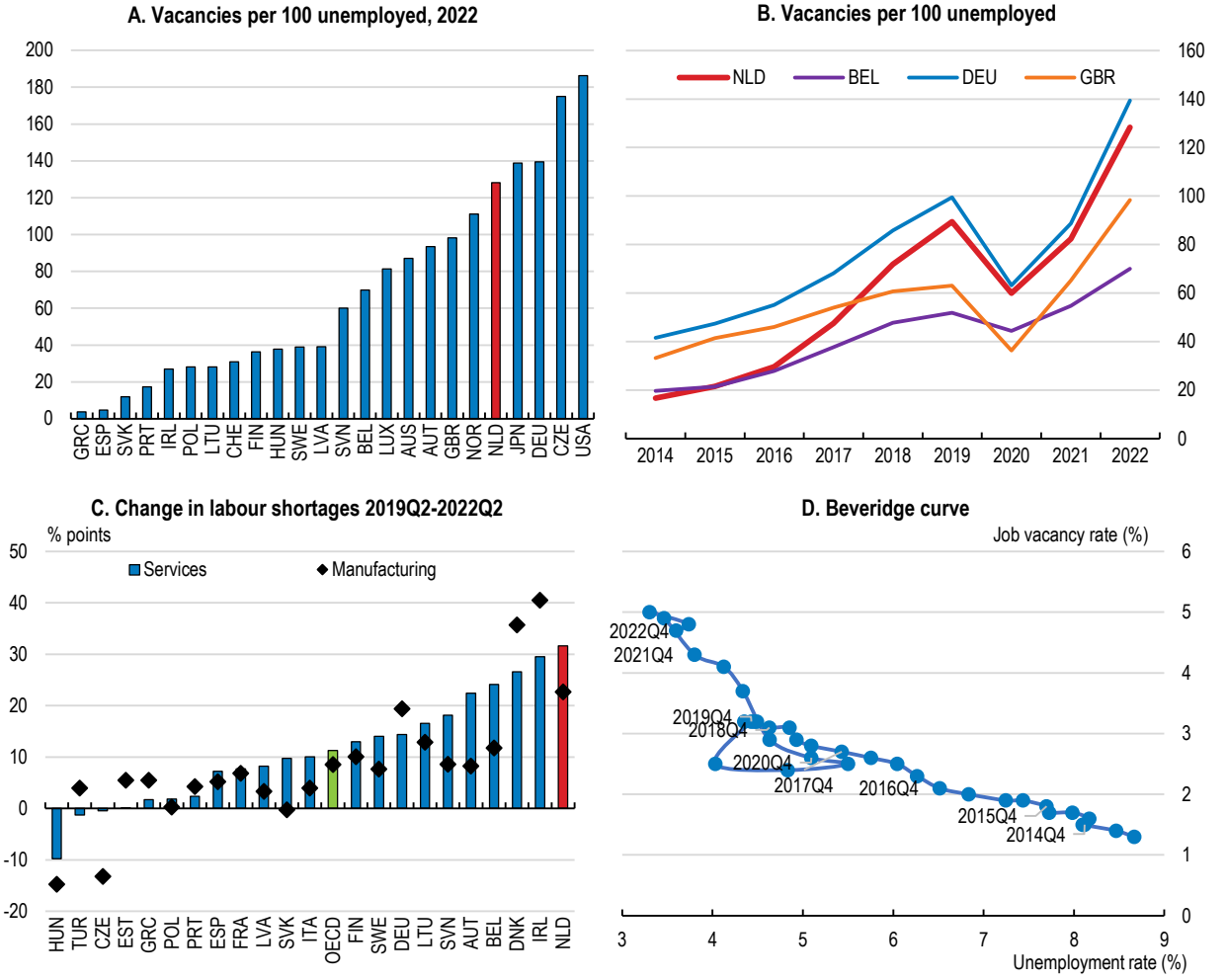
Like many measures of economic outcomes, labour market tightness is the result of the simultaneous determination of demand and supply. Specifically, labour shortages arise when labour supply falls short of labour demand. Some indicators of labour market tightness focus on either demand or supply, while others explicitly or implicitly combine demand and supply statistics.

- The job vacancy rate is a measure of labour demand, defined as the ratio of the number job vacancies to the total number of jobs, both occupied and vacant. Changes in the vacancy rate reflects changes in the ease with which positions are filled, so that an increase can be indicative of labour market tightness and risks of shortages.
- The unemployment rate is a partial measure of slack in labour supply, defined as the ratio of unemployed to the labour force. Changes in the unemployment rate reflect changes in the available labour resources, so that a decrease can be indicative of labour market tightness and risks of shortages.
- The vacancy-to-unemployment ratio is a direct measure of labour market tightness, defined as the ratio of the number of vacant positions to the number of unemployed. An increase in the vacancy-to-unemployment ratio indicates a tightening of the labour market and increasing risks of labour shortages.
- The share of managers who report shortage of staff as a factor limiting production in business surveys is another direct measure of labour market tightness.
- The job filling rate, measured as the ratio of the number of hires to the number of job vacancies, is a direct measure of labour market slack. A decrease in the job filling rate indicates a tightening of the labour market.

With the concomitant increase in vacancies and decrease in unemployment, the vacancies-to-unemployment ratio has been reaching all-time highs in the Netherlands (Figure 2.2, Panel B). The number of vacancies has been higher than the number of unemployed since the fourth quarter of 2021 (Eurostat, 2022[10]). Labour demand has been exceeding supply in many OECD countries due to the unprecedented speed of the post-pandemic recovery (OECD, 2022[11]; Causa et al., 2022[12]). However, the tightness of the Dutch labour market predates the pandemic: the number of vacancies per 100 unemployed stood at 89 in 2019 in the Netherlands, higher than in most OECD economies.

Tightness is not unique to the Dutch labour market, but the resulting labour shortages are particularly severe (Figure 2.2, Panel C), making it difficult for Dutch businesses to operate at their desired production level. Shortages of staff concerned one third of businesses in the second quarter of 2022 and have consistently been reported by managers as the main obstacle in carrying out business since the third quarter of 2021 (CBS, 2022[13]). While labour shortages were mostly limited to high-skill occupations before the pandemic, they have become pervasive across industries, occupations and regions in the Netherlands (UWV, 2022[14]; OECD, 2023[5]).

Figure 2.2. The labour market is increasingly tight



Note: Panels A and B refer to the ratio of job vacancies (s.a.) to the unemployed (s.a.) aged 15 and over; job vacancies comprise newly created, unoccupied and about to become vacant paid positions, except for Australia, Hungary, Switzerland, the United Kingdom and the United States, where job vacancies refer to an estimate of unfilled vacancies, and for Japan, where job vacancies refer to active job openings. Panel C refers to the share of firms reporting labour shortages; 2019Q2 is an abuse of notation and refers to Q2 average over 2016-19.
Source: Eurostat Job Vacancy Statistics; Japan Institute for Labour Policy and Training; OECD Labour Force Statistics (database); OECD (2022) *OECD Employment Outlook 2022*; Statistics Netherlands.

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Labour shortages reflect a growing imbalance between labour supply and demand, and do not seem to result from a decline in matching efficiency between firms and workers. Indeed, the Beveridge curve, which captures the negative relationship between the job vacancy rate and the unemployment rate, does not exhibit a simultaneous increase in vacancies and in unemployment (Figure 2.2, Panel D), as in other OECD

countries such as the United Kingdom or the United States (OECD, 2022[11]). Apart from a marked but brief decrease in vacancies at the onset of the pandemic and a loosening over the next couple of quarters, the Dutch labour market has been tightening continuously since the mid-2010s.

Imbalances between labour demand and supply appear to have peaked in the second quarter of 2022 as the economy started to slow (CBS, 2022[15]). At the same time, the government's plans to increase employment in the public sector and in education and health, as set out in the 2021 Coalition Agreement, will partly aggravate the tightness of the labour market (CPB, 2022[16]). Public employment growth is driven in large part by significant staff needs related to the energy transition, especially at the local level, suggesting that labour shortages will remain in specific industries and regions (UWV, 2022[17]).

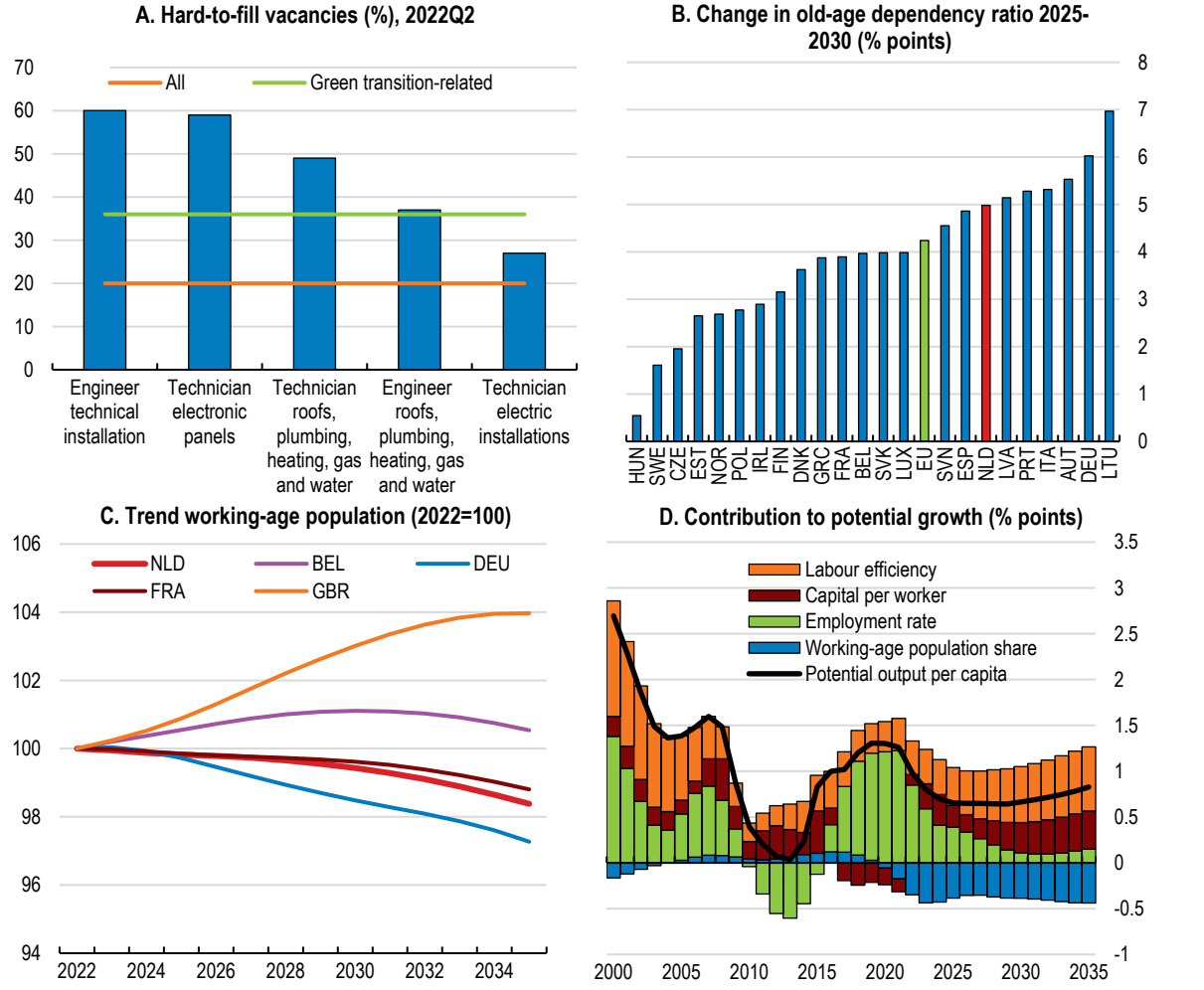
At first sight, labour market tightness may seem a blessing for workers, whose bargaining power increases as firms try to attract them by offering better pay and work conditions. Indeed, the post-pandemic increase in job-to-job transitions seems mostly driven by workers moving from one firm to the other within the same industry or occupation (OECD, 2022[11]). Workers with sought-after skills may enjoy a wage boost or obtain better employment conditions, including transitioning from flexible to regular employment. Moreover, relatively high labour costs tend to accelerate automation and other labour-saving innovations and investments, which supports productivity, thereby increasing living standards.

However, enduring labour market tightness is eventually detrimental to economic growth and well-being. Labour and human capital are key resources in the production process and cannot be perfectly substituted with physical capital or other inputs. Therefore, labour shortages not only reduce the volume of potential output in the long run, but also decrease the productivity of capital investment. A lack of workers in certain occupations can even have immediate and disruptive negative impact on access to essential goods and services, for example agriculture and food production, retail trade, healthcare or education, and hold back digitalisation, thereby weighing on productivity growth. Moreover, rising tightness risks bringing wage inflation and unsettling supply chains.

In the Netherlands, labour shortages specifically jeopardise the green transition, as most occupations related to low-carbon investments and maintenance face important shortages (Figure 2.3, Panel A). While about 20% of vacancies were hard to fill in the Netherlands as of the second quarter of 2022, the proportion reached 36% for occupations that are relevant for the low-carbon transition (ABN AMRO, 2022[18]). In the tightest occupations, such as electrical engineers or solar panel installers, more than half of vacancies are hard to fill. Limited availability of green skills constitutes an important bottleneck for the decarbonisation of the Dutch economy (Anderson et al., 2021[19]). Ensuring that adequate labour resources are available for the expansion of sectors that are instrumental in achieving the green transition is essential (Chapter 1), as the Dutch government recognises (EZK, OCW and SWZ, 2023[20]).

Labour shortages also compound challenges related to demographic change. The ratio of the population aged 65 and over to the population aged 20-64 will go up by about five percentage points between 2025 and 2030 in the Netherlands (European Commission, 2021[21]), which will raise labour demand in healthcare and other old-age industries (Figure 2.3, Panel B). The contraction of the Dutch working-age population will make the labour market even tighter in the medium run (Figure 2.3, Panel C). Moreover, the shrinking workforce will weigh on potential growth, with potential output projected to grow significantly slower over the period 2025-34 than over the period 2015-24, chiefly due to the negative contribution of the working-age population share (Figure 2.3, Panel D). Maintaining strong growth potential is a key reason to tackle tightness (Chapter 1).

Figure 2.3. Labour shortages compound climate and demographic challenges



Note: Panel B refers to the ratio of the population aged 65 and over to the population aged 20-64. Panel C refers to the population aged 15-74; fertility, mortality and migration parameters follow the assumptions of Eurostat and the United Nations as of January 2023.
Source: ABN AMRO; European Commission; Institute for Employee Insurance; OECD Economics Department Long-Term Model.

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Both supply and demand can adjust to address labour market imbalances. From a macroeconomic perspective, wage developments have not fully reflected the disequilibrium between supply and demand yet. On the structural demand side, automation and other labour-saving innovation can raise labour productivity, enabling the reallocation of labour inputs towards industries and occupations where such investments are not yet profitable or feasible. Digitalisation is a key enabler of productivity growth and requires technology adoption by firms, access to complementary skills and investment in research and development, as discussed in depth in the thematic chapter of the previous *OECD Economic Survey* of the Netherlands (OECD, 2021[4]). It is important to note that the available evidence suggests that labour-saving innovation and higher productivity do not reduce overall labour demand but rather alter its composition (Squicciarini and Staccioli, 2022[22]; Aghion et al., 2020[23]; Acemoglu and Restrepo, 2019[24]; Graetz and Michaels, 2018[25]). On the supply side, structural policy reforms to lift labour supply can contribute to reduce labour shortages. These policies are the focus of the present thematic chapter.

Beyond addressing labour shortages, lifting labour supply also offers an opportunity to enhance social cohesion. Participation in the labour market provides an important pathway to social integration, particularly

for vulnerable groups, such as migrants and their offspring. Enhanced labour market opportunities can also reduce incentives to participate in the informal economy.

This chapter reviews the options available to increase labour supply. It first describes the key factors behind the tight labour market in the Netherlands, before discussing policy options to address them. These include reforming taxes and benefits to strengthen work incentives; alleviating the maternity penalty to counter gender norms hampering labour supply; reducing labour market fragmentation to ease transitions between occupations; better integrating migrants and facilitating labour migration for shortage occupations; stepping up lifelong learning to promote growth in expanding industries; and upgrading compulsory education to better prepare the future workforce. The focus is on policies to boost the supply of labour; other policies that can contribute to a smoother functioning of the labour market, such as housing and transport infrastructure, were discussed in previous *OECD Economic Surveys* of the Netherlands (OECD, 2021[4]; OECD, 2018[26]; OECD, 2016[27]).

Both cyclical and structural factors underlie labour shortages

The Dutch labour market has been remarkably resilient despite the successive shocks of the pandemic, the inflow of refugees fleeing Russia's war of aggression against Ukraine, and the energy crisis. The government swiftly intervened with support packages to protect jobs and firms during the pandemic (Box 2.2), limiting scarring on the labour market and enabling a speedy recovery. After a brief setback during the pandemic, employment continued to increase and unemployment to decrease steadily until mid-2022, before flattening (CBS, 2022[28]). Growth in the number of open vacancies strongly rebounded (CBS, 2022[29]), with the vacancy rate reaching about 5% in the second quarter of 2022 and stabilising since. Moreover, about 30 000 Ukrainian refugees (almost one out of two of working age) had found work in the Netherlands as of January 2023 (CBS, 2023[30]). The government is also implementing energy support measures to protect jobs in energy-intensive activities (Chapter 1).

Box 2.2. Measures to support the labour market during the COVID-19 pandemic

The support package was put in place in March 2020 and expired in March 2022 after being extended multiple times, with adjustments to eligibility thresholds and support parameters to reflect economic circumstances. The main measures were the following:

- Temporary emergency scheme for job retention (NOW): a grant compensating parts of employers' wage costs, conditional on a given fall in turnover; employers commit to retaining current jobs and paying 100% of the wages of the employees involved.
- Self-employment income support and loan scheme (TOZO): a temporary support scheme for self-employed workers (without employees) under the form of a monthly allowance depending on the household situation; municipalities provide extra services to the self-employed, including retraining, and help upgrading existing skills and exploring new careers.
- Fixed costs grant scheme (TVL): a compensation for the costs of businesses that have suffered a given turnover loss, with a maximum amount depending on firm size.

Other measures include tax deferral measures; support for specific sectors particularly hard hit by the pandemic; and the extension of existing state guarantee schemes for business loans, namely the Business Loan Guarantee Scheme (GO-C), the Small Credits Corona Guarantee Scheme (KKC), and the Credit Guarantee Scheme for Agriculture (BL-C).

A further social package of EUR 1.4 billion was allocated to help mitigate job losses, increase training and retraining efforts, combat youth unemployment and support poverty and debt reduction efforts.

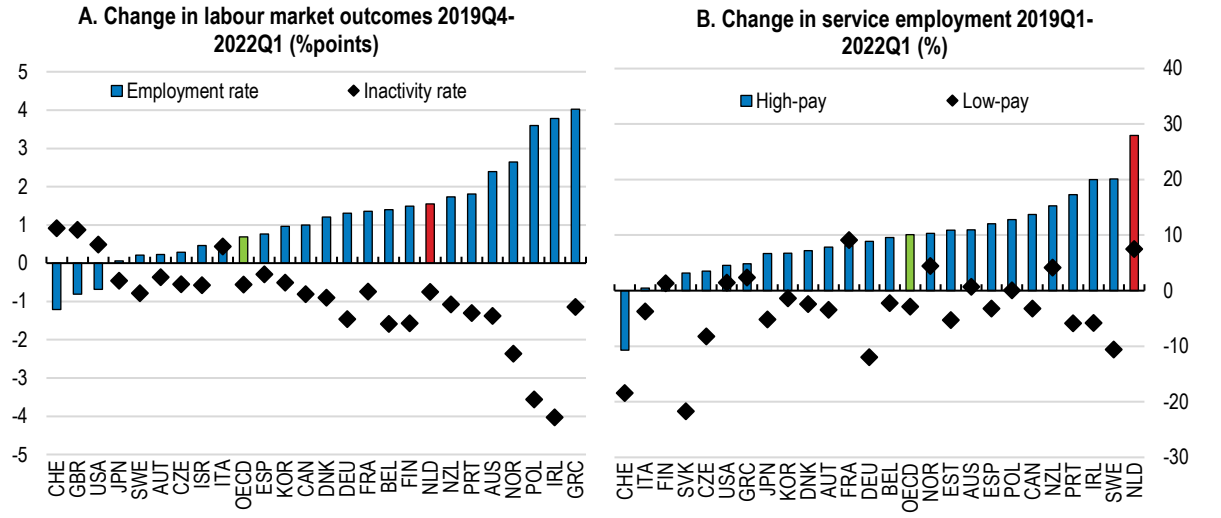
Source: OECD (2021[4]) *OECD Economic Surveys: Netherlands 2021*.

Overall, the pandemic does not appear to have changed workers' preferences meaningfully. Growth in labour force participation resumed after a brief slowdown in 2020, and hours worked per job are not significantly lower than before the pandemic (CBS, 2022[31]). However, the crisis had a heterogeneous impact across occupations (OECD, 2021[4]) and has exacerbated pre-crisis labour market issues, notably employment insecurity for the low-skilled and labour shortages in non-market services such as healthcare and education (SER, 2021[32]).

Exceptional macroeconomic conditions contributed to tightness across-the-board

Cyclical factors are partly behind the tight labour market. As economies reopened when the pandemic receded, OECD economies recovered quickly, and labour demand surged. The Dutch labour market rebounded fast, with the employment rate in the first quarter of 2022 more than 1.5 percentage points higher than before the pandemic (Figure 2.4 Panel A). The Dutch recovery was broad-based, with employment gains in both low-pay and high-pay services (Figure 2.4, Panel B). Rising public employment, including in the education and health sectors, also contributes to labour market tightness (CPB, 2022[16]).

Figure 2.4. Labour markets rebounded exceptionally fast



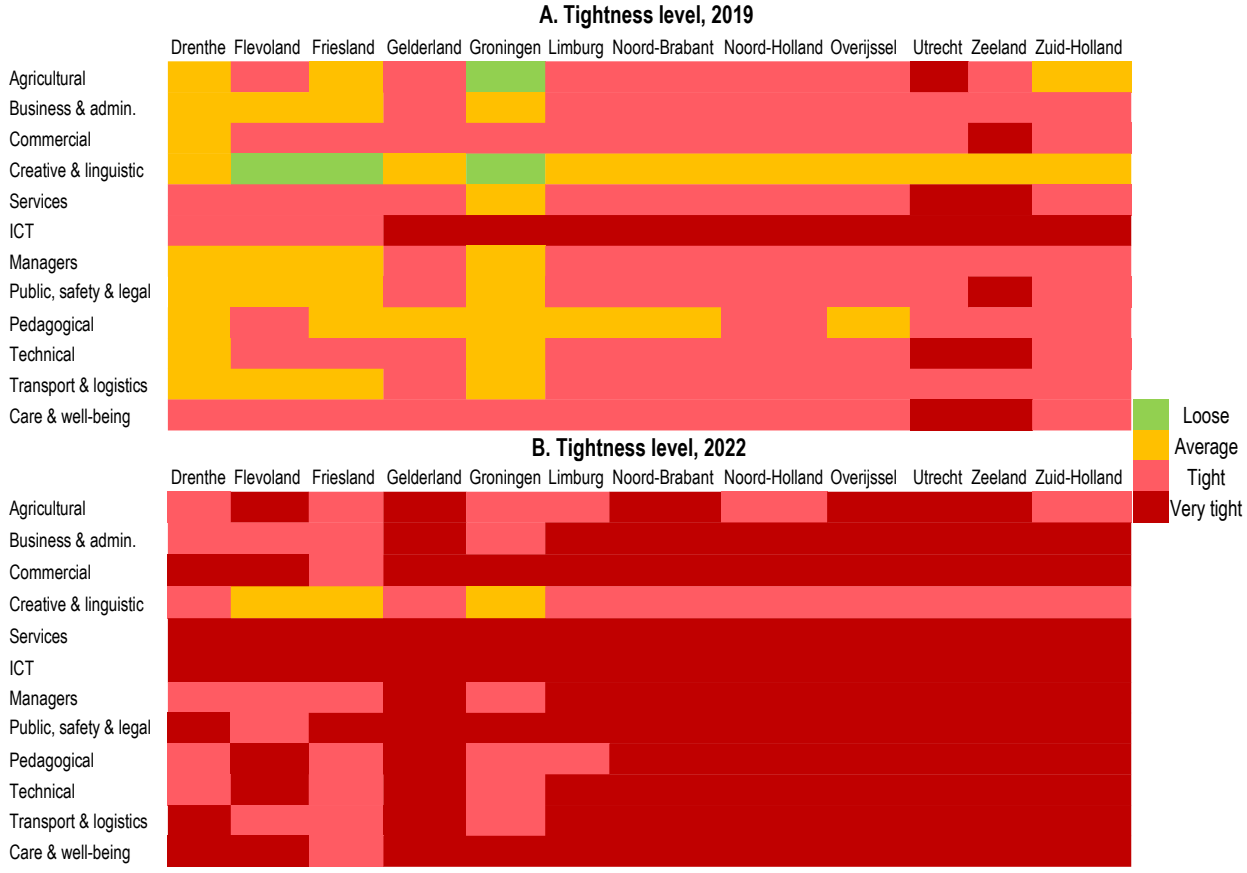
Note: Panel A refers to the population aged 15-64. Panel B refers to employment in service industries; low-pay services comprise Accommodation and Food Service Activities, Administrative and Support Service Activities, Arts, Entertainment and Recreation, Wholesale and Retail Trade, and Transportation and Storage; high-pay services comprise Professional, Scientific and Technical Activities, Information and Communication, and Financial and Insurance Activities.
Source: OECD (2022) *OECD Employment Outlook 2022*.

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At the same time as labour demand surged, labour supply was held back by a number of factors compared to the pre-pandemic trend, including the protracted weakness of net labour migration (Bodnár and O'Brien, 2022[33]), and the lingering pandemic that made contact-intensive, low-paid jobs less appealing. Moreover, while measures to support workers and firms during the COVID-19 pandemic prevented unnecessary scarring by preserving worker-firm matches at illiquid but viable firms (Box 2.2), they also sunk labour inputs at unproductive firms, which may have contributed to labour shortages during the recovery. Indeed, bankruptcies plummeted in the second quarter of 2020 and remain significantly below pre-pandemic levels (CBS, 2022[34]), suggesting that support kept unviable firms active. In the Amsterdam, Rotterdam and Utrecht districts (*COROP-gebied*), which account for about one quarter of the Dutch labour force, bankruptcies were about 50% lower in 2021 than before the pandemic (OECD, 2023[5]).

The pervasiveness of labour market tightness across industries, occupations and regions in the post-pandemic recovery suggests that the current situation is not solely driven by the scarcity of a specific type of labour that could arise, for example, from the asymmetric impact of the crisis across sectors (OECD, 2022[11]). Pre-pandemic, tensions were restricted to occupations in information and communication technologies (ICT) and, to a lesser extent, in care and wellbeing and in technical occupations, as well as in pedagogical occupations in large cities (Figure 2.5, Panel A). Post-pandemic, shortages have become widespread across occupations and regions, and are also affecting rural provinces and lower-skill occupations, including most services that had been affected by lockdowns (Figure 2.5, Panel B). Although the Netherlands is characterised by strong regional industrial specialisation (Anderson et al., 2021[19]), only six of the 35 local labour markets (*arbeidsmarktregios*) were not very tight as of mid-2022, according to the classification of the Dutch public employment services (UWV, 2022[14]). Measures of labour market tightness and shortages at a more disaggregated level could help point to potential underlying causes of the labour demand-supply disequilibrium, but measuring labour supply at the industry or occupation level is challenging.

Figure 2.5. Labour demand exceeds supply across occupations and regions



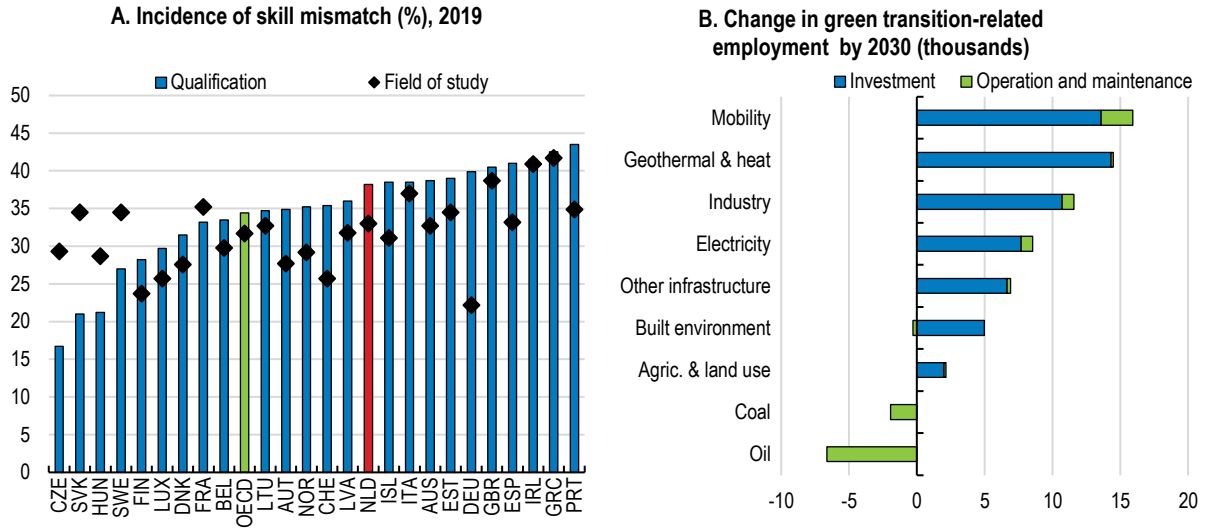
Note: Indicators refer to the Institute for Employee Insurance (UWV)'s ordinal index of labour market tension (*spanningsindicator arbeidsmarkt*), defined at the occupation-province level based on a logarithmic transformation of the ratio of the number of vacancies to the number of people who have been receiving unemployment benefits for fewer than six months.
Source: Institute for Employee Insurance.

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Skill mismatches endure, creating bottlenecks in specific industries

Beyond the business cycle and pandemic-related factors that are expected to subside, structural factors have been playing an important role in making the labour market increasingly tight. Digitalisation and the low-carbon transition have been altering the skill composition of labour demand since before the pandemic (TNO, 2021[35]). The ensuing skill mismatch is important in the Netherlands (Figure 2.6, Panel A) and expected to increase in the absence of policy intervention. Green skills are in particularly high demand, given the country's ambitious climate goals. Estimates suggest that realising the necessary investments to achieve a 55% reduction in greenhouse gas emissions by 2030 requires about 28 000 technical jobs to be created and filled, more than the 26 000 full-time equivalents currently employed in the Dutch energy sector, including network operators (Ecorys, 2021[36]). Other estimates, based on early assessments of all the necessary measures required to reach the Climate Agreement's objectives, point to 39 000 to 72 000 direct and indirect extra jobs (PBL, 2018[37]; TNO, 2019[38]), accounting for the reduction in contracting sectors, such as fossil fuels industries (Figure 2.6, Panel B). The supply of other specific skills is also falling increasingly short of demand, particularly in ICT occupations (Eurostat, 2022[39]).

Figure 2.6. Rising labour demand for green jobs exacerbates skill mismatch



Note: Panel A refers to the share of workers whose qualification or field of study do not match their job requirements; data for Australia are from 2016. Panel B refers to indicative projections by the Netherlands Organisation for Applied Scientific Research (TNO) based on the 2018 assessment by the Netherlands Environmental Assessment Agency (PBL) of the Climate Agreement; data are in full-time equivalent.
Source: OECD Skills for Jobs (database); TNO (2019) "Verkenning werkgelegenheidseffecten van klimaatmaatregelen".

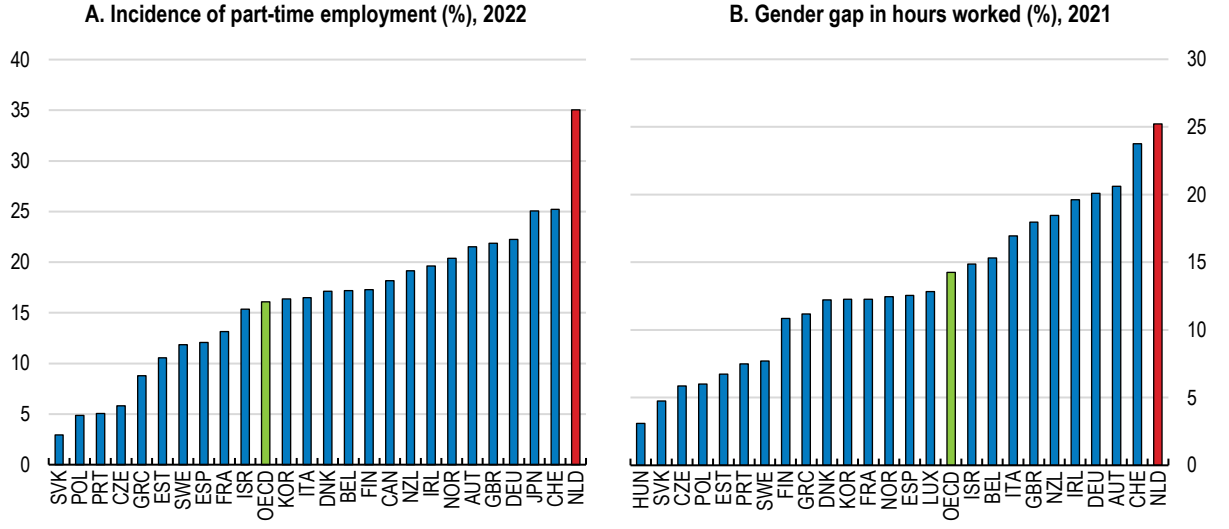
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By contrast, the COVID-19 crisis likely accelerated digitalisation and automation of repetitive tasks, a development that could alleviate shortages of middle-skilled labour in some industries that were hit hard by the pandemic, notably administrative and support services and transportation and storage (OECD, 2021[4]). Robotisation could partly address shortages in other industries such as long-term care, as in Japan where robots replace nurses for some tasks. Although hard evidence is not available yet, anecdotal evidence points to a growing landscape of Dutch start-ups working to bring AI-driven labour-saving technologies to the market, like in many other OECD countries (AI.nl, 2022[40]; AI.nl, 2022[41]).

The prevalence of part-time work explains low labour input despite high employment

The high incidence of part-time work also contributes to a structural labour supply shortfall in the Netherlands. Despite remarkably high participation and employment, labour utilisation is paradoxically low, as more than one out of three employees worked less than 30 hours per week in 2022, by far the largest proportion in the OECD (Figure 2.7, Panel A). When measured based on Statistics Netherlands' convention of fewer than 35 hours a week for part-time employment, the incidence reaches almost 50% of the working population (CBS, 2022[42]). Low labour utilisation is also reflected in low average hours worked at roughly 1 400 per worker per year, the fourth lowest in the OECD, higher than Germany's 1 350 but significantly lower than France's and the United Kingdom's roughly 1 500 hours or the United States' almost 1 800 hours (OECD, 2022[43]). The gap partly closes when looking at hours worked per capita over the lifetime, as widespread possibilities of part-time work come with and partly encourage high participation from a young age.

Figure 2.7. The incidence of part-time work is high and uneven between genders



Note: Panel A refers to the share of employees aged 15 and over who usually work less than 30 hours per week in their main job. Panel B refers to the difference between women's and men's average hours worked as a share of men's, for workers aged 15-64.
Source: OECD Labour Market Statistics (database).

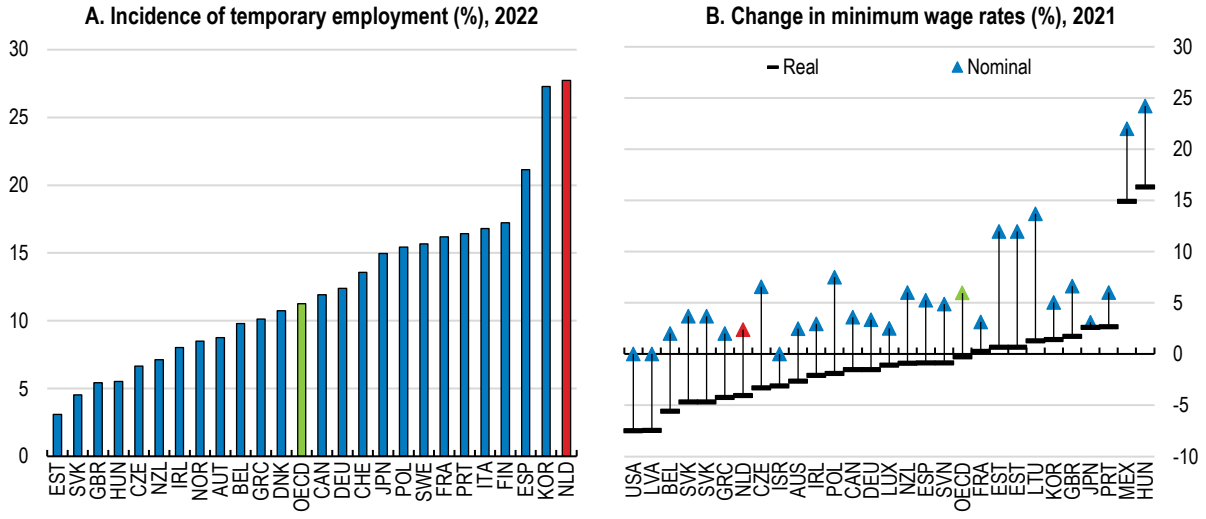
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Social institutions and cultural factors, rather than economic incentives and rationale, appear to determine the incidence of part-time work, inducing a large gender gap in hours worked (Figure 2.7, Panel B). Indeed, part-time work is distributed particularly unequally between genders: about 55% of Dutch women work part-time, almost three times the rate for Dutch men and more than twice the OECD average for women (OECD, 2022[44]). Based on Statistics Netherlands' definition mentioned above, almost three out of four women work part time, versus a bit more than one out of four men (SCP, 2022[45]; CBS, 2022[42]). Women work as much as men when both paid and unpaid work are considered, but spend almost four hours per day in unpaid work on average, versus less than two and a half hours for men (OECD, 2023[46]). Such imbalance constitutes a significant misallocation of human capital and leads to large gender gaps in earnings, wealth and pensions, and slower progression of women into management roles (OECD, 2021[4]). Moreover, while Dutch women's labour market participation at the extensive margin is particularly high and surveys generally find part-time employment to be voluntary within the current cultural and institutional setting (SCP, 2022[47]), the underutilisation of women's labour resources at the intensive margin contributes to labour shortages (Box 2.5 below).

Unfavourable working conditions in some sectors likely discourage vulnerable workers

Non-standard forms of employment provide more flexibility in working relationships, as well as a flexible labour margin, which can increase labour utilisation. In the Netherlands, the strong flexibility of the labour market contributed to increasing participation and employment to historically high levels (Box 2.3). The incidence of temporary employment at 27.4% in 2021 is among the highest in the OECD (Figure 2.8, Panel A), mainly reflecting greater flexibility in specific segments of the labour market following the 2015 labour law reforms. Similarly, favourable tax treatment for the self-employed and lower social security contributions have contributed to significantly increasing self-employment, both by enabling individuals to make that career choice, but also by incentivising employers to hire own-account workers.

Figure 2.8. Temporary employment is pervasive and the real minimum wage falling



Note: Panel A refers to the share of dependent employees whose contract has a pre-determined termination date. Panel B refers to changes between January 2021 and January 2022.
Source: OECD Labour Market Statistics (database); OECD (2022) *OECD Employment Outlook 2022*.

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However, unfavourable working conditions in some parts of the economy likely reduce labour supply and structurally contribute to tightness on the labour market. Non-standard employment typically offers lower job quality, weaker income security (e.g., in case of shocks such as the pandemic) and fewer lifelong learning opportunities compared to workers on standard contracts (OECD, 2020[48]). In the Netherlands, workers hired through employment agencies are less likely to remain employed or to obtain a permanent contract, make lower pension contributions and experience lower growth in hourly wages (Scheer et al., 2022[49]). The 1.7 million workers on flexible contracts (short-term, agency and other non-standard forms of employment) in 2020 earn less, have lower social protection and worse career prospects (OECD, 2021[4]; DNB, 2021[50]). The self-employed are less well protected regarding disability and pensions.

Such strong segmentation can end up discouraging vulnerable workers who are not productive enough compared to the cost of permanent employment, and detaching them from the labour market. The 2020 report of the Commission for the regulation of work (*commissie regulering van werk*, also known as the Borstlap Commission) recommended reducing the differences between forms of employment (Box 2.6 below). The government started to rescind some of the tax advantages for non-standard employment, but further reforms are needed to level the playing field between employment and self-employment, as recommended in Chapter 1. The labour market package recently presented by the government goes in the right direction (SZW, 2023[51]).

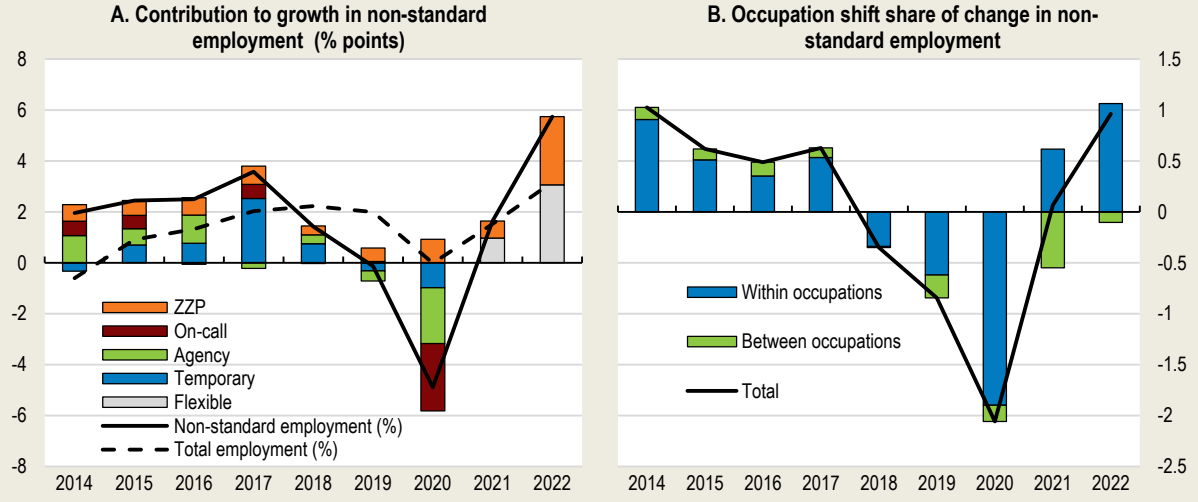
Subdued wage growth despite structural labour shortages is another factor that may weigh on labour supply. Minimum wages have decreased significantly in real terms over 2021 in the face of high inflation (Figure 2.8, Panel B) and keep falling, as in many countries (OECD, 2022[52]), even with the 10% increase in January 2023 (Chapter 1). Many benefits and collective labour agreements are indexed on minimum wage rates, so that average wages follow a comparable pattern overall. Since the global financial crisis of 2008, annual consumer price inflation has outpaced growth in collectively agreed gross wages in seven out of 15 years (CBS, 2022[53]), even as the labour market was tightening. The increase in regular employment from 2018 until the pandemic partly explains the puzzle of stagnating real wages in a tight labour market, as workers in non-standard forms of employment negotiate permanent contracts rather than higher wages (Box 2.3).

Box 2.3. Employment growth in the Netherlands: evidence at the occupation-contract level

Historically high participation and employment in the Netherlands mainly reflect growth in non-standard forms of employment due to major labour market reforms, including the 2015 Law on work and security (*Wet werk en zekerheid*) and the Law on participation (*Participatiewet*).

The self-employed without employees have consistently accounted for a substantial part of the increase in the share of non-standard employment since 2014, while on-call, agency and temporary employment tend to follow the business cycle (Figure 2.9, Panel A). The slowing contribution of non-standard employment to total employment growth from 2018 until the pandemic likely reflects workers on flexible contracts negotiating permanent contracts instead of higher wages as the labour market tightens. Recent analysis based on data at the occupation-type of contract level shows that changes in non-standard employment occurred across occupations, as opposed to only in occupations more conducive to flexible work (Figure 2.9, Panel B).

Figure 2.9. Non-standard employment grew across the board



Note: Non-standard employment comprises workers on temporary contracts, agency workers, on-call workers and the self-employed without employees (*zelfstandigen zonder personeel*, ZZP); the flexible category comprises workers on temporary contracts, agency workers and on-call workers.
Source: OECD calculations based on Statistics Netherlands Statline.

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Lifting labour supply is necessary to tackle shortages

Structural policies to address labour shortages work through two main channels. First, policies can directly increase labour supply by tapping into available but unused labour resources. Such policies mainly focus on encouraging longer hours worked, activating the unemployed, bringing the inactive back into the workforce or facilitating labour migration. Second, policies can promote the efficient reallocation of labour resources towards expanding, higher productivity activities. Both channels are critical in the Netherlands, where the workforce will be contracting, and the composition of labour demand is changing rapidly due to the urgent need to reduce the country's carbon emissions.

No single structural policy reform can achieve the desired increase in labour supply to fully address labour shortages in the Netherlands. The policy discussion below focuses on six policy areas that together have the potential to raise labour input. The success of the proposed reforms hinges on the complementarity between policies, requiring a multipronged, whole-of-government approach with the overarching objective to lift labour supply.

Reforming taxes and benefits to strengthen work incentives

Labour tax and benefit systems have important effects on individuals' decision regarding their labour supply, both whether to participate (the extensive margin) and how many hours to work (the intensive margin). Taxes and benefits reduce economic insecurity by cushioning the impact of adverse labour market transitions, e.g., into unemployment, but also need to strike the balance with maintaining strong work incentives (OECD, 2019[54]). Moreover, to ensure that all available human capital is used at its potential, tax and benefit systems need to be free of implicit biases against specific groups due to their specific socio-economic realities, e.g., women due to institutional and cultural preferences regarding parenting (Harding, Perez-Navarro and Simon, 2020[55]).

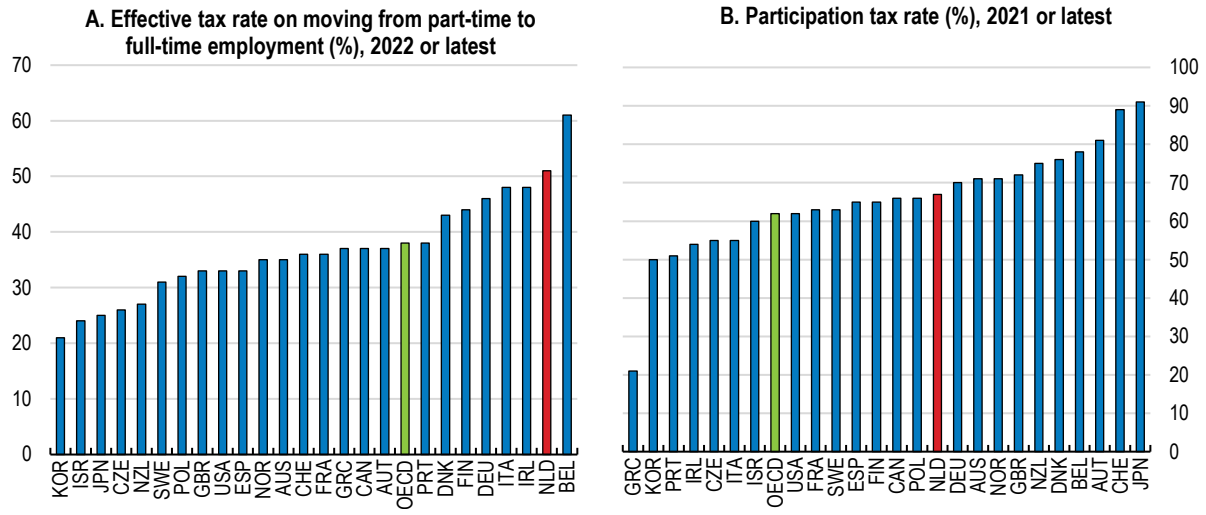
In the Netherlands, taxes and benefits discourage the supply of labour in two important instances. First, disincentives are strong at the intensive margin for middle-income couples with children, which is a key explanation for the particularly low performance in terms of hours worked despite one of the highest participation rates in the OECD. Second, disincentives are also substantial at the extensive margin for single parents who are dependent on childcare services to enter employment, which suggests that there is room to increase participation even further. The government is considering several ways to reduce marginal tax rates on labour income (SZW, 2023[56]).

The effective tax rate on increasing hours worked is particularly high for second earners in the Netherlands (Figure 2.10, Panel A). The fraction of additional earnings lost to either higher taxes or lower benefits when a second earner increases hours worked from part-time to full-time work was more than 50% in 2022. While the system of taxes and benefits encourages second earners to enter employment in the Netherlands, it strongly discourages them to work full time. Dutch authorities have introduced several tax incentives for second earners to work more, including stronger in-work benefits (*inkomensafhankelijke combinatiekorting*, IACK, which will be phased out by 2025), a childcare allowance, and limits on the transferability of the general tax credit between partners, with little effect on participation at the intensive margin. Marginal tax rates on labour income are even set to increase slightly on average across households under the 2023 Tax Plan (Box 2.4), in large part because of the increase in income-dependent benefits as part of the comprehensive energy support package (Financiën, 2022[57]).

Part-time work is often presented as a cultural preference in the Netherlands, irrespective of the tax system or other institutions. The "male breadwinner" model is also frequently explained away as an economically efficient division of labour, in which the higher earner specialises in the labour market and the lower earner specialises in household labour. Yet, these explanations are at odds with the large gains in human capital accumulated by Dutch women over the past decades, as measured by educational achievement (OECD,

2022[58]). Moreover, the Netherlands is one of the few OECD countries where the gender wage gap is quasi-inexistent for individuals in their twenties (OECD, 2017[59]), which also runs counter to the efficiency argument.

Figure 2.10. Lower effective taxation could increase work incentives



Note: Tax rates include 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. Panel B refers to the share of gross earnings in a new job that pays 67% of average wage, for a single person with two children claiming guaranteed minimum income and using childcare services.
Source: OECD Benefits, Taxes and Wages (database).

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Box 2.4. Recent reforms in labour taxation and benefits in the Netherlands

- The maximum IACK (*inkomensafhankelijke combinatiekorting*) was reduced by EUR 395 in 2022, with the aim to partially fund parental leave. This tax credit is provided at a rate of 11.45% of taxable income and aimed at incentivising participation for working single parents or second earners, conditional on children being below the age of 12 and the taxable income from employment exceeding EUR 4 993.
- The averaging scheme, which allowed taxpayers with significant income fluctuations to average their income over three consecutive years, will be abolished with effect in 2023. The reform aims at simplifying the tax system and increasing tax compliance.
- The tax deduction for the unincorporated self-employed will be gradually phased out until 2027, from EUR 6 310 in 2022 to EUR 900 in 2027.

Source: OECD (2022[60]) *Tax Policy Reforms 2022*; OECD (2022[61]) *Taxing Wages 2022*; Financiën (2022[62]).

The Netherlands should strengthen incentives for second earners to increase hours worked. The current tax structure is implicitly promoting the “one-and-a-half” worker model, whereby one partner (often a man) works full-time and the other partner (often a woman) works relatively few hours. Over 40% of Dutch partnered couples had this working arrangement in 2017, more than in any other European country (OECD, 2019[63]). As the large penalty for a second earner moving into full-time work (at average wage) is driven mostly by an increase in the income tax burden (OECD, 2019[63]), altering the income tax schedule would alleviate the bias, promote labour utilisation and reduce gender inequalities.

As labour market decisions also depend on factors other than taxes, interventions in complementary policy areas are required. Indeed, tax systems can only accommodate so many provisions to alter individuals' labour input decisions. The Netherlands has gone relatively far already in providing tax incentives for second earners to increase their labour input (Cnossen and Jacobs, 2021[64]). While widespread teleworking has been providing workers with workplace and commuting flexibility since before the pandemic (Ker, Montagnier and Spiezia, 2021[65]), there is room to reduce work disincentives arising from childcare, schooling, and leave arrangements (Financiën, 2019[66]). A strong impetus is particularly needed to alleviate the so-called "maternity penalty" (next section).

Participation tax rates are also relatively high, discouraging labour market entry (Figure 2.10, Panel B). About two thirds of earnings are lost to higher taxes, lower benefits and net childcare costs when a parent with young children takes up full-time employment and uses full-time centre-based childcare, the second highest proportion in the OECD. The financial disincentive arises from the existence of income-dependent benefits that distort labour supply decisions. But the complexity of the system also plays a role. In the absence of clear information, some individuals refrain from entering the labour market out of fear of losing benefits.

The Netherlands should reduce the complexity of the benefits system, as a simpler and more straightforward system could help individuals make better-informed decisions about their participation in the labour market, especially the most vulnerable. The current system comprises no fewer than seven different income-dependent benefit schemes that interact non-linearly at different income thresholds, namely the housing benefit (*huurtoeslag*), the labour income tax credit (*arbeidskorting*), the additional labour income tax credit for working parents (*inkomensafhankelijke combinatiekorting*, IACK), the child allowance (*kindgebondenbudget*), the childcare allowance (*kinderopvangtoeslag*), the healthcare allowance (*zorgtoeslag*) and the general tax credit (*algemene heffingskorting*). Priority should be given to streamlining existing benefits, possibly into a system of fewer allowances and tax credits based on a limited number of household characteristics, for example income, assets and children. Such a reform was considered under the previous government, but rejected due to concerns related to the portability of benefits for Dutch citizens residing abroad. The government could start again from that basis and address the portability issue.

Alleviating the maternity penalty to counter gender norms hampering labour supply

Even if implicit and unintended, gender inequalities have large detrimental consequences on labour supply and potential output. The disproportionate share of housework performed by women tends to prevent them from committing time to and advancing in employment, which entrenches gender differences in the opportunity cost of unpaid work and ends up institutionalising them. Consequently, human capital is not allocated based on economic potential but on socially constructed circumstances. Therefore, the unequal distribution of part-time work between genders constitutes both an equity and an economic challenge (OECD, 2017[59]). While decisions regarding the sharing of housework ultimately lie with individuals, policies can reduce gender biases.

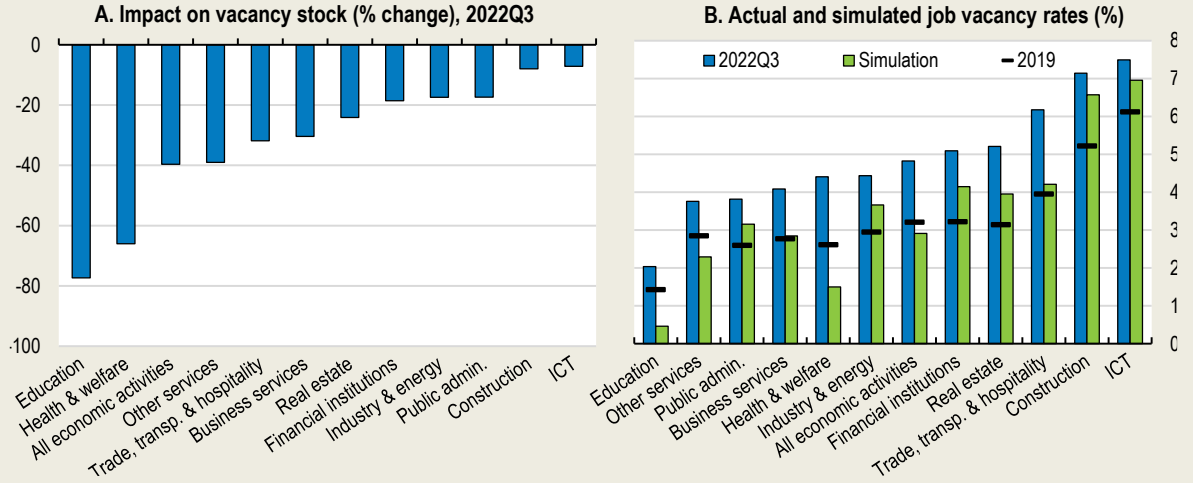
The significant underutilisation of women's labour input due to their disproportionate uptake of part-time work contributes to labour market tightness in the Netherlands. Illustrative simulations suggest that partly closing the gender gap in part time work would substantially alleviate labour shortages in specific sectors (Box 2.5). For example, an increase in women's labour input equivalent to a 15% reduction in gender gap in hours worked would reduce the stock of unfilled vacancies by more than half in the health sector.

Box 2.5. The impact of reducing the gender gap in part-time work on shortages: a simulation

Illustrative simulations show that increasing the average number of hours worked by women to achieve a 15% reduction in the gender gap in hours worked within industries would allow to fill about 40% of the current vacancy stock.

The effect would be particularly large in industries that disproportionately employ women, such as the health and education sectors (Figure 2.11, Panel A). Other sectors, such as construction and ICT, would remain tight (Figure 2.11, Panel B).

Figure 2.11. A lower gender gap in hours worked could alleviate labour shortages in some sectors



Note: Figures refer to the simulation of a 15% reduction of the gender gap in hours worked within industries.
Source: OECD calculations based on Statistics Netherlands Statline and on Eurostat Job Vacancy Statistics.

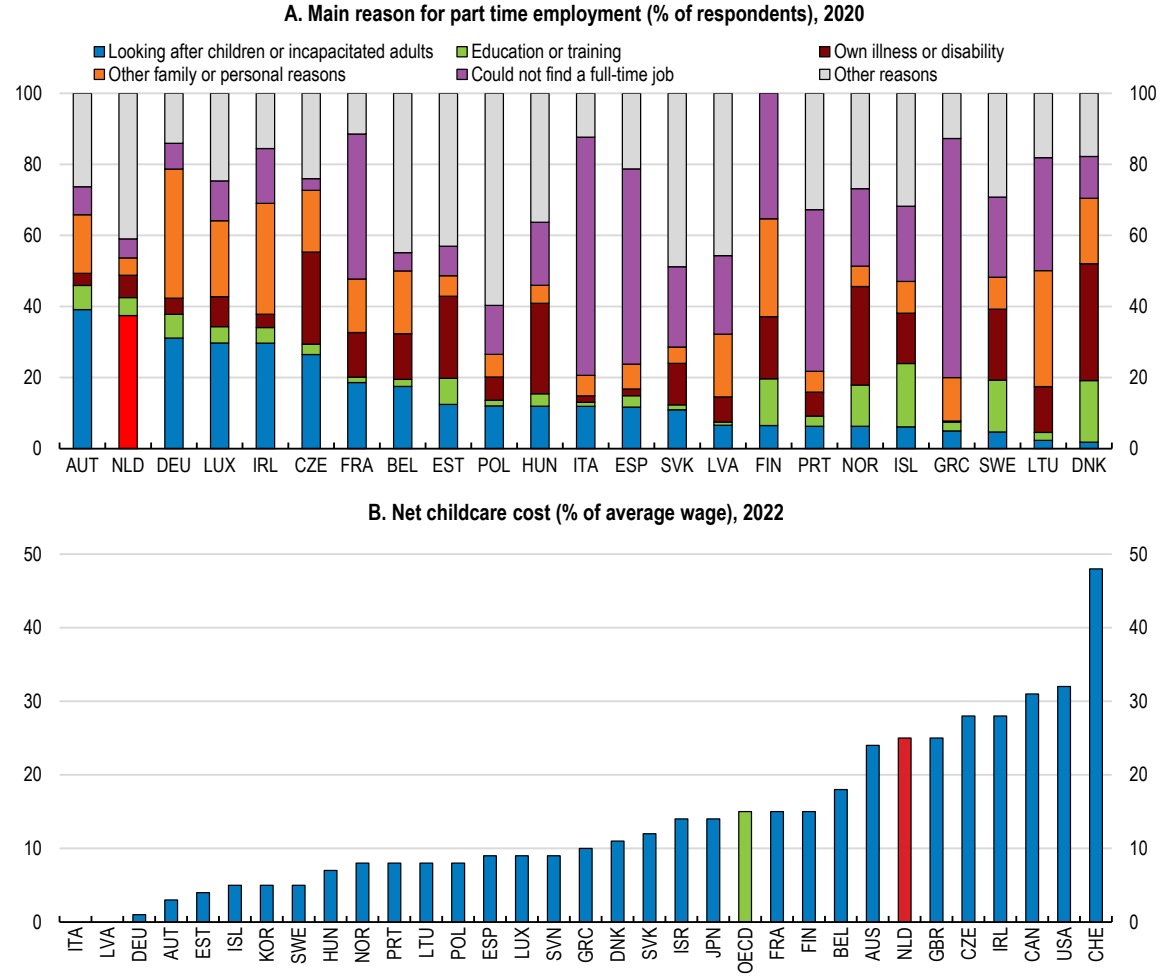
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Looking after a child is the main reason for part-time employment in the Netherlands (Figure 2.12, Panel A), where childcare is expensive in international comparison (Figure 2.12, Panel B). The relatively low availability and affordability of childcare appears to be an important driver of the high incidence of part-time work. While enrolment in centre-based childcare is well above the OECD average, total hours spent in childcare is low (OECD, 2021[4]). Dutch women often transition to part-time work after they become a mother, like in many other countries. But the associated increase in the gender gap in hours worked is particularly large in the Netherlands (OECD, 2021[4]; OECD, 2019[63]). Moreover, the associated "maternity penalty" is estimated at 46% compared to the pre-birth earnings trajectory for the period 2005-2009 in the Netherlands, whereas father's earnings are unaffected (Rabaté and Rellstab, 2021[67]).

The Netherlands should swiftly proceed with a fundamental childcare overhaul, as recommended in the previous *OECD Economic Survey* of the Netherlands (OECD, 2021[4]). Improving access to childcare and reducing its cost typically boosts uptake, which in the long run can contribute to changing the gender bias in attitudes towards mothers' labour force participation (OECD, 2019[63]). The government's reform of childcare support, with EUR 2.2 billion earmarked to subsidising 96% of childcare costs (up to a ceiling) for all working parents, goes in the right direction (SZW, 2022[68]). The simplification of support also provides parents with welcome certainty in the wake of the recent childcare benefit scandal. However, doubts have emerged regarding the feasibility of implementing the reform as rapidly as envisaged, given the strong expected increase in demand for childcare and staff shortages. Moreover, the untargeted nature

of the subsidy and the fact that it does not depend on income pushes up the fiscal cost and possibly creates windfall gains for households who would have used childcare anyway, as was the case with the 2005 Childcare Act (*Wet kinderopvang*) (Bettendorf, Jongen and Muller, 2015[69]). Further, the concomitant phasing out of the IACK tax credit is expected to limit the positive labour supply effect of better childcare access (CPB, 2020[70]). Finally, failing to extend childcare access to those actively seeking a job would unnecessarily hamper their transition into employment. Monitoring the impact of the reform on access to childcare and contingency planning are required against the background of possible shortages. The effect of the 2023 repeal of the link between hours worked and the childcare allowance should be assessed: while it could improve inclusiveness by avoiding lock-out effects for low work intensity households, it will also weaken badly needed work incentives at the intensive margin.

Figure 2.12. More affordable childcare could boost women's hours worked



Note: Panel A refers to respondents aged 25-64; data are the average over 2017-20, except for Bulgaria and the United Kingdom (2017-19). Panel B refers to costs for parents of two children aged 2 and 3 using full-time centre-based childcare and earning the average wage; data for New Zealand are from 2018.
Source: OECD calculations based on EU Labour Force Survey; OECD Social and Welfare Statistics (database).

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Parental leave policy also drives social norms that ultimately condition labour market participation. The base maternity leave entitlement at 16 weeks with a 100% salary replacement rate is low in international comparison, but paternity leave at six weeks with a 70% replacement rate is even lower, which is likely insufficient to overcome gender norms and earnings shortfalls when the father is the main earner (OECD,

2021[4]). The extra nine weeks with 70% replacement rate that each parent receives since 2022 does not fundamentally alter the gender balance. School hours and out-of-school care are also an important determinant of mothers' labour supply. In the Netherlands, school hours are short and sometimes unpredictable due to teacher shortages (see above), which can limit parents' ability to work more hours. Moreover, only one out of four children aged 6-11 attends out-of-school care at least once per week, compared to about one in two in Denmark, Sweden or Luxembourg (OECD, 2019[63]).

The Netherlands should provide stronger paternity leave incentives. Equal sharing of parental leave would shorten the out-of-work time for mothers while lengthening it only a little for fathers, thereby reducing the likelihood of detachment of any parent from the labour market. The July 2020 increase in paternity leave brought Dutch fathers' entitlement closer to the OECD average, but more could be done. The experience of other OECD countries can help: Japan and Korea provide both mothers and fathers with about one year of non-transferable paid parental leave (even though fathers rarely exercise the option), and Nordic countries reserve parts of the parental leave period for the exclusive use of each parent (OECD, 2019[63]). Another option is to introduce bonus periods, where parents can qualify for extra weeks of paid leave if both use a given amount of shareable leave, as is the case in Germany. The Netherlands could also consider promoting out-of-school care more, to align children's daily activities on the typical schedule of a full-time worker.

Like childcare, informal long-term care keeps individuals from increasing labour input. In the Netherlands, about ten percent of adults report being involved at least several days a week in caring for disabled or infirm family members, neighbours or friends outside of paid work (Eurocarers, 2021[71]), and more than five million people provide informal care on a less regular basis (SCP, 2022[72]). Moreover, informal long-term care is disproportionately provided by women, which adds to other gender imbalances in unpaid household work and keeps them from fully participating in the labour market.

The Netherlands should maintain its excellent access to publicly subsidised long-term care. The country currently performs very well in terms of both the number of long-term care workers per elderly person (OECD, 2020[73]) and affordability, thanks to generous public social protection benefits (Oliveira Hashiguchi and Llena-Nozal, 2020[74]). However, access to formal long-term care is expected to become increasingly challenging, as labour shortages of long-term care workers are large and projected to increase. In that respect, the consequences of the 2015 long-term care reform should be evaluated. While early assessments suggest that the reform was successful in containing costs in the face of population ageing (SCP, 2018[75]), it also increased budgetary pressure on municipalities and led to layoffs, likely reducing the attractiveness of long-term care jobs (OECD, 2020[73]).

Reducing labour market segmentation to ease transitions between occupations

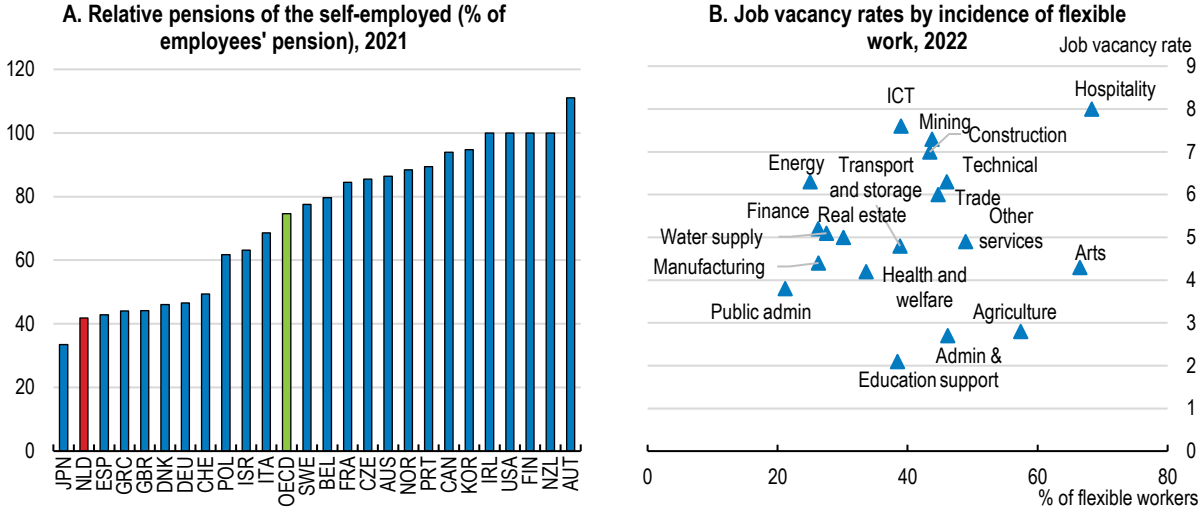
The co-existence of relatively low regulation of non-standard forms of employment and high regulation of regular contracts can lead to strong, unintended labour market segmentation between highly and weakly protected workers (OECD, 2020[48]). In the Netherlands, excessive segmentation is a long-standing issue (EC, 2022[76]; OECD, 2021[4]; IMF, 2021[77]). A consensus exists among Dutch social partners that a better balance must be struck between flexibility for employers and security for all workers (SER, 2021[32]). The government already attenuated the regulatory gap between permanent and flexible contracts with the 2020 Law on balanced labour markets (*Wet arbeidsmarkt in balans*) and presented a labour market reform package based on the conclusions of the Commission for the regulation of work (Borstlap Commission, Box 2.6 below), as agreed in the 2021 Coalition Agreement (SZW, 2023[51]).

Reforming the labour market is urgent. The current level of segmentation makes the self-employed without employees (*zelfstandigen zonder personeel*, ZZP) and other categories of flexible workers significantly less well-off in terms of social security benefits (OECD, 2021[78]). For example, the theoretical average pension of the self-employed only amounts to about 40% of that of employees, largely below the OECD average of more than 75% (Figure 2.13, Panel A). Furthermore, severance payments, sickness-related

payments or employers' support for labour market reintegration are limited or inexistent for most flexible workers, such as own-account workers and temporary workers (OECD, 2018[79]). The youth, the low-educated and second-generation immigrants from outside of the European Union are more likely to be in flexible, non-standard forms of employment (OECD, 2018[79]).

Unequal social protection that leaves a large swath of the workforce less well-off likely contributes to labour shortages for some industries in the most flexible segments of the labour market. The hospitality industry is a particularly striking example of high vacancies combined with a high incidence of non-standard forms of employment (Figure 2.13, Panel B). By contrast, the public administration sector has a low share of flexible workers and occupies a segment of the labour market that is comparatively not tight. Important exceptions exist, such as the ICT industry, where labour has been in relatively short supply since before the pandemic despite favourable working conditions.

Figure 2.13. A social security level playing field could improve transitions between occupations



Note: Panel A refers to theoretical pensions accrued to workers with a full career from age 22 in 2018 and contributing the mandatory amount, based on taxable income equal to the average net wage before taxes. Panel B refers to the share of flexible workers, comprising workers on temporary contracts, agency workers, on-call workers and the self-employed without employees (*zelfstandigen zonder personeel*, ZZP).
Source: OECD (2021) *Pensions at a Glance 2021: OECD and G20 Indicators*; Statistics Netherlands.

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Strong segmentation between regular and non-standard forms of employment reduces labour market mobility and transitions in and out of regular employment. Employers are reluctant to award permanent contracts due to the prohibitively high cost wedge between regular and flexible employment, especially given the advantages of flexibility in some industries, such as hospitality. Excessively stringent employment protection is known to play an important role in restricting the transition to a permanent contract from a temporary one (Bassanini and Garnero, 2013[80]). While reducing labour market segmentation would not directly increase labour supply, it would contribute to the smooth functioning of the labour market by facilitating transitions between occupations and from contracting to expanding businesses, thereby alleviating shortages by preventing labour from being sunk in zombie firms.

The Netherlands should align incentives between contract types and ban regulatory arbitrage whereby de facto employees are defined as own-account workers. Reforms need to ensure that job characteristics, instead of differences in tax treatment and employer responsibility, determine the type of work contract, as recurrently recommended in previous *OECD Economic Surveys* of the Netherlands (OECD, 2021[4]; OECD, 2018[26]). Swiftly implementing the recommendations from the Commission for the regulation of work in full would achieve such convergence in a balanced way, by both increasing flexibility of regular

employment contracts and reducing tax and social security incentives favouring flexible workers (Box 2.6). The labour market package recently presented by the government intends to deliver on key parts of the Commission's recommendations, such as reducing the tax wedge between employees and the self-employed without employees (Chapter 1), aligning social security contributions, and giving employers more leeway to adapt tasks, working hours and location given the economic circumstances (SZW, 2023[51]). Furthermore, the ongoing pension reform should mandate pension fund membership for flexible workers, as recommended in the previous *Survey* (OECD, 2021[4]).

Box 2.6. Borstlap Commission's main recommendations regarding labour market duality

The 2020 report of the Commission for the regulation of work (*commissie regulering van werk*, also known as the Borstlap Commission) recommended the following to reduce labour market segmentation.

Increase the flexibility of regular employment contracts

- Enable employers to adapt jobs, workplace and working hours of regular employees in line with the demands of the economy.
- Introduce part-time redundancy up to a certain percentage of working hours if economic conditions warrant it.

Reduce tax and other incentives for hiring flexible workers

- Require firms to provide temporary agency workers, freelance and gig workers the same terms of employment as regular employees, unless proven that they are really self-employed.
- Phase out the tax deduction for the permanent self-employed.
- Introduce minimum disability insurance coverage for all workers regardless of their contract.
- Incentivise employers to hire regular employees by reducing the duration of mandatory sickness pay to one year, from currently two years.
- Introduce a higher minimum wage for employees with flexible employment contracts to compensate the additional risk.

Source: OECD (2021[4]) *OECD Economic Surveys: Netherlands 2021*; OECD (2019[81]) *Input to the Netherlands independent commission on the regulation of work (Commissie Regulering van Werk)*.

High sickness and disability insurance premiums and related obligations for employers also contribute to the cost wedge between regular and flexible employment, and make employers reluctant to offer permanent contracts. The cost to employers of sickness and disability insurance rose significantly following major reforms in the sickness and disability system between 1996 and 2006, which reduced incentives to move workers to disability. These reforms achieved their intended objectives of lowering the overall cost of the system, which was high in international comparison as the scheme had come to function like a long-term benefit programme for less employable workers. However, they failed to fully bring beneficiaries back into the labour force, as a significant share of those who left benefits did not obtain substantive gainful employment (Koning and Lindeboom, 2015[82]). Moreover, the reforms also create incentives to circumvent the schemes by hiring workers with temporary contracts. The labour market reform package recently proposed by the government includes provisions to ease the burden of sickness and disability obligations for small- and medium-sized enterprises (SZW, 2023[51]).

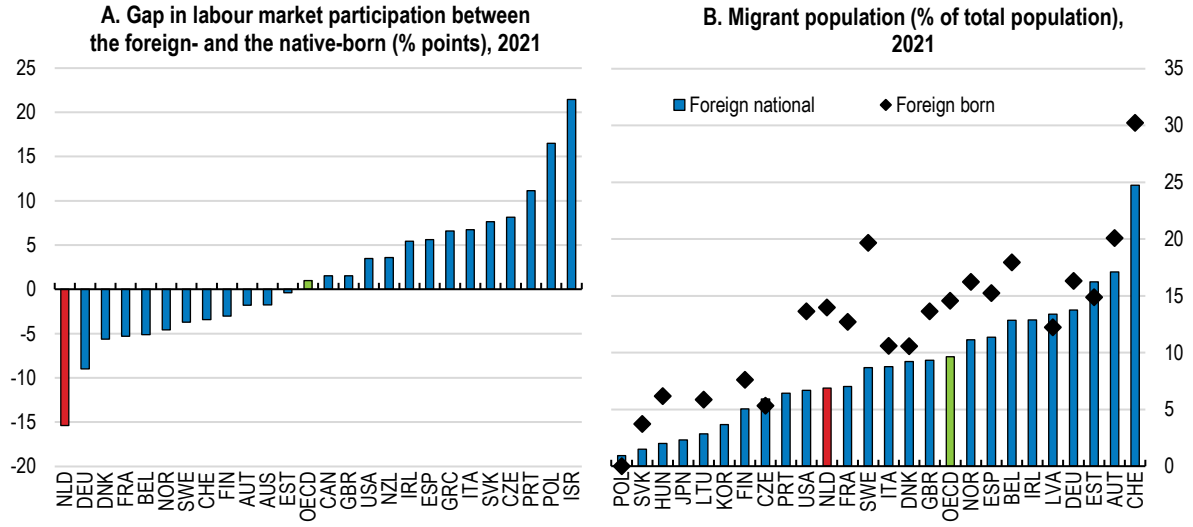
The Netherlands should find a better balance in its sickness and disability system between employer incentives to support the return to work of their sick-listed employees and hiring disincentives. Specifically, it could revise the gate keeping protocol, whereby employers are financially responsible for the first 24 months of their employees' sick leave, and the experience rating, whereby the insurance premiums paid by employers are linked to the employers' experience of employees receiving disability. These provide very strong disincentives to offer regular employment, and the available evidence suggests that vulnerable

groups with bad health conditions sort into flexible jobs (Koning and Lindeboom, 2015[82]). Instead of employers, public employment services could play a larger role in disability protection through early intervention approaches. For example, Austria and Norway introduced transitional disability programmes towards employment, with a strong focus on vocational rehabilitation and training (OECD, 2022[83]).

Better integrating migrants and facilitating migration for shortage occupations

Migrants and people with a migrant background constitute a pool of underutilised labour potential, which could be unlocked to partially tackle labour market shortages in the Netherlands. While labour market participation overall is high, the gap between the native-born and the foreign-born at 15 percentage points in 2021 is the largest in the OECD (Figure 2.14, Panel A). Participation is particularly low for migrants from outside of the European Union (CPB/SCP, 2020[84]): the gap between Dutch nationals and non-EU citizens is larger than 25 percentage points, substantially above the EU average of about 15 percentage points (EC, 2022[76]). The unemployment gap between natives and the foreign-born at 3.8 percentage points in 2021 is also above the OECD average of less than three percentage points (OECD, 2022[85]), and the incidence of long-term unemployment is higher. Better employment outcomes for these underemployed groups would not only reduce income inequality, but also partially address labour shortages. The eight pilot programmes to improve labour market integration focusing on individuals with a migrant background from outside of the European Union (*programma verdere integratie op de arbeidsmarkt*, VIA) go in the right direction, and their impact should be evaluated.

Figure 2.14. Better use of migration's potential could prop up the workforce



Note: Panel A refers to the shares of the foreign- and native-born populations aged 15-64.
Source: OECD Migration Statistics (database); OECD (2022) *International Migration Outlook 2022*.

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Adequately targeting active labour market policies is key to ensure that activation increases individuals' employability and leads to higher participation and employment among underemployed groups, such as foreign-born, in a cost-efficient manner (OECD, 2015[86]). The COVID-19 crisis reinforced the importance of specifically activating vulnerable groups, which have disproportionately transitioned out of employment and into inactivity during the economic contraction induced by lockdowns and other restrictions on activity (OECD, 2021[87]). Moreover, the continuing digital transformation and the changing nature of work tend to increase the risk of transitions out of standard forms of employment and, therefore, the need for job-search support.

The Netherlands should consider expanding skill assessment and statistical profiling tools for activation to specifically target shortage skills among migrant populations. In many OECD countries, public employment services increasingly complement rule- and caseworker-based profiling with statistical models to predict labour market disadvantage and classify job seekers into client groups for activation (Desiere, Langenbucher and Struyven, 2019[88]). In the Netherlands, the *Work Profiler* model determines how fast jobseekers are invited for a first interview with a caseworker based on risk scores of long-term unemployment. It could be augmented to statistically infer whether migrants are likely to have shortage skills despite not having these qualifications formally recognised. A number of local, bottom-up initiatives aim at expanding skill assessment, but coordination is lacking (OECD, 2023[5]).

Most migrants obtained qualifications abroad but face barriers to unfolding their skill potentials. In the Netherlands, more than half of the highly educated foreign-born either worked in jobs that require a lower level of formal education than what they hold or were not in employment in 2017 (OECD/European Union, 2018[89]). Moreover, those in employment have lower returns to their education in terms of employment prospects and wages than the native-born with similar domestic qualifications, even after accounting for age, gender, field of study and differences in the quality of education systems (OECD/European Union, 2014[90]). Foreign credentials do not have the same signalling effect as domestic qualifications partly due to employers' lack of information regarding foreign education and training systems (OECD, 2017[91]).

The Netherlands should streamline and accelerate the existing processes of recognition and validation of qualifications acquired abroad for shortage skills. The non-profit organisation in charge of the recognition of qualifying degrees in the Dutch system (*Nederlandse organisatie voor internationalisering in onderwijs*, NUFFIC) already matches the level of education previously obtained in the country of origin with the Dutch requirements and indicates the amount of additional courses needed to obtain an equivalent professional degree (OECD, 2018[92]). Early detection mechanisms could be fostered to identify individuals whose foreign-acquired skills could be easily supplemented to provide formal qualification in fields where labour shortages are the most acute. Similar mechanisms could be implemented through the framework of the civic integration exam, which also systematically assesses foreign qualifications.

Permanent-type migration to the Netherlands remains moderate in comparison to peer countries (OECD, 2022[93]), suggesting that more immigration can be part of a larger solution to address the structural shortfall in labour supply (Figure 2.14, Panel B). Given existing constraints on housing and public services, any migration policy should consider ensuing additional demand and therefore should be targeted. Dutch migration policies focus on high-skill migrants with the Knowledge Migrant Programme (*kennismigrant*) based on salary floors, but also under the EU's Blue Card Directive, and on researchers, intra-corporation transferees and students (Cörvers et al., 2021[94]). These programmes are essential as they contribute to meeting the strong demand in high-skill occupations against the backdrop of digitalisation. However, no policy specifically supports the middle-skill segment of the labour market, despite its key importance for the low-carbon transition (ACVZ, 2019[95]). Current migration pathways for (prospective) medium-skilled workers rely on several schemes, including the regular, employer-sponsored work visa, intra-company transfers, trade in services (so-called mode 4, i.e., presence of natural persons) and secondary or vocational education. Moreover, despite significant streamlining and improvement thanks to the 2013 Modern migration policy reform (*Wet modern migratiebeleid*), the migration system remains little responsive to the specific needs of the economy (OECD, 2016[96]).

The Netherlands should continue streamlining the immigration system, focusing also on medium-skill migrants, and strengthen its responsiveness to economic needs. Labour market tests, whereby employers are required to search for applicants from the Netherlands or other EU countries before turning to non-EU migrants, should be repealed for structural shortage occupations. Waiving foreign degree recognition for migrants with a job offer could be considered in non-regulated professions. Moreover, the many schemes that constitute the immigration landscape for medium-skill workers need a complete overhaul. An option for incremental reform is to augment the existing Knowledge Migrant Programme to include medium-skill occupations where shortages are significant, with a lower salary requirement to reflect the lower skill wage

premium. A more fundamental reform would be a points-based system to grant admission and job search visa depending on criteria such as qualification, experience, age or language skills. Austria, Türkiye and Japan use such systems to grant favourable permit conditions to migrants with a qualifying job offer, and the Netherlands itself uses a similar system to admit foreign entrepreneurs. These systems remain contingent on finding employment within a given time frame, contrary to Australia, Canada and New Zealand's points-based systems, which grant immediate permanent residence (OECD, 2019[97]). The Netherlands could draw from Germany's immigration reform geared towards skilled migrants (Box 2.7).

Box 2.7. Migration to tackle shortages in medium-skill occupations: the case of Germany

The 2020 Skilled Workers Immigration Act (*Fachkräfteeinwanderungsgesetz*) determines access to the German labour market for medium-skilled migrants from non-European Economic Area countries. The act allows migrants to be recruited from abroad for specific occupations, permits migrants with recognised qualifications to search for jobs in specific occupations, facilitates migrants' access to training and reduces visa processing times.

The Act came into force in March 2020, as the COVID-19 pandemic unfolded, making an evaluation of its impact on the German labour market difficult. The Federal Ministry of the Interior issued 30 000 visas over the first year of the policy, but strict criteria for the recognition of skills acquired abroad appear to hamper migration. Many medium-skilled migrants come to Germany under apprenticeship contracts.

The German government is planning an overhaul of the immigration landscape in 2023. A key feature of the prospective reform is the points-based Opportunity Card system (*Chancenkarte*), which would allow non-EU migrants to enter Germany to look for a job if they meet a combination of criteria including qualifications, age, language skills and work experience. The reform would also waive foreign degree recognition in non-regulated professions, extend the list of occupations that qualify for a residence permit and repeal labour market tests for apprenticeship.

Source: Cörvers et al. (2021[94]) "An exploratory study into the shortages of qualified personnel"; Federal Ministry of the Interior and Community (Germany); OECD (2023[98]) *OECD Economic Surveys: Germany 2023*.

Increasing low-skill labour migration will also be necessary as shortages concern all industries, including those that do not disproportionately rely on high- or medium-skill work. A case in point is the agriculture and horticulture sector, which has long relied on seasonal migrant work and has been facing significant labour shortages since before the pandemic slowed circular migration flows (Ryan, 2023[99]). The long-term care sector is also confronted with growing shortages of relatively low-skill work but has only relied little on immigration so far, as foreign-born workers represent less than 10% of the long-term care workforce in the Netherlands, largely below the OECD average of 25% (OECD, 2020[73]).

The Netherlands should ensure that the immigration system is conducive to both admitting and retaining migrant workers for selected low-skill occupations. If moving to a points-based system, its design should ensure that appropriate weights are given to experience in occupations that face shortages but do not require strong qualifications. Where necessary, vocational language training should be offered. Moreover, public image campaigns can help improve the perception of specific low-skill jobs, such as long-term care work, among prospective migrants. Finally, promoting the integration of low-skill migrant workers into the workforce would ensure a more stable long-term supply of labour to the concerned sectors.

Stepping up lifelong learning to promote growth in expanding industries

More than 43% of the population aged 25 to 64 and about 56% of the population aged 25-34 holds a tertiary degree in the Netherlands (OECD, 2022[58]). Average adult skills are among the highest in the OECD, with the Dutch ranking third in literacy and numeracy, behind Finland and Japan, and third in problem solving in technology-rich environments, behind Sweden and New Zealand (OECD, 2019[100]).

Therefore, the Netherlands starts from a solid position to manage the digital and low-carbon transitions. Indeed skills, in particular digital, are essential for workers to adapt to the ever-changing world of work and leverage complementarities with technological innovation, thereby supporting productivity and wage growth (OECD, 2019[54]; OECD, 2021[4]). Dutch people with higher digital skills are 10% more likely to be in employment and have about 5% higher hourly wages (Non, Dinkova and Dahmen, 2021[101]).

But with a very strong demand for specific skills in the Netherlands, especially related to the digital and low-carbon transitions, even a small share of the population with insufficient skills can bring disproportionate skill mismatch and shortages. Almost one in six Dutch adults is a low-performer in either literacy or numeracy, and more than 40% of adults are not sufficiently proficient in problem solving in technology-rich environments (OECD, 2019[100]). Although minimal in comparison to other OECD countries, the incidence of low skills among the Dutch adult population exacerbates labour shortages.

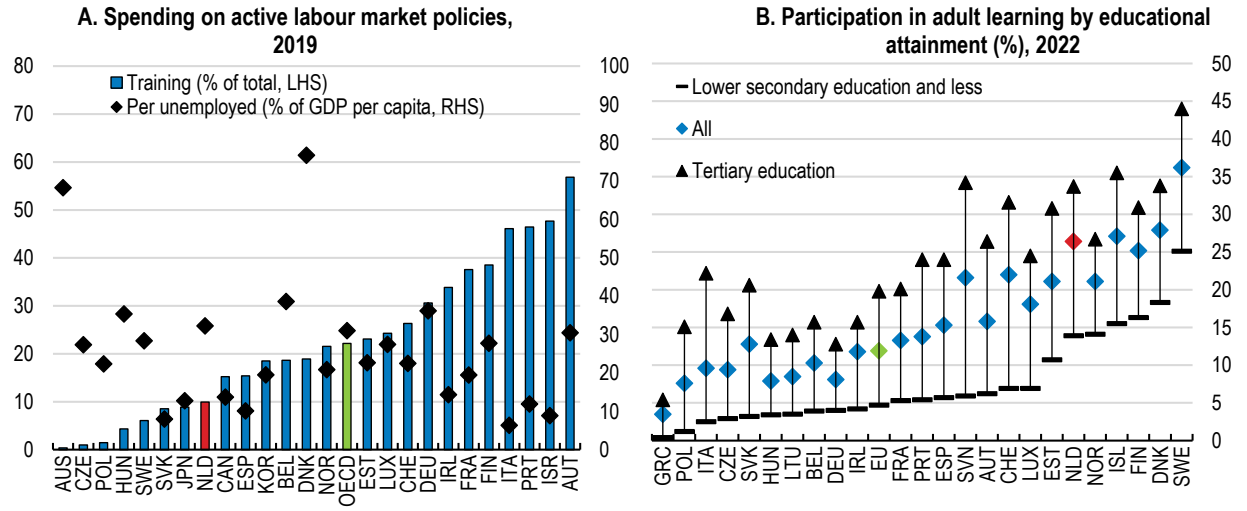
Training needs are important in the Netherlands, given the tight labour market and the massive number of new jobs that will be necessary for the low-carbon transition and the continued digitalisation of the economy (Bakens et al., 2021[102]; TNO, 2021[35]). Reskilling and upskilling are essential to promote worker reallocation towards expanding sectors facing shortages. Estimates from 2019 suggest that half of the Dutch workforce (about 4.5 million people) needs upgraded digital skills; that half a million workers (more than 5% of the workforce) need to change career by 2030; and that the necessary training will cost EUR 6-7 billion per year (DenkWerk, 2019[103]). However, total public spending on training was less than half a billion in 2021 in the Netherlands (OECD, 2022[104]). With the public sector typically accounting for about a quarter of total funding for adult learning (OECD, 2019[105]), this suggests a shortfall in public spending of EUR 1.5-1.75 billion per year. Planned initiatives on lifelong learning to be funded by the National Growth Fund are steps in the right direction.

The Netherlands should shift the composition of spending on active labour market policies towards training. Despite being one of the OECD's top performers in terms of activation spending, the country only allocated about 10% of the total to training in 2019, far less than the OECD average (Figure 2.15, Panel A). In a first approximation, a threefold increase in the share of spending on active labour market policies allocated to training (keeping total spending per unemployed constant) would be necessary to achieve the necessary reskilling and upskilling. The government's plan to spend an extra EUR 1.2 billion on training between 2022 and 2027 (SZW, 2022[106]), or EUR 200 million a year, is a step in the right direction, but falls far short of estimated needs.

The personal learning and development budget STAP (*Stimulering Arbeidsmarkt Positie*), implemented in 2022 in replacement of a tax deduction for training expenses and set to expire by the end of 2023, provides a striking illustration of the apparent disconnect between stated objectives and budgeted resources. Under the STAP, people between the age of 18 and statutory retirement are eligible for a training subsidy of up to EUR 1 000 per year, through a registry of approximately 700 approved educational institutions and 20 000 educational activities, both formal and non-formal, with training slots and funding allocated online in real time on a first-come-first-served basis. However, with a EUR 218 million annual budget including implementation costs (SZW, 2022[106]), the scheme can only serve about 200 000 people per year. Major scaling-up and stronger incentives for co-financing by employers are needed to deliver on the stated objective of promoting a new culture of lifelong learning (SER, 2022[107]; OECD, 2017[108]).

Participation in lifelong learning is very high across the board in the Netherlands (Figure 2.15, Panel B). On average, more than one in four people aged 25-65 have participated in either formal or non-formal education and training in 2022. All groups perform very well in international comparison, including participation at almost 14% for the low-skilled, 18% among the population aged 55-64 and 30% among the unemployed (Eurostat, 2022[109]). However, the participation gaps vis-à-vis prime-age highly educated individuals remain substantial. Closing them would contribute to reducing skill mismatch and, therefore, alleviate labour market tightness.

Figure 2.15. Public spending on training could increase and target the low-skilled more



Note: Panel B refers to the share of population aged 25-64.
Source: OECD Statistics on Labour Market Programmes (database); Eurostat Education and Training.

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The Netherlands should further target public training expenditure at the low-skilled, with an emphasis on occupational categories that are vulnerable to changing labour demand. Data on take-up from the first few rounds of the STAP show that about half of the applicants have a vocational education training background (*MBO-4*) or less, a quarter are over 50 years-old and there is a significant number of flexible workers, self-employed and job seekers (SZW, 2022[106]). While encouraging, these figures suggest that prime-age high-skilled workers still receive a large share of the available training resources, even though other groups need them most. Plans set out in the 2021 Coalition Agreement to earmark EUR 500 million over 2023-26 for training the low-skilled goes in the right direction. The Dutch government could draw from the French individual training account, in which access is universal but financial support varies across groups (Box 2.8). Moreover, measures should be taken to avoid excluding populations with poor digital skills or access.

A necessary condition to make individual training schemes successful is the provision of high-quality training in areas of need (OECD, 2021[110]; OECD, 2019[111]). This requires anticipation information to identify future skill needs and a strong quality assurance system. The Netherlands does not lack knowledge regarding future skill needs, which are subject to frequent assessments –see, e.g., Bakens et al. (2021[102]), TNO (2021[35]) or DenkWerk (2019[103]). However, quality can be an issue, as reported cases of dubious training and suspected abuses show (SZW, 2022[112]). More emphasis should be placed on ensuring that providers maintain training quality, including renewing providers' accreditation regularly, assessing the outcomes of education activities, and ensuring that the ensuing information is transparent and publicly available. Anecdotal evidence about misleading marketing practices by providers and about the price of training converging to the maximum available subsidy points to rent-seeking incentives from providers that should be removed. Establishing a quality assurance label for non-formal adult learning could help (OECD, 2019[113]).

Box 2.8. Individualising training access schemes: the case of France

The French personal training account (*Compte Personnel de Formation*, CPF) is an individualised financing scheme for professional training in which training rights are accumulated over time. Introduced in 2015, the account is open to all economically active persons, and is fully transferable throughout the individual's working life, from the time they enter the labour market until they retire.

The account was reformed in 2018 to improve access to training for low-skilled workers and jobseekers. The personal training account was previously measured in training hours, but has now been monetised in euros, a move to correct the disparities in hourly training costs. The amount of the annual payments is based on workers' skills: each worker has EUR 500 per year in his CPF to pay for training, and the least skilled have EUR 800 (up to a ceiling of EUR 5 000 and EUR 8 000 over ten years, respectively). The reform also introduced guidance for potential beneficiaries, as well as controls of the quality of and information about the training provided. Part of the funds dedicated to professional training and apprenticeship are earmarked for career advice (C*onseils en Évolution Professionnelle*, CEP).

Source: Perez and Vourc'h (2020[114]), "Individualising training access schemes: France"; OECD (2019[115]) *OECD Economic Surveys: France 2019*.

The Netherlands should consider further prioritise occupations facing shortages for public training. Focusing expenditure on adult learning related to occupations where shortages are the most pressing would reduce the overall fiscal cost and better channel labour towards the tightest segments of the labour market. A first step would be to build on the lessons learned from the STAP programme to ensure that subsidised lifelong learning meets quality standards in line with labour market needs, as the government intends to do. Leveraging potential synergies with the Learning and Development Incentive Scheme for SMEs (*Stimuleringsregeling leren en ontwikkelen in mkb-ondernemingen*, SLIM), whereby entrepreneurs receive financial incentives to support their employees' development and to offer apprenticeships to outside workers and jobseekers, is another promising avenue. The recently presented action plan for green and digital jobs (*Actieplan groene en digitale banen*), which aims to bring employers and education professionals together to tackle shortages in occupations related to the green and digital transitions, is a step in the right direction (EZK, OCW and SWZ, 2023[20]).

Upgrading compulsory education to better prepare the future workforce

Preparing the future workforce through the education system is particularly important in the Netherlands, where labour demand is expected to remain strong in the long run. Indeed, population ageing, digitalisation, and the low-carbon transition, which hinge on the creation of many skilled jobs, will test the Dutch labour market's ability to supply labour in expanding industries. Therefore, although the population scores comparatively well on international measures of human capital on average, the observed decline in measured academic performance of Dutch students is a major concern. Performance in all subjects has been on a downward trend since the OECD's Programme for International Student Assessment (PISA) began tracking it (OECD, 2019[116]). While Dutch 15-year-olds still perform better than the OECD average in mathematics and science, they have now fallen behind the OECD average in reading. Worsening academic outcomes for the weakest students largely explains the disappointing performance of Dutch students (Box 2.9).

Reversing the downward trend in Dutch students' performance is essential to ensure that the workforce is ready to meet future labour market needs. Raising the performance of the weakest students is critical: leaving them behind would lead not only to social polarisation but also to a particularly unwelcome reduction in the size of the skilled labour force at a time of strong labour demand. Investing in teachers, promoting collaboration among school leaders, teachers and school boards, and fostering a culture of

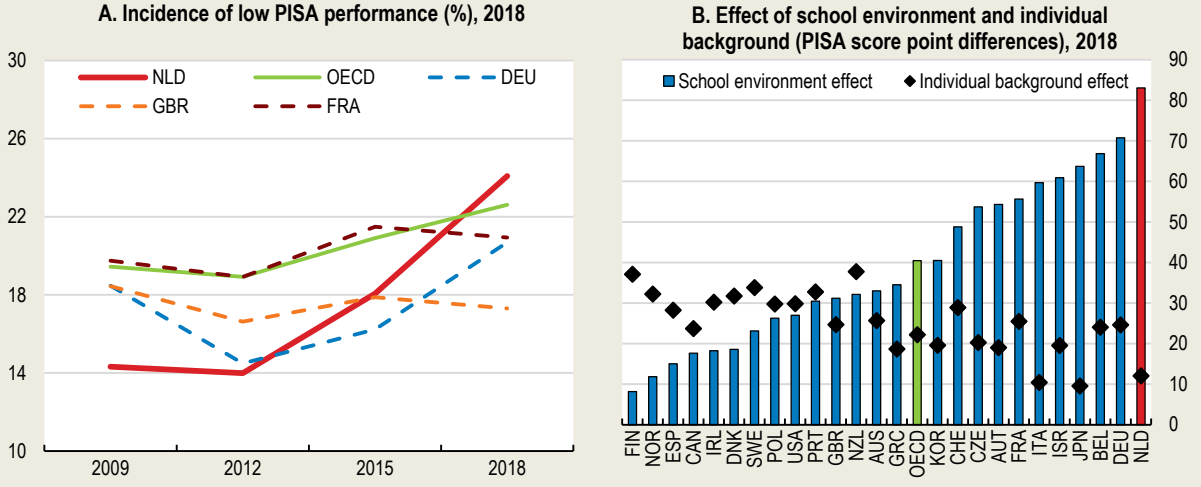
accountability and continuous improvements is required to implement such a reversal (OECD, 2016[117]; OECD, 2021[4]).

Box 2.9. The influence of the school environment on PISA performance

Worsening academic outcomes for the weakest students largely explains the Netherlands' declining PISA performance. The share of low performers is increasing and above the OECD average (Figure 2.16, Panel A), and students with an immigrant background perform considerably below natives (OECD, 2019[116]). Differences between students are reflected in large disparities between schools, as the organisation of compulsory education based on free school choice leads to self-sorting into schools along socio-economic background (OECD, 2021[4]).

Recent OECD research shows that Dutch students' academic performance strongly depends on the so-called school environment effect, i.e., the socio-economic composition of students' peer group in the school they attend (Figure 2.16, Panel B).

Figure 2.16. Large disparities in academic outcomes weigh on PISA performance



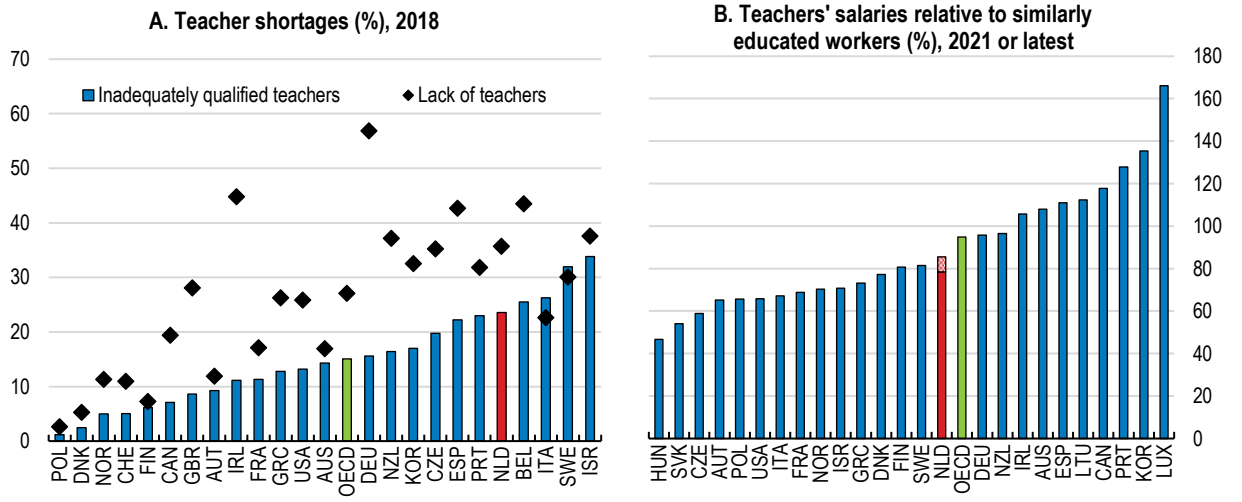
Note: Panel A refers to the share of students scoring below level 2 in either the reading or math PISA test. Panel B shows the estimated coefficients from country-level regressions of students' science PISA test score on their index of economic, social and cultural status (ESCS) (individual background) and school average ESCS index (school environment); see source for details and interpretation.
Source: OECD (2019) *PISA 2018 Results Vol. I: What Students Know and Can Do*; Cassimon, Gonne and Adalet McGowan (forthcoming[118]) "School environment and student achievement: An international comparison based on PISA 2018".

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Teacher shortages are particularly acute in large cities and in disadvantaged schools in the Netherlands. Shortages of teaching staff are especially concerning as a lack of teachers or inadequate teacher preparation is detrimental to the quality of education (OECD, 2020[119]; OECD, 2019[120]). About 35% of Dutch students attended schools where principals reported a lack of teaching staff according to survey data from 2018, higher than the OECD average of 27%, and 24% of students attended schools with inadequate or poorly qualified staff (Figure 2.17, Panel A). Teacher shortages exist at all levels of compulsory education: 71% of vacancies in Dutch primary schools were hard to fill in 2021, 62% in secondary schools and 60% in vocational education schools (OCW, 2022[121]). Shortages are particularly large in primary schools, which lacked 9 700 full-time equivalent teachers in 2021 (equivalent to about 10% of primary teacher employment) but are proportionally bigger in vocational education and in special needs education.

Dutch teachers have relatively low salaries compared to similarly educated workers in the Netherlands (Figure 2.17, Panel B), despite being well-paid in international comparison. Even with the 2022 agreement to close the wage gap between teachers in primary and secondary education (OCW, 2022[122]), statutory salaries for primary school teachers with 15 years of experience remain about 15% lower than average earnings for full-time workers with tertiary education, and the gap is larger for secondary school teachers. The perceived value of teaching professions, while high, decreased significantly between 2013 and 2018 (OECD, 2020[123]). Relatively low salaries and perceived standing can stifle personal commitment or sense of vocation, and incentivise qualified teachers to change industry. The evidence on shortages by field in secondary education points to the existence of better outside options for teachers: the lack of teachers is particularly strong in skills areas that are in high demand in the wider economy, such as languages, computer science, mathematics, physics and chemistry (OCW, 2022[121]).

Figure 2.17. More attractive salaries could alleviate teacher shortages



Note: Panel A refers to the share of students in schools reporting shortages of teachers. Panel B refers to 2021 statutory salaries for primary school teachers with 15 years of experience and holding the most prevalent qualifications at this stage of career and this level of education, relative to earnings for full-time, full-year workers with tertiary education; the hatched section of the bar for the Netherlands represents the effect of the 2022 pay scale reform (*Onderwijsakkoord Samen voor het beste onderwijs*).
Source: OECD (2020) *PISA 2018 Results Vol. V: Effective Policies, Successful Schools*; OECD Education at a Glance (database).

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The Netherlands should make teacher careers more attractive. To limit the fiscal cost and promote equity in education, pecuniary incentives could be offered to teachers only in areas and schools where shortages are the most acute. The premium on salaries (*arbeidsmarkttoelage*) allocated to teachers in disadvantaged schools since the academic years 2021/22 (OCW, 2022[124]; OCW, 2021[125]) goes in the right direction, and its impact on teacher shortages should be evaluated. Moreover, on top of the recently agreed pay raise for primary teachers as part of a package to increase funding for compulsory education, the government plans to set up pilots whereby teachers who increase hours worked get a bonus (OCW, 2022[126]). Beyond extra pay, teachers in schools facing acute shortages could be rewarded with faster conversion to fixed appointment or priority transfer to a school of choice after a given number of years. The Netherlands could draw from Korea's experience with policies to attract good teachers in disadvantaged schools via extra incentives, while respecting freedom of education (Box 2.10).

Box 2.10. Incentivising teachers while respecting freedom of education: the case of Korea

Thanks to a rotation scheme for teachers, disadvantaged students in Korea are at least as likely as others to be taught by high-quality teachers, as evidenced by teachers' characteristics, such as years of experience, being certified for all the subjects taught and, for science teachers, having a university degree with a major in science.

Mandatory rotation for teachers, which would require them to move to a different school periodically, is not compatible with the principle of freedom of education enshrined in the Dutch constitution.

However, many of the incentives offered within the Korean rotation scheme to attract teachers to high-needs schools are compatible with the Dutch constitution and could be implemented at the level of school boards or beyond. These include additional salary, smaller classes, less instructional time, additional credit towards future promotion to administrative positions, and the ability to choose the next school where one works. The latter two career incentives are seen as particularly attractive.

Source: OECD (2018[127]) *Effective teacher policies: Insights from PISA*.

Enrolment in pre-vocational education has been declining in the Netherlands (SPV, 2022[128]). As in many other OECD countries, vocational and pre-vocational education (*middelbaar beroepsonderwijs*, MBO, and *voorbereidend middelbaar beroepsonderwijs*, VMBO) have an image problem. Yet, they have the potential to equip students with the skills necessary in shortage occupations, including those related to the low-carbon transition. Moreover, Dutch vocational education is rather responsive to changing labour market needs, thanks to its reformed structure around modular vocational programmes. Revisions to the curriculum ensure that it addresses changing labour demand: it was updated in 2016 and a new update is planned in 2023 in collaboration with employers.

Early tracking of weaker students in pre-vocational tracks at age twelve contributes to attaching a stigma to vocational education in the Netherlands. Increasingly high enrolment on academic tracks comes with large disparities in student performance within these tracks, suggesting that the tracking process fails to allocate students where they can best realise their potential. Such inconsistent selection undermines the legitimacy of tracking. Moreover, subsequent permeability between tracks is quasi-inexistent, which prevents initial tracking decisions to be adjusted in response to performance (OECD, 2016[117]). These features make vocational education particularly unattractive. Early tracking is also associated with inequality in educational outcomes (OECD, 2020[119]).

The Netherlands should make vocational tracks more attractive to ensure the future supply of critical technical skills. A reform priority in the compulsory education system is to increase mobility between academic and vocational tracks. Merging some of the existing pre-vocational tracks and promoting larger schools through financial incentives can simplify the track landscape and, therefore, help remove barriers to between-track mobility by reducing complexity for parents and students (OECD, 2016[117]; OECD, 2014[129]). The government could draw from recent reforms in Flanders' secondary education that encourage schools to organise programmes by domain across tracks (Box 2.11). Another priority is to set and enforce a standardised national test for tracking, instead of the current system where schools and teachers are given large discretion. Promoting transparency and fairness in tracking decisions and removing biases and discrimination can contribute to improving the image of vocational education. The Law on Progression Test in Primary Education (*wet doorstroomtoetsen po*), which reforms the tracking test and introduces centralised registration in secondary school from the academic year 2023/24, is intended to improve equity in education but does not make vocational education more attractive. Delaying tracking is a better avenue to achieve this objective (OECD, 2020[119]).

Box 2.11. Increasing mobility between academic and vocational tracks: the case of Flanders

Vocational tracks suffer from social stigma in Belgium. Parents often prefer their children to repeat grade in the academic track rather than switching to the vocational track. The resulting cascade effect, whereby struggling students first repeat grades before being transferred to another track deemed inferior, means that non-academic tracks are effectively relegation tracks. The cascade effect also contributes to disparities in academic outcomes between schools, which are mostly organised by track.

Through the 2019 modernisation reform of its compulsory education system, the Flemish Community of Belgium began to tackle the issue by encouraging schools to organise programmes by domain across tracks. Under the new structure, a "domain school" offers each track's educational programme (i.e., general, technical, artistic and professional) for one or more of the eight fields of study (language and culture, STEM, art and creation, agriculture and horticulture, economy and organisation, society and welfare, sport, food and catering). The structure allows students to transfer from vocational to academic track more easily, which is expected to lower the cascade effect.

Source: De Witte and Hindriks (2018[130]) *De (Her-)Vormende School*; OECD (2022[131]) *OECD Economic Surveys: Belgium 2022*.

Relatively few Dutch students pursue degrees in sciences, technology, engineering and mathematics (STEM). The share of ICT graduates is also low in international comparison (OECD, 2021[4]). This will increase digital skill shortages and labour market tightness in the medium run, as the demand for high-skilled workers in technical fields is expected to grow significantly. A supply shortfall of STEM skills will also prevent firms from leveraging digital technologies to increase their productivity, as discussed in depth in the previous *OECD Economic Survey* of the Netherlands (OECD, 2021[4]).

Constraints on university budgets contribute to preventing them from expanding capacity in areas of skill need. Dutch universities are public and overwhelmingly rely on government funding to finance their operations. Since 2000, the ratio of total public funding for universities (for both teaching and research) to the number of students dropped by 25%, as enrolment doubled and research activities kept growing (UNL, 2021[132]). Moreover, the core public funding allocation model is detrimental to STEM programmes in international comparison, as they are attributed a lower weight than under funding formulas in comparable OECD systems (OECD, 2022[133]). The government's commitment to increase public funding by EUR 70 million to strengthen universities' offer and capacity of STEM curricula is a step in the right direction (OECD, 2021[4]).

The Netherlands should continue to raise funding for STEM education. Increasing the supply of university study places in STEM programmes is key, possibly providing incentives for higher education establishments to increase enrolment. Reviewing the weight given to STEM students in the core funding formula would provide such incentives. Policy options also include expanding part-time higher education pathways for ICT professionals and involving the private sector more in the design of curricula for ICT programmes (OECD, 2021[4]). As most ICT students are men, an impetus on increasing women's interest in ICT studies from the early stages of compulsory schooling by curriculum design, outreach activities and showcasing role models would be particularly welcome to reduce digital skill shortages in the future.

Table 2.1. Findings and recommendations

FINDINGS	RECOMMENDATIONS (key recommendations in bold)
Reforming taxes and benefits to strengthen work incentives	
High effective taxation on increasing hours worked reduces work incentives for middle-income mothers, compounding cultural norms regarding childcare responsibilities.	**Keep lowering the effective tax rate on moving from part-time to full-time employment while delivering on the childcare overhaul.**
The complexity of the tax and benefits system discourages labour market entry or working more for fear of losing benefits.	**Streamline existing income-dependent benefits into a system of fewer allowances and tax credits based on a limited number of household characteristics.**
Alleviating the maternity penalty to counter gender norms hampering labour supply	
The reform to make childcare free for all working parents is expected to strongly increase childcare demand and worsen staff shortages, raising doubts about feasibility.	**Phase in the childcare reform gradually, monitor access and evaluate the repeal of the link between hours worked and the amount of the childcare support.**
Both maternity and paternity leave are relatively short and the extra nine weeks with 70% replacement rate is insufficient to overcome gender norms.	Provide longer, non-transferable parental leave to both mothers and fathers or introduce bonus periods, whereby parents qualify for longer paid leave if both use a given amount of shareable leave.
Access to formal long-term care is expected to become increasingly challenging, and informal long-term care is disproportionately provided by women.	Maintain public funding to preserve excellent access to long-term care. Evaluate the consequences of the 2015 reform on the attractiveness of long-term care jobs.
Better integrating migrants and facilitating migration for shortage occupations	
The gap in labour market participation between the native-born and the foreign-born is the largest in the OECD.	Consider expanding skill assessment and statistical profiling for activation to specifically target shortage skills among migrant populations.
Most highly educated foreign-born work in jobs that require a lower level of formal education than what they hold or are not in employment.	**Streamline and accelerate the existing processes of recognition and validation of qualifications acquired abroad for shortage skills.**
The immigration system is not responsive to labour market needs and no migration scheme exists for medium-skill workers, despite their importance for the green transition.	Ease medium-skill labour migration in sectors and occupations facing structural shortages. **Consider eliminating the labour market test for shortage occupations.**
Stepping up lifelong learning to promote growth in expanding industries	
Spending on lifelong learning falls far short of estimated needs given massive skill demand related to the green and digital transitions.	**Shift the composition of active labour market policies towards training, especially green and digital.** Scale up investment in lifelong learning and provide stronger incentives for co-financing by employers.
The lifelong learning participation gap of vulnerable groups vis-à-vis the prime-age highly educated is substantial, especially for the low-skilled.	Target public training expenditure at the low-skilled and allow financial support to vary across groups.
The outcomes of lifelong learning activities are not systematically assessed, and concerns have surfaced regarding the quality and relevance of some trainings.	Renew providers' accreditation regularly and make their assessment publicly available. **Ensure quality control of lifelong learning programmes and prioritise sectors with the most pressing labour needs.** Leverage potential synergies with the training scheme targeted at SMEs.
Upgrading compulsory education to better prepare the future workforce	
Teacher shortages are acute in cities and disadvantaged schools, while teachers have low salaries compared to similarly educated workers.	**Reward teaching in locations and schools where shortages are the most significant with extra financial incentives or priority transfer to a school of choice after a given tenure.**
Enrolment in pre-vocational education is declining, despite the strong potential of vocational education to provide the skills needed in tight occupations.	**Increase mobility between academic and vocational tracks by merging some of the existing pre-vocational tracks and providing schools with incentives to organise programmes across tracks.**
Few Dutch students pursue STEM degrees, and the share of ICT graduates is low in international comparison.	**Provide higher education establishments with financial incentives to increase enrolment in STEM fields.** Increase girls' interest in ICT and STEM studies from the early stages of compulsory schooling.

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The Dutch economy swiftly returned to its pre-pandemic growth path, but rapidly rising inflation disrupted growth, magnifying existing challenges, such as the urgency of the transition to net zero, ageing-related fiscal pressures, and pervasive labour shortages. Significant investments in low-carbon infrastructure and technologies are needed to reduce fossil fuels dependence and exposure to global energy price fluctuations. Healthy public finances allowed for fiscal support to protect households and firms from surging energy prices, but population ageing will increase fiscal pressure going forward. Streamlining the tax system would enhance macro-financial stability and productivity by reducing distortions in investment and labour supply decisions. Lifting labour supply, in complement to raising productivity, would help to strengthen growth potential and enable the green and digital transitions. Removing tax disincentives on additional hours worked and streamlining income-dependent benefits while improving access to childcare would both increase labour input and reduce inequalities. Supporting re- and upskilling of the workforce, as well as narrowing regulatory gaps between regular and non-standard forms of employment further would alleviate shortages by facilitating transitions between occupations. Better integrating people with a migrant background and easing medium-skill labour migration in specific occupations could further boost labour supply.

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