The Danish Government

Denmark's Convergence Programme 2023

MAY 2023

Content

1. Challenges and Goals for Economic Policy

1.1 Challenges and Objectives Towards 2030

The Danish economy has to a large extent proved resilient to a number of external shocks in recent years, including the COVID-19 pandemic, Russia's war in Ukraine and high inflation. In 2022, there were approx. 160,000 more in employment than in 2019, i.e. before the pandemic. In the same period, GDP has grown by almost 7 per cent. This is stronger than in most western countries.

The resilience of the Danish economy reflects a fundamentally sound and flexible economy as well as measures taken in response to the challenges. This provides a strong starting point for dealing with a number of major challenges that the Danes and the Danish economy are facing in the coming years.

In the short term, the main challenge is to dampen inflationary pressures, and fiscal policy contributes to that aim. Towards 2030, there are also a number of major challenges. These include the green transition, the new security situation, and the further development of public service provision.

Danish greenhouse gas emissions shall be reduced by 70 per cent by 2030, and this requires further initiatives on top of the long series of measures that have already been agreed. The government has also announced that the target for climate neutrality is brought forward to 2045 and set a new goal of 110 percent reduction by 2050. The government will ensure thorough implementation of the many measures that have already been adopted, including to fully achieve the 70 percent reduction target.

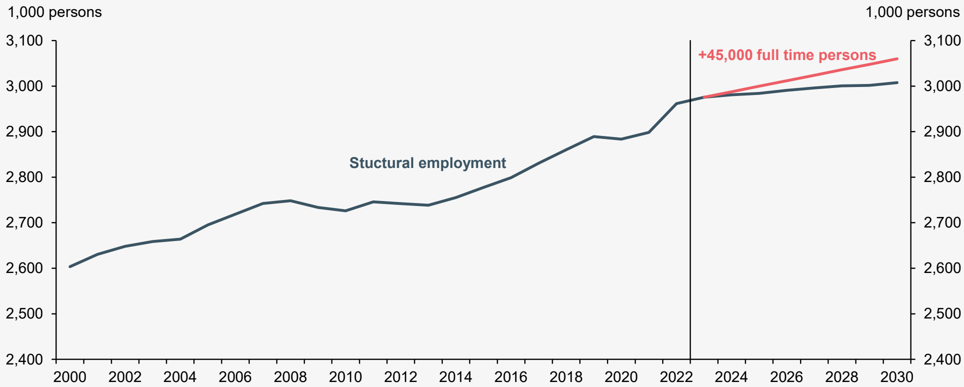
Russia's aggressive behavior in particular in Ukraine requires that defense and security spending must be increased to meet the new security situation. The government wants to lift defense spending so that Denmark reaches a NATO budget of 2 per cent of GDP in 2030. This corresponds to a boost in defense expenditure of DKK 20 bn. in 2030.

The demographic development in the coming years, with relatively more children and especially elderly, will increase the pressure on services provided by the public sector. The increase in demographic spending pressure, which measures how much public consumption spending needs to grow if the expenditure per user of the public services is to be maintained, is estimated to some DKK 21¼ bn. in 2030. The government will make sure that the resources for public welfare services keep pace with the increasing number of children and elderly.

At the same time, public services must be strengthened with more quality and individual care. Public services need to keep up when the expectations of the population rise in line with, for example, the development of new treatment capabilities in the healthcare system. This requires both that adequate resources are allocated for up-to-date public services and that the resources are used in a way that ensures the highest possible quality. The government will carry out reforms of the public sector, including by reducing red tape and administrative burdens.

At the same time, structural employment towards 2030 is not expected to rise at the same pace as in the last 20 years or more. From 2000 to 2022, structural employment is estimated to have increased by approx. 358,000 persons, corresponding to an average of just over 16,000 persons per year, *cf. figure 1.1*. The increase to a large extent reflect implemented reforms.

Figure 1.1
Structural employment



Note: The employment increase goal of 45,000 is measuerede in full time persons. In the figure the goal is recalculated to persons with the projected number of hours worked and the normed work hours for a full time person.
Source: Statistics Denmark and own calculations.

Towards 2030, however, growth in structural employment is estimated to be more modest at around 5,500 persons per year. The lower pace owes to relatively large cohorts retiring from the labor market to be replaced by smaller young cohorts, and that the indexation of the early retirement and statutory pension ages in the coming years will take place at a slower pace than in the past 5-10 years.

Thus, there are a number of major challenges that must be met while employment is growing significantly slower than we have been used to. If the challenges are to be met, there is need for both financing and labor supply. The government has a goal of an employment increase of 45,000 full-time persons in 2030 through political measures, and to obtain new financing for at least DKK 11 bn.

These are ambitious goals given that previous reforms have already increased employment rates for large groups. The abolition of great prayer day as a public holiday is estimated to contribute to an employment increase of 8,500 full-time workers and strengthen public finances by just above DKK 3 bn. But there is a need for further reforms to ensure sufficient labor and funding for the challenges we face and for the further development of our society. The government has already presented an ambitious reform of tertiary education, which will make master's programs more job-oriented, and the government will continuously present reform proposals to increase employment. This includes, among other things, a reform of the student grant system and a tax reform.

Denmark's Convergence Programme 2023 includes, among other things, the abolition of great prayer day as a public holiday, which contributes to increased labor supply as well as more spending room, i.e. more “fiscal space” towards 2030. In total, the fiscal space from 2023 to 2030 has been adjusted upwards by approx. DKK 16 bn. compared to the projection from August 2022, *cf. section 1.3 and section 3.4*. The majority of the upward adjustment (approx. DKK 10¼ bn.) reflects an underlying improvement of public finances as a result of more international labor and fewer persons in the early retirement scheme etc. than previously expected for the period towards 2030. This owes, among other things, to the set of responsible economic policies pursued by earlier governments, both through reforms and the management of the economic upheavals during the COVID-19 pandemic, which has supported strong job growth. The strong labor market in recent years, together with generally attractive wages and working conditions and easier access to international recruitment, has contributed to an increase in the number of international workers and the total workforce.

The increase in fiscal space as a result of the underlying improvement in public finances is positive and ensures a better starting point for dealing with the challenges we face.

In light of the increased fiscal space, the government will allocate an additional DKK 5 bn. by 2030 to a healthcare package to strengthen the health system, *cf. box 1.1*. A well-functioning healthcare system is a central part of the Danish welfare model. The government has an ambition for Denmark to have one of the world's best healthcare systems, ensuring high-quality treatment throughout the country. The effort begins with a new cancer initiative, including a Cancer Plan V. Additionally, the government will take steps to bring forward measures in the field of psychiatry. The funds are in addition to the resources that the government has already indicated will be allocated to keep pace with the rising number of elderly etc. (the demographic spending pressure). The commitment also goes beyond the DKK 3 bn. that the government has already earmarked for a lift of the psychiatry sector.

Box 1.1
The healthcare package

The Healthcare Package aims to underpin that the healthcare system can undergo significant improvements in the coming years. An increasing number of citizens require care and treatment from various parts of our healthcare system. The specialized hospitals have been strengthened and should also in the future provide world-class treatment. At the same time, primary healthcare needs to be strengthened so that more citizens can receive treatment at or in close proximity to home.

Citizens currently experience differences in healthcare services across the country and often lack continuity in their care across specialties and healthcare services. The geographical and social inequalities in health need to be reduced. The healthcare system should be more sustainable and make use of new technology and treatment methods. The government has established a healthcare structure commission, which will, among other things, develop models for the future organization of the healthcare system and submit its report in 2024.

But even with the increase in fiscal space, there is still a need for reforms if there is to be sufficient room for handling the other major challenges, including the green transition, the new security situation and the need for investments in, among other things, education and growth. At the same time, reforms must also ensure sufficient labor for the important societal tasks that must be undertaken – both in the public and private sectors. The government will present its overall economic policy in a 2030 plan later this year.

Economic outlook
Russia’s invasion of Ukraine quickly had major consequences for the global economy last year. In the

fall of 2022, inflation reached its highest level in 40 years in many Western countries. At the end of 2022, the erosion of household purchasing power and the higher interest rates following monetary policy tightening led to stagnation or actual decline in economic development in many countries. On May 17 2023, the government presented the Economic Survey, May 2023, in which economic projections are elaborated.

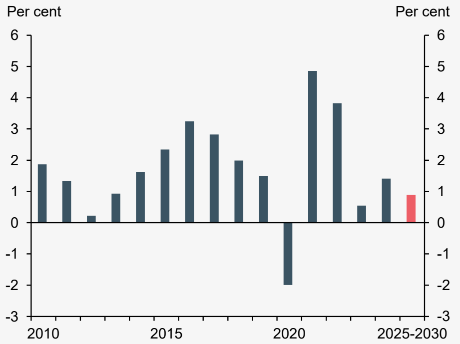
Large parts of the Danish economy slowed down last year. Households responded to price increases and held back on consumption, and in the housing market, sales and house prices fell due to higher interest rates. While other industries were affected by the slowdown in demand, there was remarkable growth in the pharmaceutical industry. The progress was decisive for the Danish economy as a whole to grow at the end of 2022. Excluding the extraordinary contribution from the pharmaceutical industry, GDP would have been roughly unchanged in the 4th quarter of 2022 compared to the same quarter the year before.

The slowdown comes after a period of strong growth in the Danish economy, *cf. figure 1.2*. Consequently, GDP was again above the structural level in 2021, and the output gap was further widened to 3.1 per cent in 2022. This is on par with the boom before the financial crisis. As a result of the high level of activity alone, a slowdown in activity would have to take place sooner or later.

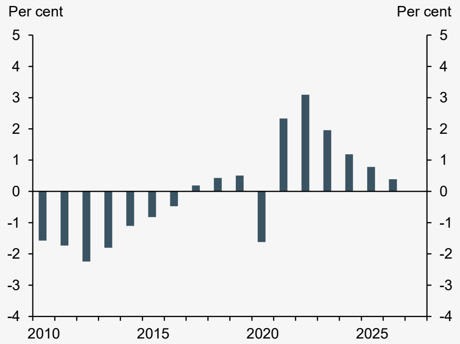
The moderation has continued into 2023, where household consumption has remained at a low level. Furthermore, the slowdown in the global economy affects Danish exports. However, the slowdown appears to be relatively mild. Inflation is on the way down, in particular as a result of falling energy prices. As inflation has subsided, there has been an improvement in confidence indicators from the low point they reached last autumn.

The main scenario is a soft landing, where activity gradually approaches the structural level, i.e. the level that is compatible with a stable price and wage development, *cf. figure 1.3*. The possibility of a soft landing should, among other things, be seen in the context of the absence of clear imbalances that would require recovery. In the projection, the cyclical gaps are assumed to be gradually closed towards 2027, which means that the growth in GDP towards 2030 is expected to be more moderate than in recent years. Inflation is assumed to be back at a normal rate of around 2 per cent by 2026.

Figur 1.2
GDP growth 2010-2030



Figur 1.3
Output gap are high but closing



Source: Statistics Denmark and own calculations.

The economic assessment in Denmark's Convergence Programme 2023 is described in more detail in chapter 2 and is further elaborated in the Economic Survey, May 2023.

1.2 Objectives for economic policy

Denmark has a tradition for a stability-oriented economic policy with a long planning horizon. The formal framework for fiscal policy is specified in the Danish Budget Law and also follows EU rules.

An important instrument in the planning of fiscal policy is the medium-term plans that contain economic policy targets and projections of the economic development. Among other things, the medium-term plans have played an important role in ensuring sound public finances and strengthening the foundation for growth and employment by identifying challenges for the Danish economy at an early stage. The government will present its 2030 plan later in 2023.

A number of goals and benchmarks for fiscal policy towards 2025 can be found in box 1.2.

Box 1.2
Goals and benchmarks for fiscal policy towards 2030

- The government will pursue a sound and responsible economic policy that support the fixed-exchange rate policy, the Welfare agreement from 2006, the Stability and Growth Pact and the Danish Budget Law. The public debt must maintain a wide margin to the EMU debt limit of 60 per cent of GDP towards 2030.
- Fiscal policy is further planned to maintain fiscal sustainability.
- The government will present a new and updated 2030 plan with a structural budget target of -0.5 per cent of GDP in 2030.
- Fiscal policy must continually be aligned with the business cycle. In the coming years, the economic policy will be planned as to not push further on high inflation.
- During this election period, the government will make political decisions that will increase structural employment by 45,000 full-time persons in 2030 and provide new funding for DKK 11 bn. in 2030.
- The government will prioritize welfare year after year, so that the money follows when we become more children and elderly.
- The government will advance the promise of defense spending to 2 per cent of GDP to 2030.
- Overall, the government will reduce Danish taxes based on a tax freeze. To the extent that the government decides to raise taxes or duties, other taxes or duties must be correspondingly reduced, so that overall no more taxes or duties are collected. Tobacco and nicotine taxes are exempt from this principle.

1.3 Updated Projection of the Fiscal Space

In Danish terminology, the “fiscal space” toward 2030 is a measure of the room available for new political spending or tax initiatives, including real growth in public consumption or other political initiatives, within the objective of structural budget balance in 2030 of -0.5 per cent of GDP.

The fiscal space toward 2030 was last updated in *2030-projection*, August 2022, where it was estimated at approx. DKK 48 bn. in 2030 relative to the expenditure level in 2023 and corrected for transitory spending related to the situation in Ukraine (including the security reserve of DKK 3½ bn. in 2023 and additional expenses for handling displaced persons from Ukraine) among other things.

In Denmark’s Convergence Programme 2023 the fiscal space is estimated at approx. DKK 64 bn. in 2030 (compared to the expenditure level in 2023, which is corrected for temporary circumstances related to the situation in Ukraine in particular). That corresponds to an average yearly growth in public consumption of approx. 1.5 per cent. The upward adjustment of the fiscal space toward 2030 since August 2022 reflects, among other things, the political agreements entered into since the last medium term projection, including the abolition of Great Prayer Day as a public holiday.

Additionally the changes in the fiscal space are to a large degree a result of underlying improvements of the structural budget balance, which especially should be seen in the context of stronger estimated and projected structural employment

Firstly that should be seen in the light of reforms and initiatives, which through the years have been implemented with the purpose of increasing labour supply, which seem to have a larger effect toward 2030 than previously expected. This is especially the case for the decreasing number of seniors exiting the labour market through early retirement pension and thus, an increase of seniors who instead stay in employment.

Secondly, the Danish economy made a strong recovery after the COVID-19-crisis, which partly owes to fast and extensive fiscal support measures. The subsequent quick increase in jobs together with generally attractive wage and working conditions in Denmark and easier access for international recruitment have increased the number of foreigners taking jobs in Denmark and also increased employment among the resident immigrants. These circumstances have contributed to an increase in estimated structural employment, which has been revised up by approx. 18,000 persons in 2022 since *2030-projection*, August 2022, and is assumed to be a permanent increase.

These factors are reflected in the upward revision of the structural budget balance in all years toward 2030. On the basis of the updated projection for Denmark’s Convergence Programme 2023, the structural budget balance is thus upwards revised in all medium term years. The improvement amounts to 0.4 per cent of GDP in 2030, corresponding to approx. DKK 10¼ bn.

The improvement of the structural budget balance in 2027-2030 is incorporated as an increase of the highest possible public consumption growth. In 2025-2026 the adjustments to the fiscal space is placed in a macro reserve outside the legislated spending ceilings. In an upcoming 2030-plan a concrete allocation of the fiscal space will be decided upon. In the current projection the macro reserve in 2025-2026 is included in the numbers for the fiscal space. The effect of the updated information and data etc. on the fiscal space compared to the *2030-projection*, August 2022 is described in box 1.3 and additionally in section 3.4.

Box 1.3
Estimates of the fiscal space compared with the August 2023

The fiscal space in Denmark's Convergence Programme 2023 is estimated to 64 bn. in 2030 measured in relation to the expenditure level in 2023. The increase of DKK 16 bn. compared to the fiscal space calculated in the medium term projection from August 2022 should especially be seen in connection with the underlying improvements of the structural budget balance.

The adjustment of the fiscal space reflects several factors:

- *Underlying improvement of the structural budget balance.* The fiscal space is increased with 10¼ bn. in 2030 solely as a result of the underlying improvements of the structural budget balance, which mainly reflects an upwards adjustment of the structural employment in 2030.

- *Abolition of great prayer day as a public holiday.* The abolition of great prayer day as a public holiday is estimated to imply a permanent additional revenue of approx. DKK 3¼ bn. from 2024, which is treated as increased fiscal space. It is presumed, that a subsequent adjustment of the income transfers from 2026 will be neutralized from 2027 onwards.

- *Agreement on Winter Help, September 2022 (ex. allocation of reserves and decrease of the state budget etc.).* The Agreement included measures for reducing the economic consequences for citizens and companies resulting from the war in Ukraine, and included among other things a funding contribution from an advancement of the ceiling for Age Retirement Savings. The funding is placed in the fiscal space.

- *Agreement on Winter Help, September 2022 (Allocation of reserves and decrease of the state budget etc.).* The agreement included a financing contribution in 2023 from the general reserves defined as public consumption. This thus reduce the public consumption level in 2023 and therefore entail an increase of the highest possible consumption growth from 2023 to 2030.

- *Agreement on a Budget Bill for 2023 etc.* The budget bill for 2023 is estimated to increase public consumption in 2023, which, among other things, should be seen in context of a temporary emergency package to healthcare. In addition a previous proposal of stock taxation of companies' real estate, which was included in the original Budget Bill proposal for 2023, is annulled. Among other things, the higher level of consumption in 2023 as a result of the Budget Bill 2023 etc., reduces the highest possible consumption growth from 2023 to 2030. The Budget Bill is fully funded.

- *Other conditions and technical adjustments.* Other conditions and technical adjustments cover, among other thing, the effect of price- and wage correction in the state budget (level adjustment) and changes in the ceiling-covered expenditures, e.g. the development aid. Combined it results in a reduction of consumption growth from 2023 to 2030.

It should also be noted, that the fiscal space currently is measured compared to the expenditure level in 2023. A part of the increase of the fiscal space in 2030 of DKK 16 bn. is caused by a lower level of expenditure in 2023 than estimated in the medium term projection from August 2022. The yearly growth in the fiscal space is therefore especially large from 2023 to 2024. When calculating the fiscal space from 2024, it amounts to DKK 49 bn.

Box 1.2 (continued)
Estimates of the fiscal space compared with the August 2023

Table a
Changes in the fiscal space since August 2021

	2030
DKK bn. (2023-prices)	
2030-projection: Basis for expenditure ceiling 2026, August 2022 (compared to the level in 2023)	**48**
+ Underlying improvement of the structural budget balance	10¼
+ Abolition of Great Prayer Day as a public holiday	3¼
+ Agreement on Winter Help, September 2022 (ex. allocation of reserves and decrease of the state budget etc.)	1¼
+ Agreement on Winter Help, September 2022 (Allocation of reserves and decrease of the state budget etc.)[1)]	2¼
+ Agreement on a Budget Bill for 2023 etc.	-½
+ Other conditions and technical adjustments	-¼
Denmark's Convergence Programme 2023 (compared to the level in 2023)	**64**
Changes compared to August 2022	*16*
Memo: Fiscal space from 2024 to 2030	*49*

Note: The fiscal space is calculated as highest possible public consumption growth excl. depreciation within the objective of structural budget balance of -0.5 per cent of GDP in 2030 and rounded to the nearest quarter DKK bn. The fiscal space is corrected for temporary measures related to the handling of the situation in Ukraine and extraordinary measures related to the compensation agreement for mink breeders and ancillary businesses, etc.

Source: *2030-projection: Basis for expenditure ceiling 2026*, August 2022 and own calculations.

Appendix 1.A New central information and conditions in the projection

New central information since the last medium term projection in August 2022 is summarized in box 1.4. Detailed projections and development appear in chapter 2-6 of the Convergence Programme.

Appendix box 1.1
Udates to the 2030-projection since August 2022

- **New business cycle foundation.** The Convergence Programme is based on the business cycle projection from Economic Survey, May 2023.
- **Structural projection form 2028.** In the projections, business cycles as measure by positive output and employment gaps are estimated to be better than in a normal situation in 2023 and 2024. In the medium term projections employment, GDP etc. are assumed to be at their structural levels from 2027 and onwards.
- **Political agreements.** The medium term projections include the effects and new agreements since the projections from august 2022, including the fiscal bill for 2023, abolishment of great prayer day as a public holiday, and the agreement on winter help (September 2022).
- **Interest rate assumptions.** A gradual normalization of interest rates is assumed. The 10-year Danish government bond is assumed to be approximately unchanged on a level of 2½-2¾ per cent towards 2030. On the very long term – towards 2050 – the interest rate is assumed to gradually increase to 4 per cent and unchanged thereafter.
- **Oil prices and revenue from activities in the North Sea.** Tax revenue from activities in the North Sea are based on Danish Energy Authority's long-term projection of oil and gas production (unchanged from August 2022) and the effects of the Agreement on the Future of Fossil Extraction in the North Sea (December 2020). The oil price is based on the development in the price of futures and the International Energy Agency's (IEA) newest projection (Stated Policies Scenario in World Energy Outlook from October 2022.

2. Economic Outlook

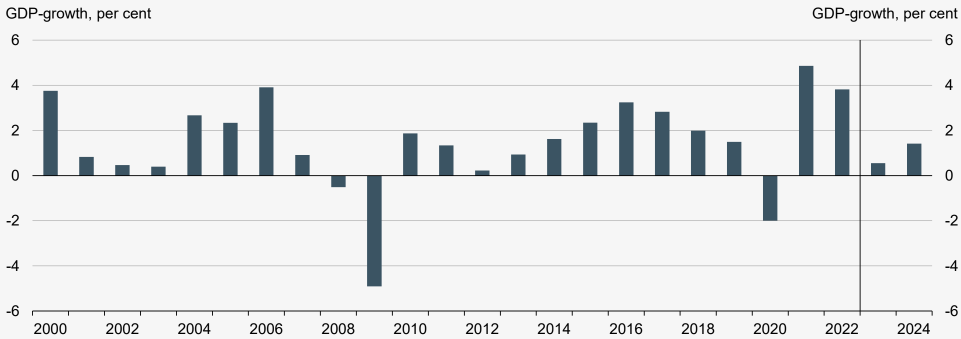
2.1 The economic outlook for 2023 and 2024

Russia's invasion of Ukraine quickly had major consequences for the global economy last year. In the fall of 2022, inflation reached its highest level in 40 years in many Western countries. At the end of 2022, the erosion of household purchasing power and the higher interest rates due to monetary policy tightening led to stagnation or actual decline in economic development in many countries.

Last year, large parts of the Danish economy also slowed. Households responded to price increases and restrained consumption, and in the housing market, sales and house prices fell due to higher interest rates. The slowdown has continued into 2023, where household consumption has remained at a low level. Furthermore, the slowdown in the global economy affects Danish exports. However, special circumstances are also at stake in the Danish economy. While other industries were affected by the slowdown in demand, there was remarkable growth in the pharmaceutical industry. This growth led the Danish economy as a whole to positive growth at the end of 2022, and the pharmaceutical companies have also buoyed industrial production in the first months of this year.

The slowdown appears to be relatively mild. Inflation is on the way down, in particular as a result of falling energy prices. As inflation has subsided, there has been an improvement in the confidence indicators from the low point they reached in the autumn of last year. GDP is estimated to grow by 0.6 per cent this year and 1.4 per cent next year, *cf. figure 2.1*, while inflation is estimated to decrease from 7.7 per cent last year to 4.3 per cent this year and fall further to 3.0 per cent next year.

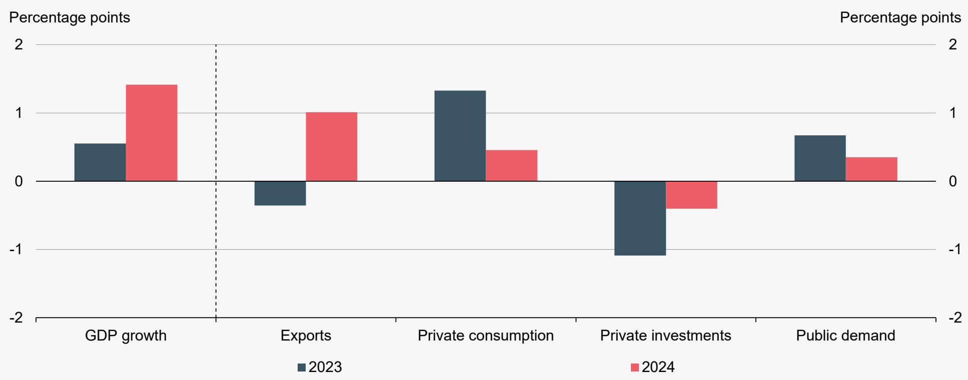
Figure 2.1
Soft landing for the Danish economy



Source: Statistics Denmark and own calculations.

The expectation of weak growth in 2023 mainly reflects a noticeable decline in housing investments and business investments, partly because the high interest rates will only take full effect this year. Household consumption is supported by the fact that the labour market agreements and decreasing inflation are expected to imply an increase in real wages, so that most of the real wage loss in 2022 is retrieved by 2024. At the same time, it is expected that households will convert a larger share of income into consumption after the fall in the consumption ratio during 2022, which should be seen in the context of precautionary savings. Against this background, private consumption is expected to make a significant contribution to overall growth in GDP this year. The slowdown in the global economy will affect activity in Denmark through foreign trade, and it is not until 2024 that exports are again expected to be an important driver of growth, *cf. figure 2.2*.

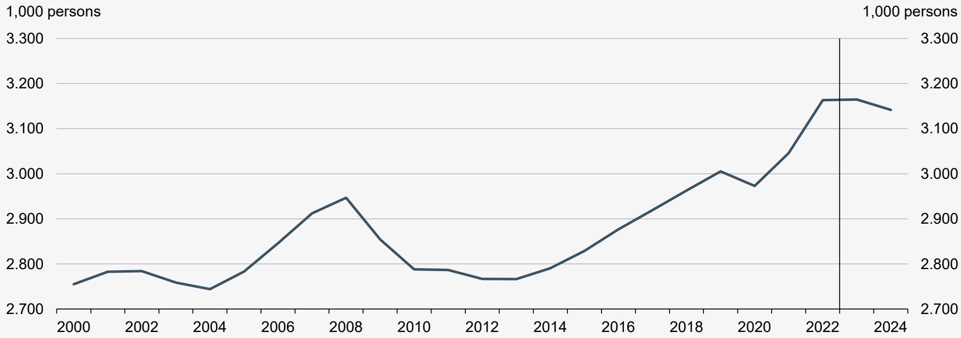
Figure 2.2
Contributions to GDP growth



Note: The figure shows the contribution to GDP growth. Contribution to GDP growth have been adjusted for import content.
Soruce: Statistics Denmark and own calculations.

Employment appears robust, but a turnaround has already appeared in parts of the labour market. This applies especially within the construction industry. However, the slowdown in the Danish economy is estimated to lead to a decline in employment from 2022 to 2024 by just over 20,000 people, *cf. figure 2.3*. Compared to previous turnarounds, this is fairly moderate. Thus, it is also expected that employment will remain above the structural level, with continued capacity pressure in the labour market.

Figure 2.3
Moderate labour market turnaround



Note: Fulltime emplyees, incl persons on leave.
Source: Statistics Denmark and own calculations.

The assessment on the economic outlook in Denmark's Convergence Program 2023 corresponds to the projections in *Economic Survey, May 2023*. The forecast reflects, among other things, the agreement on the Fiscal Act for 2023.

2.2 Assumptions for the international economy and financial conditions

Last year, the international economy was influenced by several oppositely directed forces. Recovery from the corona pandemic contributed to significant progress in the first half of the year, but at the same time contributed to high inflation, which was reinforced by Russia's invasion of Ukraine. Together with the significant increases in interest rates, this affected purchasing power, and growth in many economies in the second half of 2022 was relatively weak. For 2023 and 2024, there is a prospect of continued subdued growth on the Danish export markets, as households' consumption options and companies' investments are impacted by the high inflation and tighter financial conditions. At the same time, a high degree of uncertainty about the economic outlook continues to affect consumers and businesses. The uncertainty is particularly related to developments in inflation and financial conditions as well as geopolitical conditions, including in particular Russia's war in Ukraine. However, the world economy will get a boost in 2023 from the reopening of the Chinese economy after pandemic-related shutdowns in 2022, as well as less capacity pressure in the global value chains.

The projections for the development of the international economy and the financial conditions are based on the business cycle assessment in *Economic Survey, May 2023*. International GDP growth weighted according to respective shares in Danish exports is thus expected to be 1.2 per cent and 1.8 per cent in 2023 and 2024 respectively, *cf. table 2.1*.

Towards 2030, the assumptions about foreign economic developments are based on the latest forecast from the International Monetary Fund. The trade-weighted GDP growth abroad is assumed to be 2.0 per cent on average, with a decreasing profile from 2025 to 2030. The slightly lower structural growth rate in the medium term must be seen, among other things, in the light of the demographic development in many countries with declining population growth and a decreasing share of the population aged 25-64. In addition, the potential growth of the Chinese economy is also hampered by a lack of structural adjustment in the economy, including the fact that construction and construction investments in particular continues to make up a very high share of the economy.

Table 2.1
Forecast for international growth, oil price, USD exchange rate and long-term interest rates

	2022	2023	2024	2025	2030
Real GDP-growth, trade partners	3.0	1.2	1.8	2.3	2.0
Oil price (Brent), dollar per barrel	100.8	81.7	80.4	80.0	82.9
USD, DKK per 100 USD	707.9	692.5	686.3	677.5	625.0
10 year Danish government bond interest rate, per cent	1.5	2.5	2.5	2.5	2.8

Note: Real GDP growth for trade partners has been calculated by weighing the latest GDP-growth forecast from the International Monetary Fund International for the 36 main trading partner countries. The last column depicts the average growth rate for the period 2026-2030, assuming that growth in 2029-2030 is unchanged from 2028 (which is the end of the forecast horizon).
Source: Statistics Denmark, Macrobond, Nordea Markets, *IEA World Energy Outlook 2022*, *IMF World Economic Outlook, april 2023* and own calculations.

Since late summer 2022, there has been a drop in energy prices. This particularly applies to the price of natural gas, even though the export of natural gas from Russia to Europe has almost been phased out. This must be seen, among other things, against the background of the fact that the EU countries succeeded in filling the stocks of natural gas before the winter of 2022-2023 and relatively mild weather over the winter of 2022-2023. However, there is still the prospect of a significantly higher level for the price of natural gas than before the corona pandemic. The higher price of natural gas, together with a restructuring of energy production and demand in light of the green transition, means that the price of electricity is also expected to remain at a significantly higher level than before 2021.

The oil price has also fallen since the summer of 2022, which must be seen against the background of weaker international growth prospects as well as the reduced uncertainty about the significance of Russia's invasion of Ukraine for the oil market. However, the OPEC countries have taken the decision in April to reduce their oil production, which has contributed to raising the oil price slightly again. Based on the usual method, which takes into account futures prices and the latest scenarios from the International Energy Agency, the oil price is assumed to be approximately constant at approx. 81 dollars per barrel in 2023 and 2024, *cf. box 2.1*. There is thus a prospect that the oil price will continue to be at a higher level than in the years before the corona pandemic.

During 2022, inflation reached the highest level since the 1980s in many countries, but it has slowed down in recent months, mainly on the back of lower energy prices and so-called base effects. The base effects are due to the rate of price increase being calculated in relation to the same month the previous year. Since the price level in many countries had already received a significant boost at the start of 2022, this means that the rate of price increase will slow down at the start of 2023, even though the price level remains high relative to previous years and real incomes have fallen in many countries.

The high inflation has led to central banks around the world raising interest rates at the highest pace in decades, and the financial markets expect further monetary policy interest rate increases from the ECB. In the US, however, there is an expectation that the peak in monetary policy interest rates has been reached, and for the euro area the expectation is also that the peak will soon be reached. This must be seen in the light of an expectation of continued declining inflation and weaker economic growth, which is also expected to eventually lead to a weaker development in the labor markets.

Both the ECB and the US central bank have stressed that the development of monetary policy interest rates will depend on whether inflation is sustainably on track to meet the inflation target. In the forecast, in accordance with market expectations, it is assumed that the ECB will raise the monetary policy interest rates further at the upcoming interest rate meetings, after which no further tightening is expected. During the second half of 2024, gradual monetary policy interest rate cuts are expected. For the American central bank, no further interest rate increases are expected, but the interest rate is expected to remain constant until the spring of 2024, after which gradual interest rate cuts in 2024 have been factored in.

The expectation of a tighter monetary policy was quickly reflected in market interest rates, which rose significantly in 2022. Where the interest rate on Danish government bonds with a 10-year maturity at the start of 2022 had an effective interest rate of approximately 0.0 per cent, the interest rate has risen to approximately 2 .6 per cent at the beginning of May 2023.

Based on market expectations at the beginning of April, it is assumed that the interest rate on Danish 10-year government bonds will be around 2.5 per cent in 2023 and 2024. The interest rate on 30-year fixed-rate mortgage bonds is estimated to be approximately 4.6 per cent in both years.

The turbulence on the financial markets in March and early April, as a result of first the collapse of Silicon Valley Bank and subsequently the forced takeover of Credit Suisse, appears to have subsided to a considerable extent. However, there is still uncertainty about regional banks in the USA, and at the end of April, another major regional bank in the USA was taken over by the American Deposit Guarantee Fund. But the fall in long-term interest rates that occurred immediately after the unrest in the banking sector in March has now largely reversed, and the fluctuations in the markets have subsided. The unrest thus does not seem to have a major effect on the economic outlook, but is an example of the fact that turbulence can suddenly arise and that higher interest rates can turn out to affect the economy to a greater extent than recognized. In the USA, there is an expectation that the regional banks' ability to grant loans in particular has been affected as a result of the need for increased liquidity and falling deposits, and studies also point to tightening of the banks' lending terms to customers.

Towards 2030, it is assumed that long-term interest rates will rise slightly, so that the interest rate on 10-year Danish government bonds will reach 2.8 per cent. This means that interest rates will remain at a significantly higher level than in the years before the corona pandemic.

Box 2.1

Projections of the price of crude oil using various scenarios from the IEA

In recent years, there have been significant fluctuations in the price of crude oil, which can be mainly attributed to the corona pandemic and then Russia's invasion of Ukraine. Since the summer of 2022, the price of oil has fallen, mainly due to expectations of lower demand due to the outlook for weaker economic growth. The oil price is estimated at 81.6 dollars per barrel on an annual basis in 2023 and 80.8 dollars per barrel in 2024, *cf. figure a*.

The estimate for the oil price is prepared according to the usual method on the basis of the current oil price, the latest development in market expectations for the oil price (futures prices) and the International Energy Agency's (IEA) latest projection of the oil price in the Stated Policies scenario from the World Energy Outlook 2022. For the first 5 months the estimate is based on futures prices, after which equal weight is given to futures prices and the IEA's scenario. The weighing of futures prices and the IEA's scenario reflects the consideration of partly including market information, partly relevant information from the IEA's projection of supply and demand in the longer term. In the long term, the oil price is assumed to grow at the growth rates from the IEA's Stated Policies scenario, but from the level determined by the weighting between futures prices and the IEA's level from the Stated Policies scenario.

The IEA's World Energy Outlook 2022 contains scenarios for the global energy sector, which, among other things, describe the development in energy consumption, CO2 emissions and the price of oil in the longer term. Compared to the IEA's report from autumn 2021, the starting point for the oil price is significantly higher (the 2021 price), while the projection for the oil price in 2030 in the Stated Policies scenario is approx. 5 dollars higher. The Stated Policies scenario reflects the development with the current policy incl. announced specific political initiatives. This applies, for example, to the EU Commission's Fit for 55 package from July 2021, which, among other things, contains proposals to reach 2030 targets for CO2 reductions.

In addition to the Stated Policies scenario, the IEA's report contains a projection with alternative scenarios. The Announced Pledges scenario is a new scenario where it is assumed that all governments' announced climate goals are met, including long-term goals of net zero emissions. The Net Zero Emissions by 2050 scenario reflects a development where the global net emission of CO2 is zero in 2050, and the scenario meets key UN objectives. Under these scenarios, energy from fossil fuels is phased out faster than in the Stated Policies scenario, and the oil price is therefore lower, *cf. figure b*.

Figure a

Projections of Brent crude oil prices in *Economic Survey, May 2023*

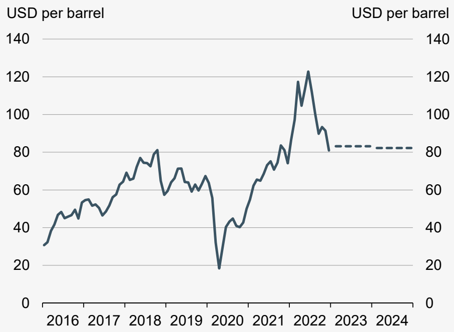
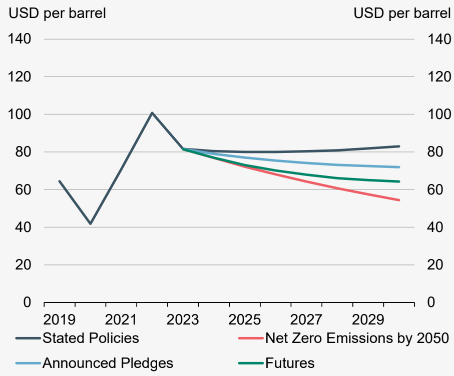


Figure b

Projections of Brent crude oil prices using various scenarios from the IEA



Note: Oil prices are depicted in nominal terms.
Source: Macrobond, IEA: *World Energy Outlook 2022* and own calculations.

2.3 Medium-term outlook for growth and employment

In the medium-term projection, it is assumed that the business cycle will normalize after the business cycle boom in 2021-2023, which means the economy will be in line with its structural levels from 2027 and forth, cf. figure 2.4.

Figure 2.4
Higher GDP growth is reflected in a large output gap…

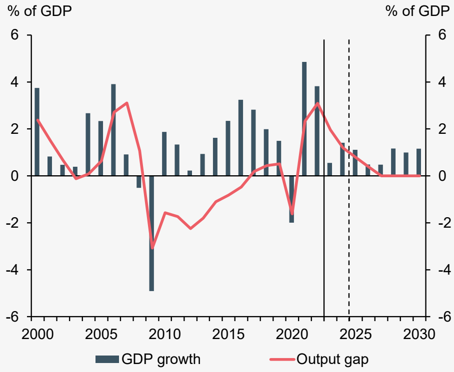
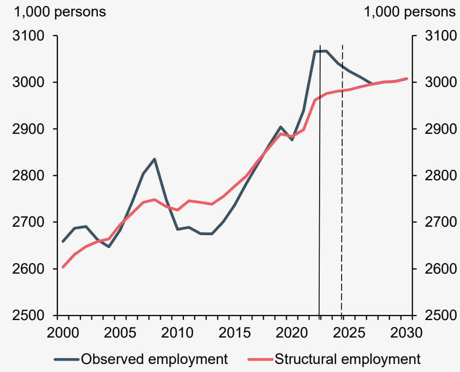


Figure 2.5
… and employment exceeding the structural level



NB: The output gap indicates how far production (GVA) is estimated from its structural level. Employment is measured excl. people on leave. The thick vertical line indicates last year with data and the dashed vertical line shows the transition to medium-term projection.
Source: Statistics Denmark and own calculations.

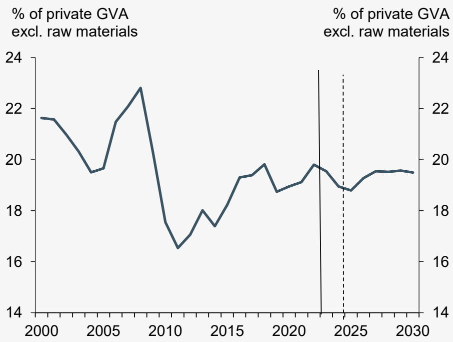
In 2023, observed employment is forecast to be higher than the estimated structural level, ie. the level of employment consistent with stable development in wages and prices. In line with the output gap, it is assumed that the employment gap is normalized in 2027, whereafter developments on the labour market are structural. This implies that observed employment will fall roughly by 45,000 persons in the years 2024-2027. This follows the large employment gap in the current and last year, which reflect historically high and unsustainable pressure on the labour market. Structural employment is expected to increase by roughly 15,000 persons in the same period, cf. figure 2.5.

The consumption percentage of disposable income was low in 2022 compared to a historical average, cf. figure 2.6. The development in private consumption is affected by a rising tendency toward cautionary saving and should also be seen in light of the large savings households accumulated during the COVID pandemic. It is assumed in the projection that the consumption percentage of income will gradually normalize toward 2030 to a level closer to the historical average. Altogether it is assumed that private consumption will grow with roughly 1.9% p.a. from 2023 to 2030, reflecting a return to structural economic conditions, including private consumption tendencies.

Higher interest rates will affect the investment percent of GVA toward 2025, especially housing and private capital investments. In the following years toward 2030 it is assumed that this investment percent of GVA will increase, cf. figure 2.7. This follows, among other things, from a fall in the interest rate level in 2024, which is thereafter assumed to normalize at a slower rate than the interest rate increases that have characterized the global economy since Russia's invasion of Ukraine and the rising inflation.

Figure 2.6
The consumption percent of income increases after 2025…

Figure 2.7
… while private capital investments remain somewhat stable



Note: The investment percent of GVA is calculated as gross investments incl. housing investments in the private sector as a percentage of GVA in the private sector excl. oil extraction.
Source: Statistics Denmark and own calculations.

The production potential is forecast to increase by roughly 1.7% p.a. from 2020 toward 2024. This reflects an increase in the structural labour force and a running increase in productivity, cf. table 2.2. From 2025 to 2030 the production potential is projected to increase by 1.0% p.a., following mainly increases in productivity. The lower economic growth in the years following 2024 should be seen in light of the assumed business cycle normalization, which implies slower developments in the economy while the production potential returns to the structural levels.

Table 2.2
Contributions to growth in the production potential for the economy

	2000-2007	2008-2009	2010-2019	2020-2024	2025-2030
Avg. Growth p.a., %					
1) Production potential (excl. oil extraction)	**1.6**	**0.9**	**1.6**	**1.7**	**1.2**
Contributions from					
- Productivity	1.1	1.2	1.5	1.2	1.0
- Structural unemployment	0.3	0.3	0.0	0.0	0.0
- Structural labour force	0.4	-0.5	0.6	0.7	0.1
- Trend hours worked	0.0	-0.3	-0.4	-0.2	0.0
2) Business cycle and other factors [1)]	**0.1**	**-3.3**	**0.1**	**0.1**	**-0.2**
3) Actual GVA (1+2)	**1.8**	**-2.2**	**1.8**	**1.8**	**1.0**
4) Net taxes	0.1	-0.5	0.0	-0.1	-0.1
5) Actual GDP (3+4)	**1.9**	**-2.7**	**1.8**	**1.7**	**0.9**

Note: There is uncertainty associated with the forecast for potential growth in subperiods. Due to rounding the elements may not sum to the total.
1) Includes contributions from business cycle as well as growth contributions from the oil extraction sector.
Source: Statistics Denmark and own calculations.

2.4 Housing prices

After strong progress on the housing market during the corona pandemic, the trend has reversed. Turnover on the housing market has fallen significantly, and there has been a decline in house prices since the spring of 2022. Thus, the prices of single-family houses seen for the whole country were below one in the 4th quarter of 2022, almost 7 per cent below the peak in the 1st quarter of 2022, cf. figure 2.4. Prices are expected to fall a further 6 per cent through 2023, and for the year as a whole house prices are expected to be 9.2 per cent lower than in 2022. Although house prices are expected to start rising again during 2024, the price drops through 2023 will also mean that house prices for 2024, taken as a whole, will be 0.5 per cent lower than in 2023.

The fall in housing prices must be seen in particular in the light of higher interest rates, which have led to a significant increase in the cost of borrowing when buying owner-occupied housing, which otherwise reduces the amount that the ordinary home buyer can obtain financing for and thus pay for an owner-occupied home. At the start of 2022, the interest rate on 30-year fixed-rate mortgage bonds was approximately 1.8 per cent, while at the end of April 2023 it was 4.8 per cent. Thus, the effective long-term bond rate has increased by approximately 3 percentage points. The interest rates on mortgage loans with short-term interest rate adjustments have also increased significantly. Where until the beginning of 2022 there was a negative interest rate on loans with a variable interest rate, in April 2023 the interest rate has risen to 3.4 per cent.

Figure 2.8
Significant drop in house prices since 1st quarter of 2022…

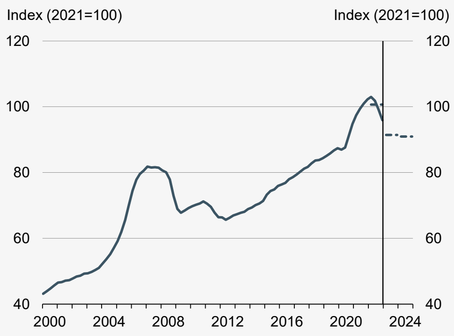
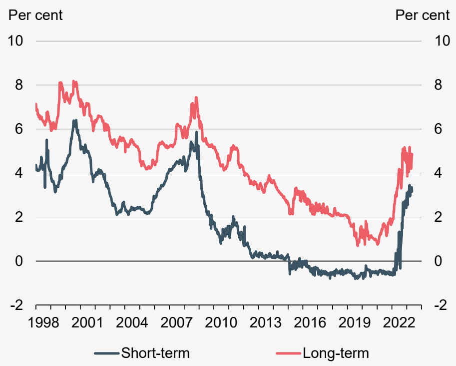


Figure 2.9
…due to higher mortgage interest rates



Note: Own seasonal correction has been applied in figure 2.4. In figure 2.5, the depicted interest rates are based on, respectively, 30-year, fixed-rate, callable bonds (the long-term interest rate) and non-convertible standing bonds with a remaining maturity of less than 2 years, which lie behind the provision of adjustable-rate loans (the short-term interest rate).

Source: Statistics Denmark, Finance Denmark, Macrobond and own calculations.

Higher living costs as a result of the high inflation are also helping to put a damper on the housing market. The lower purchasing power of households reduces, all other things being equal, homebuyers' loan options, as there is a smaller amount left over after necessary expenses for e.g. food, heat, electricity etc. which can be used for interest expenses and repayments. This development is also reflected in the credit institutions' loan conditions for households, which have been tightened recently according to Danmarks Nationalbank's lending survey.

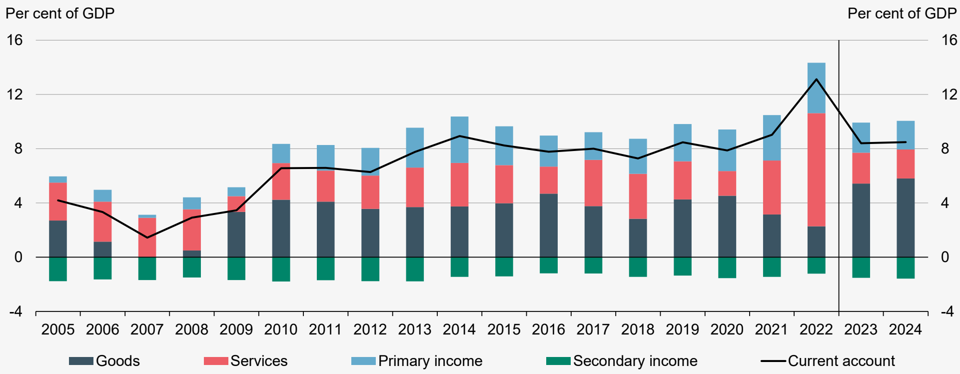
In the longer term, the new rules for housing taxation, which will be implemented in 2024, will contribute to stabilizing fluctuations in house prices. Analyzes from the Danmarks Nationalbank in 2017 and the Ministry of Taxation in 2018 indicate that this will lead to slightly lower prices for owner-occupied flats, while conversely it will have a slightly positive effect on the price development of single-family houses seen for the whole country. The effects on housing prices must be seen in the light of the fact that property taxes for buyers after 2024 will be higher for flats than under the existing system, which must be seen in the light of, among other things, higher land values for owner-occupied flats. For single-family houses, seen as a whole, the property taxes will be slightly lower, on the other hand.

After 2024, the current projection assumes that long-term mortgage interest rates will remain at approximately current levels. At the same time, the household financial costs for the purchase of an average single-family house are close to an average level, historically speaking, although it has increased significantly since the beginning of 2022. Against this background, the price development for single-family houses is expected to be moderate towards 2030, at a level that matches the development in incomes and construction costs.

2.5 The current account

Denmark's current account surplus is projected to decline this year and next year from a historically high level in 2022. In 2022, the current account surplus amounted to DKK 367 bn., corresponding to 13.1 per cent of GDP, *cf. figure 2.6*. This was a significant increase of 4.1 percentage points compared to 2021 and largely reflected the high sea freight rates, which, due to Danish exports of shipping, improved the Danish terms of trade and trade balance. Net exports of shipping amounted to 9.2 per cent of GDP, an increase of 3.9 percentage points compared to 2021, accounting for most of the increase in the overall surplus.

Figure 2.10
The current account



Source: Statistics Denmark and own calculations.

Across sectors, households and non-financial corporations in particular contributed to an increase in net lending/borrowing, mirroring the high current account surplus in 2022. Households saved more and consumed less of their disposable income in 2022 compared with the previous year. This can be attributed, among other things, to relatively high consumption in 2021 as a result of wealth gains and pent-up demand through the coronavirus lockdowns, which normalised in 2022. In addition, the rise in interest rates and the slowdown in the housing market meant that Danish households invested less in housing. The household savings surplus is projected to continue rising up to 2024, while the non-financial corporations and the public sector are projected to drag down total net lending, and hence the balance of payments.

Appendix 2.1 Key numbers for the economy 2021-2030

Appendix table 2.1
Key numbers for the Danish economy 2021-2030

			Forecast		Technical projections	
	2021	**2022**	**2023**	**2024**	**2025-2027**	**2028-2030**
Real growth rates (per cent)						
GDP	4.9	3.8	0.6	1.4	0.7	1.1
GVA	5.1	4.7	0.6	1.5	0.7	1.3
Output gap (per cent of GVA)	2.3	3.1	2.0	1.2	0.0	0.0
Demand, real growth, per cent						
Private consumption	4.2	-2.3	0.5	1.3	2.4	2.1
Public consumption[1)]	3.6	-3.5	0.6	1.8	1.8	1.3
Gross fixed investment	6.1	12.1	-9.2	-1.7	0.8	0.8
Exports	8.0	8.6	3.1	3.7	2.1	2.4
Imports	8.0	4.2	-0.5	2.8	4.0	3.1
Price and wage changes, per cent.						
Hourly wages	2,9	3,6	4,4	5,3	3,4	3,1
Consumer prices	2.1	7.4	4.3	3.0	2.2	1.9
Current account etc. per cent of GDP						
Current account	9.0	13.1	8.4	8.5	7.4	4.2
Private financial savings	5.5	10.0	6.8	8.2	7.6	4.8
Labour market and productivity						
Employment growth (per cent)	2.2	4.3	0.0	-0.9	-0.5	0.1
Growth in the structural labour force (per cent)	0.5	2.0	0.5	0.1	0.1	0.1
Structural employment growth (per cent)	0.5	2.2	0.5	0.2	0.2	0.1
Gross unemployment (per cent of labour force)	3.5	2.4	2.9	3.1	3.4	3.6
Hourly productivity, total eco-nomy	1.2	0.2	1.3	2.2	1.1	1.0
Hourly productivity, private non-farm industries	1.4	1.2	1.7	2.3	1.3	1.3

Note: Technical projections for 2025-2030. 1) Public consumption growth for 2021 and 2022 has been calculated using the output method. Projections for public consumption growth in 2023-2024 is assumed to be the same using the input- and output- method, respectively.

Source: Statistics Denmark and own calculations.

3. Budget Balance and Public Debt Towards 2030

3.1 The Actual Budget Balance

According to Statistics Denmark's preliminary national accounts for 2022, the actual budget balance was a surplus of 3.3 per cent of GDP.[1] This represents an improvement of approximately 0.4 per cent of GDP compared to the estimate in *the Economic Survey*, March 2023. The actual budget balance is estimated to a surplus of 1.9 per cent of GDP in 2023 and 0.6 percent of GDP in 2024, *cf. table 3.1.*

Compared to the assessment in the *Economic Survey* of March, the projected surplus in 2023 is revised upwards by 0.3 per cent of GDP, which is partly attributed to higher estimated revenues from source and corporate taxes etc.

Table 3.1
Overview of the actual budget balance

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Per cent of GDP									
Actual budget balance	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2	-0.4	-0.5

Note: The actual budget balance is calculated based on the technical calculation of the underlying improvement of the structural balance, cf. Chapter 1. In the years 2024-2026, the improvement is tecknically placed in a macro reserve outside the expenditure ceiling. The funds will be disbured in connection with the government's forthcoming 2030 plan. In the years 2027-2030, the improvement is accounted for as an increase in the highest possible growth rate for public consumption.
Source: Statistics Denmark and own calculations.

The estimates of the actual budget balance are subject to considerable uncertainty, due to the highly volatile pension yield tax revenues and the fact that public finances in Denmark are very sensitive to economic conditions.

Budget Balances by Sector

The public sector consists of the central government, local governments (regions and municipalities), and social security funds. In Denmark it is essentially only the central government that does not need

[1] The accounting figures revealed, among other things, lower public consumption expenditures (-4.7 bn. DKK) and a lower level of public investments (-4.3 bn. DKK) compared to the *Economic Survey*, March 2023, where public consumption expenditures and investments, based on the preliminary quarterly national accounts figures, were estimated at 620 bn. DKK and 90 bn. DKK, respectively.

to balance its budget, particularly over an extended period. The central government surplus is estimated at 1.9 per cent of GDP in 2023, *cf. table 3.2.*

The budget balance of municipalities and regions is technically considered to be balanced throughout the projection period, i.e. from 2023 onwards. On a cash basis, the finances of the local government sector (i.e. municipalities and regions) should be in balance, but based on national account principles, there may be occasional surpluses or deficits.[2] The budget of the social security funds is also assumed to be balanced throughout the projection period.

Table 3.2
Overview of the actual budget balance

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Per cent of GDP									
Central government	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2	-0.4	-0.5
Local government	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: The actual budget balance is calculated based on the disbursement of the underlying improvement of the structural balance, *cf. Chapter 1*. In the years 2024-2026, the improvement is accounted for in a macro reserve outside the expenditure ceiling, which will be disbured in connection with the government's forthcoming 2030 plan. In the years 2027-2030, the improvement is accounted for as an increase in the maximum possible growth rate for public consumption.
Source: Statistics Denmark and own calculations.

3.2 Structural budget balance

The structural budget balance is a calculated measure of the underlying position of public finances at the given fiscal policy. The structural budget balance is, in contrast to the actual budget balance, corrected for business cycles and a number of temporary conditions and is therefore a more robust measure of the underlying position of public finances.

The medium-term projection in *Denmark's Convergence Programme 2023* is based on an updated economic assessment, new political agreements, new information etc. In the updated economic assessments since August 2022 – which was the basis for the latest medium-term projection – there is a significant improvement of the structural budget balance in 2022-2024, *cf. table 3.3.* The improvements reflect, among other things, an upward adjustment of structural employment, which is especially due to a large net immigration and thereby an increase of foreign labor. This increase of the labor force is assumed to be permanent. In 2022, the improvement of the structural balance also re-

[2] With the equalization reform (udligningsreform), the parties involved reached an agreement to permanently continue the liquidity subsidy of 3.5 bn. DKK, aiming to strengthen municipalities' ability for long-term planning. 1.5 bn. DKK is distributed based on population, while the remaining portion of the subsidy is allocated according to criteria related to low tax base and high structural deficit.

flects, among other things, lower than expected public consumption in Statistics Denmark's preliminary national account figures. In addition, there are a number of other factors, which are describes in more detail in *Economic Survey,* March 2023 and May 2023.

Table 3.3
Estimates of the structural budget balance towards 2030

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Per cent of GDP									
Denmark's Convergence Programme 2023, May 2023	1.8	0.8	0.6	0.4	0.2	0.0	-0.2	-0.4	-0.5
Economic Survey, March 2023	1.2	0.7	0.6	-	-	-	-	-	-
2030-planforløb: Grundlag for udgiftslofter 2026, august 2022	0.3	0.4	0.2	0.0	-0.1	-0.2	-0.3	-0.4	-0.5

Source: *2030-planforløb: Grundlag for udgiftslofter 2026*, August 2022, *Economic Survey*, March 2023 and own calculations.

In the updated projection in *Denmark's Convergence Programme 2023*, there is an underlying improvement of the structural budget balance (before allocations) of 0.3-0.4 per cent of GDP in 2025-2030 compared to the latest medium-term projection from *2030-planforløb: Grundlag for udgiftslofter 2026*, August 2022. The underlying improvement of the structural budget balance reflects, among other things, that the larger labor force in 2022 – and thus the upward revision of structural employment – is assumed to be permanent in the projection. In addition, there is an improvement from, among other things, higher estimated structural equity income tax revenues, while, among other things, lower projected property taxes pull in the opposite direction.

In 2030, there is an underlying improvement of the structural budget balance (before allocations) of 0.4 per cent of GDP compared to the latest projection from *2030-planforløb: Grundlag for udgiftslofter 2026*, August 2022. Thus, within the government's medium-term target of -0.5 per cent, there is room for additional fiscal disbursements. The underlying improvement of the structural budget balance in 2030 is allocated to a larger fiscal space, which technically is included in public consumption. Thus, the structural budget balance – after disbursement – is unchanged in 2030 compared to the projection in August 2022.

In 2025-2029, there is technically assumed a partial disbursement of the underlying improvement of the structural budget balance – equivalent to a linear phase-in of the 2030- disbursement – which is included in a larger fiscal space. Specifically, the technical disbursement is included in public consumption in 2027-2029 and in a macro reserve outside the expenditure ceilings in 2025-2026. The path of the structural budget balance towards 2030 etc. will be decided politically later when the government presents its 2030-plan and in that regard presents the overall economic policy towards 2030.

From actual to structural budget balance

The structural budget balance is calculated by correcting the actual budget balance for cyclical effects and the impact of other temporary conditions. This includes, among other things, the large fluctuations in revenue from pension yield tax and corporate tax revenues. Furthermore, the actual budget balance is corrected for a number of one-off measurements, which can have significant order of magnitude in individual years. The structural budget balance is thus, in a given year, an estimate of how large the public surplus or deficit would be with the given fiscal policy in a normal situation, where the economic activity is neither particularly high nor low, and where the public finances are not affected by temporary conditions.

The structural budget balance is estimated to 0.8 per cent of GDP in 2023 on the basis of the estimate of the actual budget balance of 1.9 per cent of GDP, *cf. table 3.4 (row 1)*. As the current economic situation (as measured by a weighted output- and employment gap) is estimated as being better than under normal circumstances, the actual budget balance is adjusted for the impact from the positive cyclical position on public finances. The cyclical impact on the budget balance is estimated to approximately 1.9 per cent of GDP in 2023 (row 2).

In addition, the actual budget balance is corrected for fluctuations in a number of specific budget items (row 3-9). In 2022, the actual revenue from corporate tax is estimated to be above the structural level, while the revenue from pension yield tax is estimated to be below the structural level. Such conditions are corrected for in the calculation of the structural budget balance, and altogether the corrections in row 3-9 correspond to -0.9 per cent of GDP in 2023.

Furthermore, a correction is made for other circumstances (row 10). This reflects that in some years there may be special one-off measures (in addition to one-offs in the special budgets items) of non-recurring nature (by virtue of their intrinsic nature), which affect the actual budget balance without affecting the underlying position of public finances, *cf. appendix 3.2.*

Table 3.4
From actual to structural budget balance

	2022	2023	2024	2025	2026	2027 7)
Per cent of GDP						
1. Actual budget balance	**3.3**	**1.9**	**0.6**	**0.4**	**-0.2**	**0.0**
Contribution to the actual budget balance from:						
2. Cyclical adjustment	2.4	1.9	1.2	0.8	0.4	-
3. Corporate taxes 1)	0.7	0.5	0.3	0.1	0.0	-
4. Vehicle registration tax	-0.3	-0.3	-0.3	0.0	0.0	-
5. Equity income tax	0.4	0.0	0.0	0.0	0.0	-
6. Pension yield tax	-0.7	-0.9	-0.9	-0.8	-0.7	-
7. North Sea revenues 2)	0.0	-0.1	0.0	0.1	0.0	-
8. Net interest payments 1)	-0.1	0.2	0.2	0.0	0.0	-
9. Special budget items 3)	0.0	-0.3	-0.5	-0.1	0.0	-
10. Other circumstances 4)	-0.8	0.0	-0.1	0.0	0.0	-
Hereof covid-19-related measures	*-0.6*	*0.0*	*0.0*	*0.0*	*0.0*	-
11. Structural budget balance (1-2-3-4-5-6-7-8-9-10) 5)	**1.8**	**0.8**	**0.6**	**0.4**	**0.2**	**0.0**
Illustrative structural budget balance incl. covid-19 one-off measures 6)	*1.2*	*0.7*	*0.5*	*0.3*	*0.1*	*0.0*

1) Excl. revenue related to North Sea acitivites.
2) The structural level is based on the structural revenue that was calculated when setting the expenditure ceilings adjusted for the effect on fiscal sustainability due to revised future North Sea revenues compared to the projections when setting the expenditure ceilings. In addition, the structural level is adjusted for the direct consequences on North Sea revenues from *Agreement on inflation releief* (Februrary 2023).
3) In 2022-2024, corrections are made for a number of expenditures directly related to covid-19 (which after 2022 only regards extraordinary expenses related to the compensation agreement for mink breeders and ancillary businesses etc.). In 2022-2024, a correction is made for the refund of property tax as a result of *Argeement on property taxation* (May 2017). In 2022, a correction is made for the payment of early retirement contributions as a consequence of the *Agreement on new right to early retirment* (October 2020). Additionally, 2022 is corrected for extraordinary revenue from fines. In 2024, a correction is made for the estimated budget correction that is currently expected in the budget planning due to revised estimates of prices and wages for 2023.
4) In 2022-2025, corrections are made for a number of net expenditures directly related to covid-19 (which after 2022 only regards extraordinary expenses related to the compensation agreement for mink breeders and ancillary businesses etc.). In 2022 and onwards, a correction is made for discrepancies from balance between revenues and expenditures in the Employers' Reimbursement System. In 2024, a correction is made for the estimated budget correction that is currently expected in the budget planning due to revised estimates of prices and wages for 2023. Corrections are made for fighter jet investments, which are planned in 2021-2026, but affect the structural budget balance through a 7-year moving average. Other circumstances also include differences between commitment level and payment regarding foreign aid and conversions from per cent of actual GDP to structural GDP.
5) The structural budget balance is recorded in per cent of structural GDP.
6) Calculated incl. covid-19 one-off measures and related revenue from corporate tax and equity tax.
7) In 2027 and forward, the economy is projected to be structural. Thus, the actual and the structural budget balance are equal.

Source: Statistics Denmark and own calculations.

3.3 Fiscal impact on economic activity

In light of the high inflation and continued high capacity pressures in the Danish economy, a tightening of fiscal policy is planned in 2023. With the agreement on the budget bill for 2023, the one-year fiscal effect is estimated at -0.9 percentage points in 2023, corresponding to a significant tightening of the overall fiscal- and structural policy. This is in addition to the tightening of fiscal policy in 2022 corresponding to a one-year fiscal effect of -1.5 percentage points, *cf. figure 3.1*. Thus, the fiscal expansions in 2020 and 2021 during the covid-19 pandemic have been withdrawn.

The fiscal policy in 2024 will be decided during 2023 with the economic agreements with municipalities and regions and the budget bill. Based on the current technical assumptions, the fiscal- and structural policy in 2024 is estimated to have an approximately neutral effect on the capacity pressure as the one-year fiscal effect corresponds to 0.1 percentage points compared to the tight starting point in 2023.

The multi-year fiscal effect – which measures the impact of the fiscal policy in the given year and the previous years relative to the basis year in 2019 i.e. the year before the covid-19 pandemic – is estimated to -0.3 percentage points in 2023 and 2024. Thus, the fiscal policy since 2019 contributes to dampen the capacity pressure in the economy this year and the next. Without the conducted fiscal policy, the output gap would, all things being equal, be a bit larger in these two years, *cf. figure 3.2*.

Figure 3.1
Fiscal policy impact on output gap measured by the one-year and multi-year fiscal effect

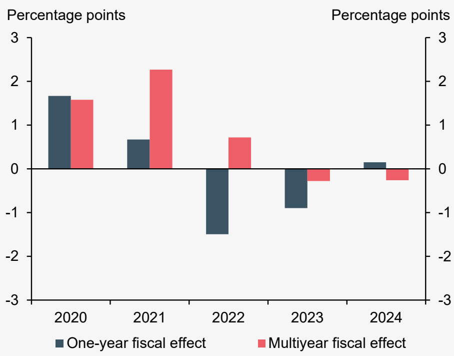
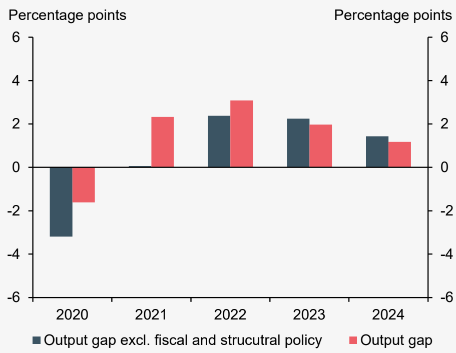


Figure 3.2
Fiscal policy dampens capacity pressure in 2023 and 2024



Source: Own calculations.

Overall, the fiscal policy is considered to be aligned with the cyclical position of the economy. As of 2024, it should be noted that the declining capacity pressure in the economy – measured by a narrowing of the positive output gap – in itself, suggests that fiscal policy should be approximately neutral in 2024 relative to 2023 as measured by the one-year fiscal effect. At the same time, the continued high capacity pressure – as measured by the positive output gap – suggests that fiscal policy should contribute to dampen the capacity pressure as measured by the multi-year fiscal effect, *cf. box 1.7 in*

Economic Survey, May 2023. Thus, fiscal and monetary policy will have a dampening effect on the inflationary pressure in the economy.

Based on the current technical assumptions for fiscal policy, the estimate of the one-year fiscal effect is approximately 0.1 percentage points on average in 2025-2030, *cf. table 3.5.* The positive fiscal effects reflect the prospect of a gradual easing of fiscal policy towards 2030. This is also reflected in the gradually declining structural budget balance towards the medium-term target of -0.5 per cent of GDP in 2030. The government will later present a 2030-plan and the overall economic policy towards 2030, including the path for the structural budget balance towards 2030 etc.

Table 3.5
Fiscal and structural policy impact on capacity pressure (one-year fiscal effect)

	2020	2021	2022	2023	2024	Average 2025-2030
Percentage points						
One-year fiscal effect	1.7	0.7	-1.5	-0.9	0.1	0.1

Note: The one-year fiscal effect is a measure of the contribution of the fiscal and structural policy to changes in output gap in a single year.
Source: Own calculations.

3.4 Fiscal space

Denmark's Convergence Programme 2023 contains an updated estimate of the fiscal space towards 2030. The fiscal space is a measure of the resources available for new political expenditure and tax initiatives within the objective of structural budget balance in 2030 of -0.5 per cent of GDP, including real growth in public consumption or other political initiatives.

The public finances has strengthened since the last medium term projection in August 2022, especially due to an upward revision of the estimated structural employment. This is reflected in the upward adjustment of the structural budget balance in all years leading up to 2030, *cf. above*. Thus, the revised medium term projection for *Denmark's Convergence Programme 2023* contains an improvement of the structural budget balance in all years in the medium term. Changes in the fiscal space from 2023 towards 2030 since August 2022 is to a large degree a result of the underlying improvement of the structural budget balance, *cf. more below*.

The fiscal space for the individual years is disbursedeach year in connection with the planning of the fiscal policy – i.e. in the budget agreements with municipalities and regions as well as the central government draft budget proposal and the subsequent budget bill. Thus the fiscal space in 2023 is disbursed in connection with the budget bill for 2023 etc.

The fiscal space toward 2030 was calculated for the first time in *2030-projection,* August 2022, where it was estimated to be approximately DKK 48 bn. in 2030, measured in relation to the expenditure level in 2023, i.e. in relation to the budgeted level for budget bill year.

With the convergence programme for 2023 the fiscal space is estimated to be approximately DKK 64 bn. in 2030 (measured in relation to the level in 2023), *cf. table 3.6*.

Table 3.6
Updated fiscal space

	2024	2025	2026	2027	2028	2029	2030
Measured compared to the level in 2023 (DKK bn., 2023-prices)							
2030-projection, August 2022	7¾	17¼	23¾	30	36	41½	48
Denmark's Convergence Programme 2023	15	23½	32¼	40¾	48¼	55¾	64

Note: The fiscal space is calcuated as the highest possible public consumption growth excl. depreciation within the objective of structural budget balance of -0.5 per cent of GDP in 2030 and rounded to the nearest quarter DKK bn. The fiscal space is adjusted for temporary measures related to the handling of the situation in Ukraine and extraordinary measures related to the compensation agreement for mink breeders and ancillary businesses, etc. There is uncertainty of the estimated fiscal space, increasing with longer horizons. The improvements of the structural budget balance in 2025 and 2026 are technically added to a non-ceiling-covered macro reserve, which is included in the fiscal space. The improvements in 2027-2030 are calculated as an increase of the highest possible public consumption growth.

Source: *2030-projection: Basis for expenditure ceiling 2026*, August 2022 and own calculations.

The updated fiscal space must be seen in connection with a number of opposing factors. The underlying improvements to the structural budget balance toward 2030 especially entails a upwards adjustment of the fiscal space, which in a great degree is a result of the upwards adjustment of the structural employment toward 2030. In 2025-2026 the adjustments to the fiscal space is placed in a non-ceiling-covered macro reserve. The improvements in 2027-2030 are calculated as an increase of the highest possible public consumption growth. In an upcoming 2030-plan a concrete disbursement of the fiscal space will be decided. In the current projection the macro reserve in 2025-2026 is included in the fiscal space.

The current projection also accounts for the political agreements reached since August 2022 (including the abolition of Great Prayer Day as a public holiday) and other new information, *cf. box 3.1*.

The fiscal space in 2030 is measured in relation to the expenditure level in 2023. A number of circumstances, including political agreements reached since August 2022, entails a temporary reduction of public consumption in 2023, especially through reprioritization of public reserves to inflation aid with *Agreement on Winter Help*, December 2022 – which increases the growth in the fiscal space measured in relation to 2023 toward 2030. The fiscal space in 2030 measured in relation to the expenditure level in 2024 is estimated to be DKK 49 bn.

Box 3.1
Estimates of the fiscal space compared with the projection in August 2023

The fiscal space in *Denmark's Convergence Programme 2023* is estimated to DKK 64 bn. in 2030 measured in relation to the expenditure level in 2023. The increase of DKK 16 bn. compared to the fiscal space calculated in the medium term projection from August 2022 should especially be seen in connection with the underlying improvements of the structural budget balance.

The adjustment of the fiscal space reflects several factors:

- *Underlying improvement of the structural budget balance.* The fiscal space has increased DKK 10¼ bn. in 2030 as a result of the underlying improvement of the structural budget balance within the objective of structural budget balance of -0.5 per cent of GDP in 2030. The improvement must be seen in connection with a number of opposing factors, but especially an upwards adjustment of the structural employment in 2030.

- *Abolition of Great Prayer Day as a public holiday*. The abolition of Great Prayer Day as a public holiday is estimated to imply a permanent additional revenue of approximately DKK 3¼ bn. from 2024, which increase fiscal space. Note, that the reform implies an upward wage adjustment from 2026 and thus an adjustment of the income transfers. The government wishes to neutralize this effect, and in this projection a neutralisation is presumed from 2027.

- Agreement on Winter Help, September 2022 (excluding disbursement of reserves and decrease of the state budget etc.). With the Agreement on Winter Help, September 2022 it was decided, among other things, to proceed with actions reducing the economic consequences for citizens and companies resulting from the war in Ukraine. The agreement is estimated to be over-financed from 2024, caused by the advancement of the ceiling for Age Retirement Savings and tax on dividends pay-outs to foreign states. The overfunding increases the fiscal space.

- *Agreement on Winter Help, September 2022 (allocation of reserves and decrease of the state budget etc.).* The agreement included a financing contribution in 2023 from the general reserves, the set aside reserve for handling challenges in light of the Russia crisis etc.[1)] and a general reduction of the state budget in 2023. Using the reserves for initiatives outside the public consumption reduces the public consumption level in 2023. This entails an increase of the highest possible consumption growth from 2023 to 2030.

- *Agreement on a Budget Bill for 2023 etc*. The budget bill for 2023 is estimated to increase public consumption in 2023, which, among other things, should be seen in context of a temporary emergency package to healthcare. In addition, a previous proposal of stock taxation of companies' real estate, which was included in the original Budget Bill proposal for 2023, is annulled. Among other things, the higher level of consumption in 2023, as a result of the Budget Bill 2023 etc., reduces the highest possible consumption growth from 2023 to 2030. The Budget Bill is fully funded.

- *Other conditions and technical adjustments.* Other conditions and technical adjustments cover, among other thing, the effect of price- and wage correction in the state budget (level adjustment), where the state budget in 2024 is corrected for higher prices and wages in 2023 in accordance with price- and wage adjustments from the Budget Bill proposal for 2024. It also covers changes in the ceiling-covered expenditures, e.g. the development aid. Combined it results in a reduction of consumption growth from 2023 to 2030.

It should also be noted, that the fiscal space currently is measured compared to the expenditure level in 2023. A part of the increase of the fiscal space in 2030 of DKK 16 bn. is caused by a lower level of expenditure in 2023 than estimated in the medium term projection from August 2022. The yearly growth in the fiscal space is therefore especially large from 2023 to 2024. When calculating the fiscal space from 2024, it amounts to DKK 49 bn. towards 2030.

Table a
Changes in the fiscal space since August 2021

	2030
DKK bn. (2023-prices)	
2030-projection: Basis for expenditure ceiling 2026, August 2022 (compared to the level in 2023)	**48**
+ Underlying improvement of the structural budget balance	10¼
+ Abolition of Great Prayer Day as a public holiday	3¼
+ Agreement on Winter Help, September 2022 (exclusives allocation of reserves and decrease of the state budget etc.)	1¼
+ Agreement on Winter Help, September 2022 (allocation of reserves and decrease of the state budget etc.)[1)]	2¼
+ Agreement on a Budget Bill for 2023 etc.	-½
+ Other conditions and technical adjustments	-¼
Denmark's Convegence Programme 2023 (comparet to the level in 2023)	**64**
Changes compared to August 2022	*16*
Memo: Fiscal space from 2024 to 2030	*49*

1) The allocated reserve for handling challenges related to the Russia crisis etc., including rising prices, was technically calculated as public consumption in *Economic Survey*, August 2022. The usage of the reserve for other initiatives than public consumption reduces public consumption in 2023.

Note: The fiscal space is calcuated as highest possible public consumption growth excl. depreciation within the objective of structural budget balance of -0.5 per cent of GDP in 2030 and rounded to the nearest quarter DKK bn. The fiscal space is adjusted for temporary measures related to the handling of the situation in Ukraine and extraordinary measures related to the compensation agreement for mink breeders and ancillary businesses, etc. There is uncertainty of the estimated fiscal space, increasing with longer horizons.

Source: *2030-projection: Basis for expenditure ceiling 2026*, August 2022 and own calculations.

A fiscal space of DKK 64 bn. in 2030 corresponds to an average yearly growth of 1.5 per cent in 2024-2030. This is higher than the average yearly growth in the demographic pressure of approximately 0.5 per cent per year, which corresponds to approximately DKK 21¼ bn. in 2030 from 2023.

Among other things, a part of the fiscal space is reserved to the *green* fiscal space, which in 2030 amounts to DKK 2½ bn., *cf. table 3.7*. This reflects, that with *Agreement on establishment of a green fund,* June 2022, a green fiscal space was established of DKK 1½ bn. in 2024 and DKK 3¼ bn. yearly in 2025-2040 (2022-level), corresponding to a combined DKK 53½ bn. A part of the green fiscal space was subsequently disbursed with *Agreement on green tax reform for the industrial sector etc.*, June 2022.

Table 3.7
Reservation for green fiscal space within the fiscal space

	2024	2025	2026	2027	2028	2029	2030
DKK bn. (2023-prices)							
Green fiscal space	1½	3½	3½	3½	3½	3½	3½
Allocation with *Agreement on green tax reform for the industrial sector etc.*, June 2022	1	¾	¾	0	-¼	¾	¾
Remaining green fiscal space	¾	2½	2½	3¼	3½	2½	2½

Note: The fiscal space is adjusted to 2023-prices and rounded to the nearest quarter DKK bn.
Source: *Agreement on establishment of a green fund,* June 2022, *Agreement on green tax reform for the industrial sector etc.*, June 2022 and own calculation.

In addition – in the context of *Agreement of National Compromise on Danish Security Policy*, March 2022 – it was decided to ensure that Denmark's defense and security expenditure is permanently raised to 2 per cent of GDP by the end of 2033. The current government has since proposed to advance the target for the defense budget to 2030. It is estimated, that it will imply additional expenses of DKK 20 bn. (where DKK 3¾ bn. is technically reserved within the public investment framework), which also will claim a part of the fiscal space, *cf. box 3.2.*

Box 3.2
Additional expenses to the defense budget towards 2 per cent of GDP in 2030

With the *Agreement of National Compromise on Danish Security Policy*, March 2022 it was decided to ensure that Denmark's defense and security expenditure is permanently raised to 2 per cent of GDP by the end of 2033. As mentioned in the government platform *Responsibility for Denmark,* December 2022, the government wishes to advance the target of a defence budget of 2 per cent of GDP to 2030, where the advancement alone entails additional expenses of DKK 4½ bn., such that the combined additional expenses amounts to DKK 20 bn. in 2030.

The concrete increase of defence expenses – including the phasing in and allocation between consumption and investments – will we decided upon with an upcoming settlement on the defence budget, which will have effect from 2024. Prior to the settlement, a lineary phasing in is technically presumed. Additionally it also technically presumed, that the additional expenses partly will be financed by the public investments framework and the remaining by the fiscal space. The concrete disbursement of additional expenses and funding will be agreed upon with the upcoming settlement on the defence budget.

Excluding the reservations in the fiscal space to the green fiscal space and the additional expenses to the defence budget towards the targeted 2 per cent of GDP, the remaing fiscal space corresponds to an average yearly growth of public consumption expenditures of 1.1 per cent in 2024-2030. In comparison, the average yearly growth in the demographic pressure is 0.5 per cent.

Beside the demographic development and the central reservations to the green fiscal space and additional expenses to the defence budget toward 2030, the fiscal space should – in the absence of additional new funding – cover the yearly agreements on the Budget Bill, the budget agreements with municipalities and regions and unavoidable expenses etc. Lastly the fiscal space should also cover other public priorities, addressing structural challenges etc., *cf. Responsibility for Denmark,* December 2022.

3.5 Public Consumption, Demographic Pressure and Public Investments

Public Consumption and Demographic Pressure

Based on preliminary national accounts data from Statistics Denmark in March, the real growth rate in public consumption is -3.5 percent in 2022 (calculated using the input method[3]). The estimated real growth in public consumption is 0.6 percent in 2023, while the current estimated real growth rate is 1.8 percent in 2024 based on calculation assumptions regarding expenditure policies for the subsequent year, as shown in *figure 3.3*. Detailed information about the assumptions in 2023-2024 can be found in *Economic Survey*, May 2023.

Figure 3.3
Public consumption growth, 2023-2030

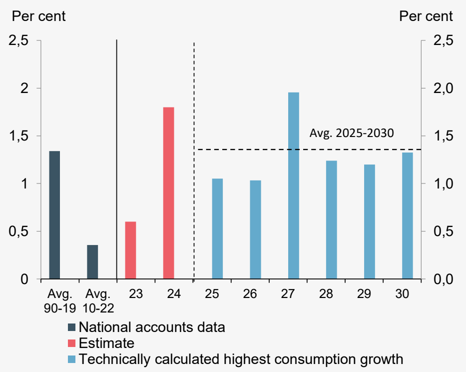
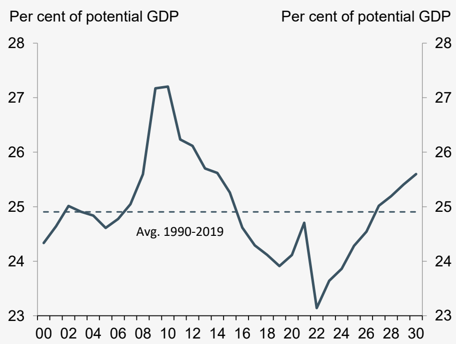


Figure 3.4
Public consumption, 2000-2030



Note: Public consumption growth is calculated with the input method (excl. depreciations).
Source: Statistics Denmark and own calculations.

Towards 2030, the technically calculated growth in public consumption is aligned with the planned expenditure growth based on the 4-year expenditure ceilings (2023-2026) and the highest possible growth in public consumption within the medium-term target of structural balance of -0.5 per cent in 2030 (the fiscal space). In the projection, public consumption expenditures (excluding depreciations) grow on average by approximately 1.4 percent per year in the period 2025-2030. The high average growth in public consumption is, among other things, attributed to factors such as the calculation technical implementation of the underlying improvement of the structural balance for public consumption

[3] The real public consumption measured by the input method is an expression of the amount of resources (adjusted for price and wage developments) used for public consumption. The real public consumption measured by the output method aims to reflect the real development in the amount of services produced, which can be attributed to public consumption. The real growth is correspondingly estimated at -3.5 percent in 2022 using the output method.

(the fiscal space) in *Denmark's Convergence Program 2023*. The estimated growth in the demographic pressure is approximately 0.5 per cent annually in the same period.

Based on the projected real growth in public consumption, the public consumption expenditures are estimated to gradually constitute a larger share of GDP in the period towards 2030, *cf. figure 3.4.* The public consumption expenditure as a share of GDP will thus increase to a higher level than the historical average (1990-2022), which, among other things, should be considered in the context of the development in demography, as well as the increase in defense expenditure towards 2030.

Public Investments

According to Statistics Denmark's preliminary national accounts for 2022, nominal public investment expenditures are calculated to approximately DKK 86½ bn. in 2022, corresponding to approximately 3.1 per cent of GDP. Public investments are estimated to approximately 3.4 per cent of GDP in 2023 and 3.5 per cent of GDP in 2024 based on technical assumptions about the expenditure policy in 2024, *cf. figure 3.5*.

In the coming years, public investments are expected to remain at a high level of approximately 3.4 to 3.6 percent of GDP between 2023-2030. Since the financial crisis, public investments have remained above the average for the period 1990-2007.

The majority of public investments consist of investments in buildings and facilities, while the remaining share is allocated to investments in research and development, cf. *figure 3.6*. In the projection period, it is primarily the technically assumed growth in investments in buildings and facilities, which contribute to a high projected level of public investments in the years until 2030. The politically decided frame for public investments in buildings and facilities is technically assumed to remain unchanged compared to the medium-term projection in "*2030-planforløb: Grundlag for udgiftslofter 2026*, August 2022". The government will decide on the medium-term objectives and expenditure frameworks leading up to 2030 in the coming 2030-plan.

Figure 3.5
Public investments as a share of GDP

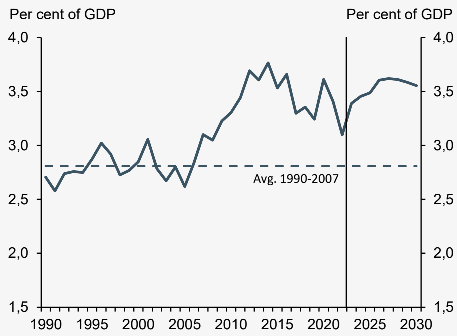
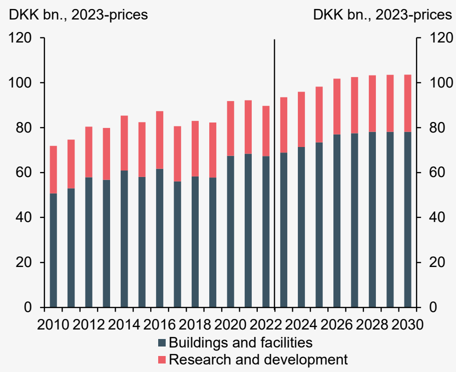


Figure 3.6
Public investments by sector



Source: Statistics Denmark and own calculations.

3.6 Expenditures and Revenues as a share of GDP

Public expenditures

Total public expenditure contribute to approximately 44 per cent of GDP in 2022, according to the preliminary national accounts from March 2023 by Statistics Denmark. This reflects a relatively low expenditure level compared to the historical average. This can be attributed, in part, to the significant increase in nominal GDP in 2022, driven primarily by a positive output gap and high inflation in 2022 (referred to as a numerator effect). The share of expenditures as a percentage of GDP is projected to reach approximately 47 per cent of GDP in 2024, as indicated in *table 3.8*. The development of expenses towards 2024 should be seen in the context of the gradual normalization of the economic situation, as well as the delayed impact of high inflation in 2022, which contributes to higher nominal public expenses. By 2030, it is estimated that public expenses will rise to around 50 per cent of GDP.

Table 3.8
Composition of public expenditure

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Per cent of GDP									
Total public expenditures[1)]	44.3	46.6	47.0	47.7	48.6	49.3	49.7	50.0	50.0
Primary expenditures	44.0	45.9	46.4	47.2	48.1	48.9	49.3	49.6	49.8
- public consumption	22.0	23.2	23.5	24.0	24.4	25.0	25.2	25.4	25.6
- public investments	3.1	3.4	3.5	3.5	3.6	3.6	3.6	3.6	3.6
- income transfers	13.8	14.8	14.8	15.1	15.5	15.8	15.8	15.9	15.9
- subsidies	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.3
- other primary expenditures	3.2	3.4	3.4	3.2	3.3	3.2	3.2	3.1	3.1
Interest expenditures[2)]	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6

1) The calculation of total public expenditures (and revenues) differs from Statistics Denmark's calculation. The expenditure ratio is calculated on the basis of a measure of total expenditure, where all sub-elements of public consumption – including e.g. imputed expenditure in the form of depreciation and revenue in the form of sales of goods and services – are attributed to the expenditure side.
2) The interest expenditures are reported on a gross basis. Interest income exceeds interest expenses in all years leading up to 2030.
Source: Statistics Denmark and own calculations.

Public consumption expenditures amounted to approximately 22 per cent of GDP in 2022 and are projected to increase to approximately 25 per cent of GDP in 2030. This normalization from the relatively low consumption share in 2022 partly reflects the high nominal GDP level in 2022 (numerator effect). Furthermore, both public wages and public benefits follow the growth in private wages with some delay, which increases public expenses as a share of GDP. Finally, there is technically a relatively high growth in real public consumption leading up to 2030, due to the increase of defense expenditures to 2 per cent of GDP.

Public investments amounted to approximately 3.1 per cent of GDP in 2022 and are estimated to reach around 3.6 per cent of GDP in the years until 2030. This expenditure trend is primarily driven by the assumed growth in public investments in construction and infrastructure.

Income transfers amounted to approximately 14 per cent of GDP in 2022, and are expected to gradually increase to around 16 per cent of GDP in 2030. This development is influenced, among other factors, by the favorable economic conditions in 2022 with low unemployment, resulting in lower expenses for unemployment-related income transfers.

Subsidies amounted to approximately 1.4 per cent of GDP in 2022. It is expected that subsidies as a share of GDP will remain relatively stable between 1.3-1.4 per cent of GDP until 2030.

The public interest expenditures amounted to approximately 0.7 per cent of GDP in 2022. The interest expenditures are projected to decrease to approximately 0.6 per cent of GDP by 2030. This development reflects, in part, that increasing nominal GDP erodes the interest expenses as a share of GDP.

Public Revenues

Total public revenues are estimated to increase from approximately 47.6 per cent of GDP in 2022 to approximately 49.5 per cent of GDP in 2030, *cf. table 3.9*. The relatively low level of public revenues as a share of GDP in 2022 partly reflects that nominal GDP was temporarily high in 2022 as a result of very high freight rates, as well as certain sources of income in 2022 were particularly low. The estimate for 2030 is based on structural assumptions.

The revenues from the *pension yield tax* were low in 2022, equal to 0.4 per cent of GDP, and are estimated to increase to 1.3 per cent in 2030. The revenues depend on the development on the financial markets and can fluctuate significantly from year to year. Besides stocks etc., pension funds have a substantial share of their assets invested in long-duration bonds, which decrease in value when interest rates rise. Hence, fluctuations in interest rates are said to “shift” tax revenue between years. This can impact the calculated tax burden and the actual public budget balance significantly in a given year. However, the fiscal policy is based on the structural public budget balance, and therefore, fluctuations in the actual annual revenues from the pension yield tax have no noteworthy economic significance.

The development also reflects that *personal income tax revenues* amounted to approximately 20.2 per cent of GDP in 2022 and is expected to increase to approximately 20.7 per cent of GDP in 2030. According to Statistics Denmark, *VAT revenues* amounted to approximately 9.5 per cent of GDP in 2022 and is expected to increase to approximately 10.1 per cent of GDP in 2030. *Other indirect taxes* primarily include excise duties in the form of energy and environmental taxes, taxes on tobacco, spirits and gambling. In addition, indirect taxes include the vehicle registration duty, the municipal property taxes (i.e. land tax etc.), motor vehicle weight duty for businesses, payroll tax and stamp duties etc. Revenues from other indirect taxes are estimated to remain at an approximately unchanged level of 5.1 per cent of GDP in both 2022 and 2030.

Corporate taxes in 2022 amounted to approximately 3.2 per cent of GDP and is expected to decrease to approximately 2.7 per cent of GDP in 2030. Finally, *public interest income* incl. yields is expected to slightly decrease towards 2030 to 0.9 per cent of GDP.

Table 3.9
Decomposition of public revenues

	2022	2023	2024	2025[8)]	2026	2027	2028	2029	2030
Per cent of GDP									
Personal income tax etc.[1)]	20.2	20.6	20.4	20.5	20.7	20.7	20.7	20.8	20.7
Labor market contributions	4.2	4.4	4.4	4.4	4.4	4.4	4.4	4.5	4.5
Pension yield tax	0.4	0.3	0.3	0.4	0.5	1.2	1.2	1.2	1.3
Corporate tax	3.2	3.1	3.0	2.8	2.8	2.8	2.8	2.8	2.7
- corporate tax from hydrocarbon producers	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
- other corporate tax	3.1	3.1	3.0	2.7	2.7	2.7	2.7	2.7	2.7
Value added tax (VAT)	9.5	9.8	9.7	9.7	9.8	9.9	10.0	10.0	10.1
Other indirect taxes	5.1	5.2	4.9	5.2	5.2	5.2	5.2	5.1	5.1
Other taxes[2)]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax burden	**42.6**	**43.5**	**42.8**	**43.1**	**43.4**	**44.3**	**44.3**	**44.4**	**44.4**
Interest income[3)]	1.1	1.2	1.2	1.0	1.0	1.0	1.0	0.9	0.9
Other revenues[4)]	4.1	3.9	3.7	4.1	4.1	4.3	4.3	4.4	4.4
Duties etc. to the EU[5)]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total public revenue[6)]	**47.6**	**48.5**	**47.6**	**48.0**	**48.4**	**49.4**	**49.4**	**49.5**	**49.5**
Memo item: North Sea revenues[7)]	*0.1*	*0.0*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*

1) Personal income tax etc. include basic income tax, property value tax, motor vehicle weight duty from households, gift- and heritage tax and other personal taxes.
2) Other taxes include media license (primarily for the Danish Broadcasting Corporation) and mandatory pension contributions for civil servants in public owned companies etc.
3) Incl. dividends and profits from Danmarks Nationalbank.
4) Other revenues include, among other things, profits from public enterprises, operating and capital transfers from other domestic sectors and the EU, as well as imputed (calculated) revenues from both the gross operating surplus and the contributions to civil servant pensions. Furthermore, it also includes central government revenues from state participation in the oil and gas production in the North Sea and the hydrocarbon tax.
5) According to national accounting principles, these revenues are categorized as taxes and are therefore included in the tax burden, but since the revenues accrue to the EU, they are not included in the revenue burden.
6) The calculation of total public revenue differs from Statistics Denmark, that, among other things, attributes the sale of public goods and services to the revenue side and not to the expenditure side as part of the total consumption expenditure as presented here. Total revenues are calculated incl. imputed gross operating surplus being matched by the imputed depreciation costs included in the calculation of public consumption.
7) Total North Sea revenues consists of the hydrocarbon tax, corporation tax on hydrocarbon manufacturing and dividends from the Danish North Sea Fund. The North Sea revenues are included in corporate taxes, interest revenues and other revenues.
8) Beyond 2024, projected levels are based on technical principles.

Source: Statistics Denmark and own calculations.

3.7 Public Debt

The public EMU debt was approximately 29.8 per cent of GDP by the end of 2022, which is approximately 6.8 percentage point lower than in 2021. The lower debt primarily reflects the progress in Danish economy and the surplus on the actual budget balance. The Danish EMU debt (measured in per cent of GDP) is among the lowest in the EU. The low debt contributes to Denmark being among the few countries in the world having the highest credit rating (AAA) with all leading credit rating agencies.

In the years towards 2030, the EMU debt is expected to increase to approximately 35 per cent of GDP, *cf. table 3.10*. This is despite the fact that the need for net financing in 2025-2030 is less than the growth in GDP. The increase is mainly due to the fact that a part of the financing is excepted to cover the purchase of public housing bonds, which is not offset in the EMU debt. However, the EMU debt will continue to be well below the debt limit of 60 per cent of GDP as stated in the Stability and Growth Pact in EU.

Table 3.10
Overview of public debt, end of year

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Per cent of GDP									
Gross debt (EMU definition)	29.8	30.9	29.7	30.6	31.7	32.5	33.4	34.3	35.1
Net public debt	-16.6	-18.7	-18.5	-19.0	-18.9	-19.0	-18.9	-18.6	-18.2
Memo item: Actual budget balance	*3.3*	*1.9*	*0.6*	*0.4*	*-0.2*	*0.0*	*-0.2*	*-0.4*	*-0.5*

Source: Statistics Denmark and own calculations.

The public net debt, which also includes public financial assets, is negative, i.e. the public sector has a financial net wealth. The financial assets includes the government's deposit in Denmark's Central Bank and equities in firms, e.g. Ørsted A/S. The net wealth was approximately 16.6 per cent of GDP by the end of 2022 and is expected to increase in the years towards 2030 to approximately 18 per cent of GDP in 2030. The net debt/net wealth is the key to assessing long-term financial sustainability and solvency of the government.

The estimated year-on-year development in net debt is subject to uncertainty, as the net debt, among other things, depends on price adjustments on government assets and liabilities.

Appendix 3.1 Calculation of the structural budget balance in 2022-2024

Appendix table 3.1.1
Actual and structural specific budget items in the calculation of the structural budget balance

	2022	2023	2024
Per cent of GDP			
1. Actual budget balance	**3.3**	**1.9**	**0.6**
Cyclical adjustment			
i) Output gap	3.1	2.0	1.2
ii) Employment gap	3.5	3.1	2.0
a) Weighted cyclical gap = i)*0.4+ii)*0.6	3.3	2.6	1.7
b) Budget factor	0.74	0.73	0.73
c) 1-(output gap/100)	0.97	0.98	0.99
2. Cyclical contribution = a)*b)*c)	**2.4**	**1.9**	**1.2**
Corporate tax			
Actual revenue	3.1	3.1	3.0
Structural revenue	2.4	2.6	2.7
3. Correction for corporate tax	**0.7**	**0.5**	**0.3**
Vehicle registration duty			
Actual revenue	0.4	0.4	0.4
Structural revenue	0.7	0.7	0.7
4. Correction for vehicle registration duty	**-0.3**	**-0.3**	**-0.3**
Equity income tax			
Actual revenue	1.6	1.2	1.2
Structural revenue	1.2	1.2	1.2
5. Correction for equity income tax	**0.4**	**0.0**	**0.0**

Appendix table 3.1.1 (continued)

Actual and structural specific budget items in the calculation of the structural budget balance

	2022	2023	2024
Per cent of GDP			
Pension yield tax			
Actual revenue	0.4	0.3	0.3
Structural revenue	1.1	1.2	1.2
6. Correction for pension yield tax	**-0.7**	**-0.9**	**-0.9**
North Sea revenue			
Actual revenue	0.1	0.0	0.1
Structural revenue	0.1	0.2	0.1
7. Correction for North Sea revenue	**0.0**	**-0.1**	**0.0**
Net interest payments			
Actual revenue	0.3	0.7	0.7
Structural revenue	0.5	0.5	0.5
8. Correction for net interest payments	**-0.1**	**0.2**	**0.2**
Special budget items			
Actual revenue before corrections for one-offs etc.	-0.5	-0.8	-1.0
Actual revenue corrected for one-offs etc. for calculation of the structural revenue, cf. appendix table 3.2.1	-0.4	-0.4	-0.6
Structural revenue	-0.5	-0.5	-0.5
9. Correction for special budget items	**0.0**	**-0.3**	**-0.5**
10. Other corrections (cf. appendix table 3.2.1)	**-0.8**	**0.0**	**-0.1**
- Hereof covid-19 one-off measures	*-0.6*	*0.0*	*0.0*
11. 1-2-3-4-5-6-7-8-9-10 Structural budget balance	**1.8**	**0.8**	**0.6**

Appendix 3.2 One-offs etc. in 2022-2024

Appendix table 3.2.1

One-offs etc. that is corrected for in the calculation of the structural budget balance

Per cent of GDP	2022	2023	2024
One-offs corrected for in the special budget items in total	**-0.1**	**-0.4**	**-0.4**
One-offs related to covid-19 (in the special budget items)	-0.1	-0.2	-0.1
Extraordinary refund of property tax	0.0	-0.2	-0.3
Payment of early retirement contributions	-0.2	0.0	0.0
Correction for expected budget correction due to revised price estimates[1]	0.0	0.0	0.0
Extraordinary revenue from fines	0.2	0.0	0.0
Other corrections (excluding the special budget items) in total	**-0.8**	**0.0**	**-0.1**
One-offs related to covid-19	-0.6	0.0	0.0
- Hereof as transfers to households	*0.0*	*0.0*	*0.0*
- Hereof as subsidies	*-0.1*	*0.0*	*0.0*
- Hereof as public consumption	*-0.5*	*0.0*	*0.0*
- Hereof as VAT	*0.0*	*0.0*	*0.0*
- Hereof as backflow via tax revenue[2]	*0.0*	*0.0*	*0.0*
- Hereof as contribution to EU	*0.0*	*0.0*	*0.0*
Foreign aid – difference between political commitment level and payments in actual budget balance	-0.1	0.1	0.0
Correction for information on the revenue side	-0.1	0.0	0.0
Correction regarding Employers Reimbursement System	0.0	0.0	0.0
Correction for investments in fighter jets[3]	0.0	-0.1	-0.1
Correction for expected budget correction due to revised price estimates[1]	0.0	0.0	0.0
Conversion to per cent of structural GDP	-0.1	0.0	0.0

1) Reflects the estimate of the budget correction that currently is expected in 2024 in the budget planning due to revised price and wage estimates for 2023.
2) Does not include backflow via corporate taxes and equity income taxes related to one-offs.
3) Investments in fighter jets are treated in the same way as net pruchases of buildings and other existing investment goods in the calculation of the structural budget balance and is included via a 7-year moving average.

4. Sensitivity Analysis and comparison with CP22

4.1 Sensitivity Analysis

In the following, several scenarios are presented which illustrate the sensitivity of the Danish economy to altered assumptions following the requirements set out in the Code of Conduct for the EU countries' Stability and Convergence Programmes. The sensitivity is illustrated by comparing the projection of the *Convergence Programme* with a scenario in which the European Commission’s assumptions about the international economy and financial conditions for 2023 and 2024 are taken into account. Furthermore, two additional alternative scenarios for short-term growth are compared, one of which implies more activity and one of which implies less activity.

Finally, the projection of selected key figures up until 2030 in *Convergence Programme 2023* are compared with *Convergence Programme 2022*.

Scenario with the European Commission’s External Assumptions

The assumptions in *Convergence Programme 2023* concerning the international economy and financial conditions are largely in line with the European Commission's assumptions in their spring forecast, although the assumptions in *Convergence Programme 2023* generally are slightly more negative, *cf. table 4.1*.

Table 4.1
External assumptions in Convergence Programme 2023 and the European Commission's spring forecast

	2022	2023		2024	
	CP23	CP23	EU	CP23	EU
Growth in export markets, per cent[1)]	6,9	1,9	2,0	2,5	3,0
Growth in trade weighted GDP, per cent	3,0	1,2	1,8	1,8	2,4
Crude oil price, USD per barrel	100,8	81,7	82,8	80,4	77,9
Short-term interest rate, per cent[2)]	0,8	3,2	3,2	3,2	3,1
Long-term interest rate, per cent[2)]	1,1	2,3	2,3	2,3	2,2

Note: The external assumptions are based on the European Commission's 2023 spring forecast, with the exception of export market growth and trade-weighted GDP, which is based on a weighting of the European Commission's latest official estimates for EU countries along with GDP and export market growth for the rest of the world based on the Commision's preliminary external assumptions from the spring forecast. The weighting is done on the basis of Danish export weights.

1) Growth in export markets concern industrial goods and is shown as real growth in per cent.

2) Numbers refer to European interest rates. The level of the corresponding Danish rates have been modified in order to ensure that the spread to the Euro area remains unchanged relative to the assumptions in CP23.

Source: The European Commission and own calculations.

In *Convergence Programme 2023*, a slightly lower oil price is assumed in 2023, while the opposite applies in 2024. In 2024, slightly higher interest rates have been assumed when comparted to the European Commission's assumptions. In addition, the forecast in *Convergence Programme 2023* assumes somewhat lower export market growth in 2024, while growth in trade-weighted GDP is lower in both years. The assumptions in *Convergence Programme 2023* are based on information until 11th April.

The alternative scenario with external assumptions implies, all together, that GDP growth is increased by just over 0.3 percentage points in 2023 and increased by around 0.5 percentage points in 2024. Employment in 2024 is around 15,000 persons higher than in *Convergence Programme 2023*. The budget balance as a share of GDP is improved by around 0.1 percentage points in 2023 and just over 0.3 percentage points in 2024.

Alternative Scenarios

After the reopening in the spring of 2021, the Danish economy has seen strong growth, which led to significant capacity pressure. However, as a consequence of higher prices and interest rates, the economy has been heading into a mild slowdown over the past year, with private consumption and the housing market particularly affected. Special circumstances are also at stake in the Danish economy. While the rest of the industries have felt the slowdown in demand, there was remarkable growth in the pharmaceutical industry. The growth was crucial for the Danish economy as a whole to grow at the end of 2022, and the pharmaceutical businesses have also kept up industrial production in the first months of the year. It is expected that the economy as a whole will pick up again as inflation falls further. Household consumption is at a low level, but is supported by the fact that the agreed collective agreements on the labour market and decreasing inflation are expected to imply an increase in real wages, so that most of the real wage loss in 2022 can be made up in 2024.

There is a possibility of a faster normalization of inflation than assessed in the forecast. Less pressure on global supply chains and lower energy prices may lead to a faster-than-expected reversal of price increases. It can increase both foreign and domestic demand, from households in particular, but also businesses. This contributes to a higher level of activity, but also slightly increased pressure on wages.

- *Scenario with more activity: Export markets grow 1.0 percentage points faster in both 2023 and 2024 compared to the baseline scenario, while prices on imports and export markets grow around 1.0 percentage points less in both years. In this scenario, GDP growth will increase by almost 0.5 percentage points in both 2023 and 2024, and employment will increase by almost 17,000 people in 2024. The budget balance is improved by around 0.1 per cent of GDP in 2023 and 0.4 per cent of GDP in 2024. Wages increase around 0.1 percentage points more in 2023 and 0.2 percentage points more in 2024, while inflation (measured by increases in the consumer price index) is 0.2-0.3 percentage points lower in both years.*

The risk of lower activity is assessed to a large extent to come from abroad, for example in the form of lower demand growth as a result of sustained price increases and higher interest rates.

- *Scenario with less activity: More sustained inflation abroad causes prices of imports and export markets to grow 1.0 percentage points faster in both years, and further monetary policy tightening on the basis of this increases interest rates by around 0.5 percentage points both years. Growth on the export markets is reduced by 1.5 percentage points in both 2023 and 2024 compared to the baseline. This means that GDP growth is reduced by around 1.0 percentage points in 2023 and around 1.1 percentage points in 2024. Employment will be reduced by around 38,000 people in 2024 compared to the baseline, while the budget balance is worsened by 0.3 per cent of GDP in 2023 and with 0.9 per cent of GDP in 2024. Consumer price inflation is increased by a further 0.3 percentage points in 2023 and 0.5 percentage points in 2024.*

The Danish economy is in a good starting position, and even a significantly more negative growth projection will not strain the government budget considerably. In both the baseline projection and the alternative scenarios, there is a surplus on the budget balance in 2023, while the scenario with less activity only entails a small deficit on the budget balance in 2024. In both alternative scenarios, Denmark will comply with the normal requirements (which are currently suspended in the aftermath on the corona crisis) for government deficit and the public gross debt (EMU definition) in the Stability and Growth Pact with a considerable margin, *cf. table 4.2*. Other more severe scenarios than those presented here can of course not be ruled out.

Table 4.2
Alternative Scenarios

	2023	2024
Convergence Programme 2023		
GDP growth, per cent	0.6	1.4
Employment, 1,000 persons	3,165	3,142
Unemployment, per cent of labour force	2.9	3.1
Budget balance, per cent of GDP	1.9	0.6
Public gross debt (EMU definition), per cent of GDP	30.9	29.7
Scenario with more activity		
GDP growth, per cent	1.0	1.9
Employment, 1,000 persons	3,172	3,158
Unemployment, per cent of labour force	2.7	2.7
Budget balance, per cent of GDP	2.0	0.9
Public gross debt (EMU definition), per cent of GDP	30.7	29.0
Scenario with less activity		
GDP growth, per cent	-0.5	0.3
Employment, 1,000 persons	3,150	3,104
Unemployment, per cent of labour force	3.2	3.9
Budget balance, per cent of GDP	1.6	-0.3
Public gross debt (EMU definition), per cent of GDP	31.4	31.4

Note: The table shows the effect on registered gross unemployment. Employment includes persons on leave of absence.
Source: Own calculations using ADAM.

4.2 Comparison with Convergence Programme 2022

Expectations for the average GDP growth in 2023-2026 are slightly adjusted downwards in *Convergence Programme 2023* compared to *Convergence Programme 2022*, *cf. table 4.3*. The adjusted growth outlook is mainly due to higher than expected inflation and interest rates. Stronger-than-expected growth in 2022 is reflected in a more positive output gap at the starting point, which is, however, countered by greater narrowing in subsequent years. Although a gradual decrease of the output and employment gap is assumed, the gaps are still positive in 2026. In *Convergence Programme*

2022, the medium-term planning horizon went to 2025 rather than to 2030 as in *Convergence Programme 2023*. The projection from 2026 to 2030 in *Convergence Programme 2022* was thus based on technical principles, and table 4.3 must also be seen in that light.

The expectations for the budget balance after 2023 are roughly unchanged in *Convergence Programme 2023* compared to *Convergence Programme 2022*. However, a larger surplus is expected in 2023 than previously assumed, which reflects, among other things, higher income from withholding taxes and corporate taxes as well as pension yield tax. In 2022, the surplus on the budget balance was significantly better than expected due to increased income from mainly withholding taxes, but also greater VAT revenue, corporate taxes etc., which reflects the favorable employment and economic development

In all years up to 2030, the public gross debt (EMU definition) in Denmark's *Convergence Programme 2023* is estimated to remain stable under 40 per cent, i.e. with a considerable margin to the 60 per cent of GDP limit given by EU's Stability and Growth Pact. Compared to *Convergence Programme 2022*, there is an improvement of 1-4½ percentage points for the individual years.

Table 4.3
Changes compared to Convergence Programme 2022

	2022	2023	2024	2025	2026	2030
	Yearly change in per cent					
Real GDP growth, per cent						
Convergence Programme 2023	3.8	0.6	1.4	1.1	0.5	1.2
Convergence Programme 2022	3.4	1.9	1.2	0.6	0.8	1.2
Change	0.4	-1.4	0.3	0.5	-0.3	0.0
	Per cent of GDP					
Output gap						
Convergence Programme 2023	3.1	2.0	1.2	0.8	0.4	0.0
Convergence Programme 2022	2.8	2.3	1.8	1.4	0.9	0.0
Change	0.3	-0.3	-0.6	-0.6	-0.5	0.0
Budget balance						
Convergence Programme 2023	3.3	1.9	0.6	0.4	-0.2	-0.5
Convergence Programme 2022	0.6	0.2	0.6	0.4	0.6	-0.5
Change	2.7	1.7	0.0	0.0	-0.8	0.0
Public gross debt (EMU definition)						
Convergence Programme 2023	29.8	30.9	29.7	30.6	31.7	35.1
Convergence Programme 2022	33.3	32.5	34.0	33.9	35.8	36.2
Change	-3.5	-1.6	-4.3	-3.3	-4.1	-1.1

Source: *Denmark's Convergence Programme 2022* and own calculations.

5. The Period Beyond 2030 and Long-Term Fiscal Sustainability

5.1 Development Beyond 2030

The fiscal policy towards 2030 is planned in accordance with a balance requirement of -0.5 per cent of GDP in 2030. Beyond 2030, the projection is based on technical principles and assumptions, *cf. section 5.3*, the aim being to assess the long-term outlook of public finances and determining whether the economic policy can be maintained beyond the planning horizon without unsustainable and continuous increases in public debt – i.e. whether fiscal policy is (at least) sustainable.

Based on the updated 2030 projection and already enacted reforms, including the current rules for the life indexing of the early retirement and state pension age etc., fiscal policy meets the sustainability criteria, with a projected sustainability indicator of around 1.5 per cent of GDP. This implies that the planned fiscal policy towards 2030 can continue subsequently without unsustainable increases in debt given the otherwise decided policy and projection principles.

However, the demographic development with more elderly people in the coming decades implies that after 2030 the structural budget balance will worsen for a number of decades, recovering in the middle of the century, *cf. figure 5.1*. The development in the budget balance in the coming 30-40 years is commonly referred to as the hammock challenge.

Figure 5.1
Demographic development puts pressure on the budget balance after 2025…

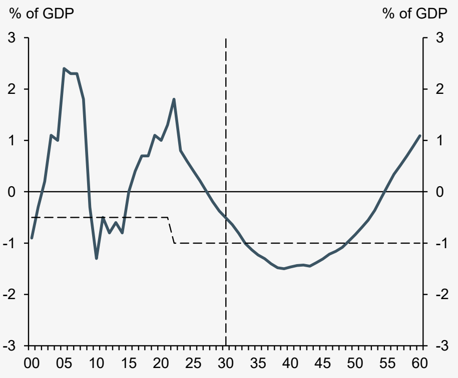
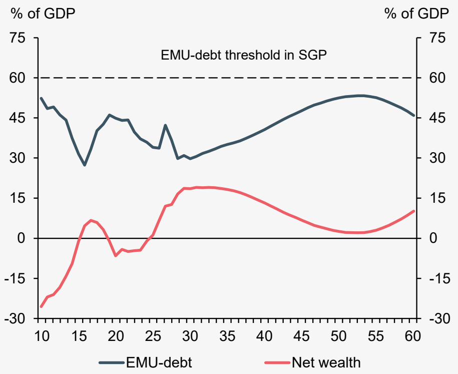


Figure 5.2
...but both the net and EMU debt remain within responsible limits



Note: Actual and structural budget balance is technically assumed equal after 2028.
Source: Statistics Denmark and own calculations.

Public net debt measures the difference between public financial assets and liabilities and thus reflects the net position of the public sector. The net debt is the key measure when assessing long-term fiscal sustainability. In the long-term projection, there is a net wealth of 18 per cent of GDP in 2030, meaning that public assets exceed the total public gross debt. In the years following 2030, the net wealth gradually decreases due to the deficits in the hammock years. There is however net wealth throughout the entire projection.

Concerning the EU's Stability and Growth pact, the so-called EMU debt is the key debt measure. Contrary to the public net debt, the EMU debt is purely a gross debt concept. That is, in addition to changes in the budget balance of public finances, the EMU debt is for instance also subject to parallel changes in public assets and liabilities[1]. In the period beyond 2030 and until 2050, EMU debt is projected to increase to just around 50 per cent of GDP and then decrease again, *cf. figure 5.2*.

The increase in the EMU debt in the period until 2050-2055 thus partly reflects the demographic challenges, the agreement on housing taxes (2017), the agreement on financing of public housing (2017) and re-lending to the Femern, which entail an increase in both public assets and liabilities – i.e. a so-called balance sheet expansion. This thereby increases the EMU debt without having any implications for the net debt/wealth. The projection takes into account the effect of agreements on premature payment of the frozen holiday pay in 2020 and 2021.

Figure 5.3
The share of the population in structural employment decreases between 2023 and 2040

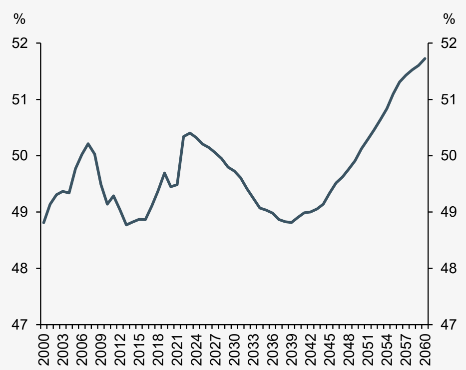
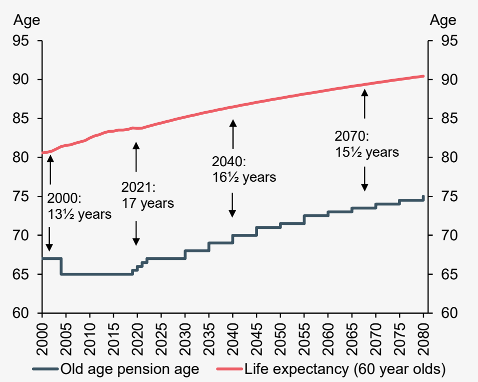


Figure 5.4
Generations that retire in the comming years have a relativly long pension period



Source: Statistics Denmark and own calculations.

The outlook for structural deficits in the coming decades owes largely to the share of the population employed being expected to fall from around 2023 until 2045. This development partly reflects the fact that the generations that enter the labour force between 2023 and 2045 will be smaller than the generations entering retirement. It also reflects the fact that the generations entering retirement in the

[1] Thereby the EMU-debt depends on how many assets, the state and municipalities hold (apart from the assets that are included). It is technically assumed that assets in 2050 consist of amongst other thing public ownership in completely or partially publically owned public companies and re-lending etc.

coming years, on average, can expect to have a longer retirement period both compared to previous and later generations, *cf. figure 5.4*.

With the assumed pension eligibility age regulations, the share of employed will increase again after 2040, likewise the growth in health and elderly care conditional on demographics will decrease slightly again. Altogether, this means that the deficits in the structural balance diminish after 2040, and that they in the longer run turn into structural surpluses.

Figure 5.5
Revenue from North Sea activity falls away in the long-term

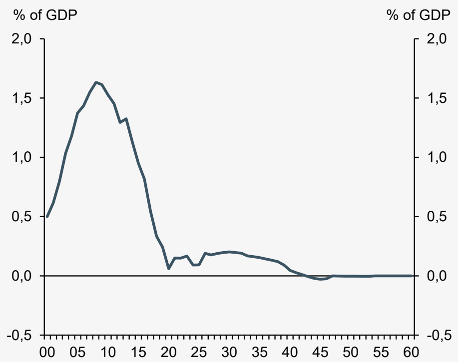
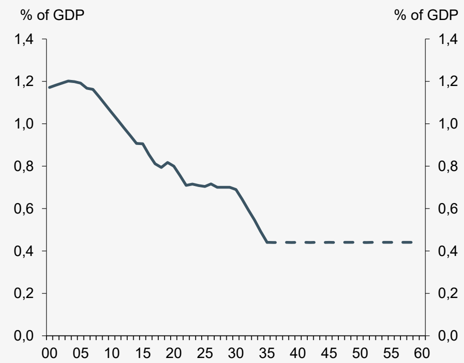


Figure 5.6
Revenue from the vehicle registration duty decrease along the increased use of low emission cars etc.



Anm.: Figure 5.5 shows the structural development in revenue from the North Sea.
Source: Statistics Denmark and own calculations.

Development in revenues from activity in the North Sea also affect the projection of the budget balance and thereby the profile of the hammock challenge, *cf. figure 5.5*. With the current assumptions about production, oil prices, etc., revenue as a share of GDP is expected to be stable from 2025 towards 2035, whereafter it is expected to fall close to zero from around 2045.

The need for a climate transition will have an impact on the revenue collected from a number of taxes and duties for a given set of agreed upon policies. In the projection, already decided concrete initiatives are taken into account, i.e. unchanged policy. For example, this includes revenue from the vehicle registration duty, which is affected by the phasing in of zero and low emission cars in the projection period. The revenue is estimated at approx. 0.7-0.8 pct. of GDP in 2020-2025, but from 2030 to 2035 the revenue is estimated to decline to 0.4 per cent of GDP as new cars are henceforth assumed to be electric vehicles in line with the Danish Energy Authority's projection.

5.2 Significance of the Life Expectancy Indexation of the Retirement Age

A central factor behind the sustainability of fiscal policy in Denmark is the implemented retirement reforms, namely *The Welfare Agreement (2006)* and the *Early Retirement Reform (2011).* The reforms established an indexation of the age of eligibility for public pensions corresponding to increases in life expectancy, ensuring that increasing life expectancy also leads to a longer working life, *c.f. figure 5.7.* Thus, each employed individual will contribute to the funding basis for public expenditures for several years instead of receiving pensions etc. for an increasing number of years. This mechanism is crucial for ensuring a sustainable financing of public expenditures as life expectancy increases.

The life expectancy indexation principles are determined by law and therefore considered part of the adopted politics in projections by the Ministry of Finance. However, the Danish parliament is required to pass a bill every fifth year in order to confirm the specific adjustments to the retirement age. This ensures a notice period of 15 years for adjustments of the retirement age

In 2020, the Parliament confirmed the increase in the age limit of early retirement age to 66 in 2032 and the old age pension age to 69 in 2035 in accordance with the legislated life expectancy indexation. Given the existing indexation rules, the Danish Parliament will pass a law no later than 2025 to raise the old age pension age to 70 by 2040.

If the retirement age is not indexed according to legislation, but held constant, for instance at 70 years, the generations who retire in the coming years will have a significant increase in the number of years where they are eligible for public pensions compared to earlier generations, *c.f. figure 5.8.* In this scenario, public finances would become unsustainable, and there would be deficits on the budget balance throughout the entire period. To ensure sustainable public finances, fiscal policy would have to be tightened starting from next year, equivalent to an annual effect on the public budget balance of approximately DKK 14 bn. – or around 0.5 per cent of GDP.

Figure 5.7
The indexation of old age pensions with different indexation mechanisms

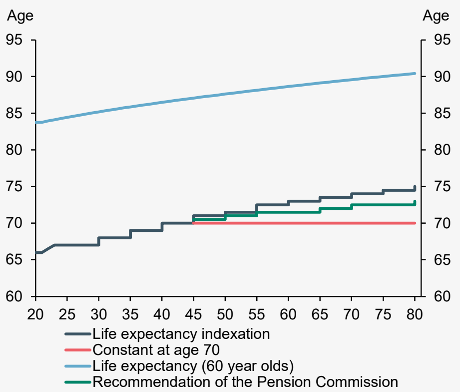
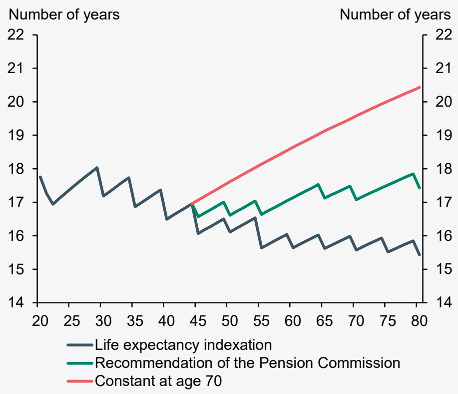


Figure 5.8
Expected life after retirement with different indexation mechanisms



Source: Statistics Denmark and own calculations.

The Pension Commission, which was appointed in 2022, presented its recommendations for a more balanced pension system in May 2022. The recommendation included, among other things, that indexation from 2045 should be based on the development in the remaining life expectancy among individuals at the retirement age instead of the remaining life expectancy for 60-year-olds. Furthermore, the retirement age should only be raised by an impact of 80 percent relative to the life expectancy development. Overall, the Commission's recommendation implies an expected retirement age of 73 years in 2080, given the current life expectancy forecast, instead of 75, *cf. figure 5.7.*

Based on the updated CP23-foundation, the proposal would imply that the sustainability indicator corresponds to approximately 0.7 per cent of GDP (compared to approximately 1.5 per cent of GDP with the current indexation mechanism). Therefore, with the alternative indexation, there is still a prospect of a positive sustainability indicator and long-term budget surpluses, given other technical calculation assumptions.

5.3 The Starting Point for the Long-Term Projections – Key Principles and Assumptions

The starting point for the long-term projection is a medium-term trajectory characterized by a structural balance requirement of -0.5 per cent in 2030 (equivalent to stable or slightly declining public debt as a percentage of GDP).

Beyond 2030, the projection is based on technical principles and assumptions, including Statistics Denmark's and DREAM's demographic projection and The Danish Energy Authority's projection of production and gradual depletion of the Danish oil and gas resources in the North Sea as well as *Climate Status and Outlook 2023*. Based on ambitious political agreements, the *Climate Status and Outlook 2023* indicates a reduction in net emissions towards 2025, *c.f. box 5.2.*

Box 5.2
Climate goals and greenhouse gas emissions

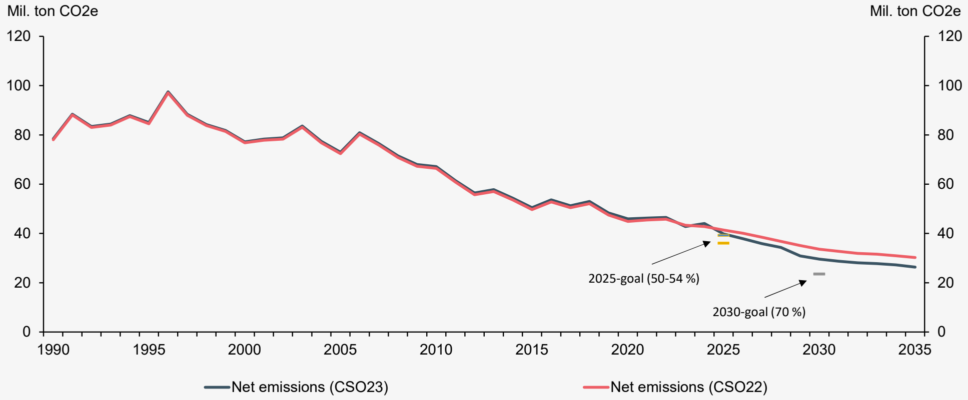
With the Climate Act, a binding target has been set to reduce greenhouse gas emissions by 70 percent in 2030 compared to the 1990-level. According to the Danish Energy Authority's latest *Climate Status and Outlook 2023 (CSO23)*, April 2023, Denmark's greenhouse gas emissions have been reduced by over 45 percent from 1990 to 2023, *c.f. figure A*.

The Danish Energy Authority currently estimates that by 2030, Denmark will have reduced its emissions by approximately 63 percent compared to the 1990 level. Based on the new climate projection, the shortfall towards achieving the target of a 70 percent reduction in 2030 is estimated to be 5.4 million tons of CO_2e. In comparison, the shortfall in the Danish Energy Authority's *Climate Status and Outlook 2022*, from April 2022, was estimated to be around 10 million tons of CO_2e.

The new policy initiatives included in CSO23, comprise measures from the *Agreement on Green Tax Reform for industry etc., the Climate Agreement on green electricity and heating,* as well as the *Agreement on kilometer-based road charges for trucks.* The cut-off date for incorporating policy measures in CSO23 was set for January 1st, 2023. Additionally, several measures could not be included, for examples, because the initiatives were not yet specified in detail.

The remaining reduction shortfall can be achieved by fulfilling the binding reduction target for the agriculture and forestry sectors, where there is a remaining reduction need of 5.1-7.2 million tons of CO_2e by 2030. The government will make the necessary decisions to fully achieve Denmark's reduction targets for both 2025 and 2030. The 70 percent target will be reached, in part, by realizing the reduction goals for the agriculture and forestry sector as agreed upon in the agricultural agreement of 2021, as stated in the government's policy framework. The government will propose a climate tax on agriculture once the Expert Group for a Green Tax Reform has presented their conclusions. The climate tax is intended to ensure the fulfillment of the binding reduction target for the agriculture and forestry sector of 55-65 percent by 2030 compared to 1990.

Figure a
Greenhouse gas emissions



Note: The emissions of greenhouse gases are measured using the methodology outlined by the IPCC indcluding LULUCF.
Source: Statistics Denmark and own calculations.

The objective of the medium-term projection is to assess the long-term prospects for public finances, including whether economic policy can be sustained beyond the planning horizon without an unsustainable and persistent increase in public debt. In the projection, the sustainability indicator remains positive equivalent to approximately 1.5 per cent of GDP, based on assumptions regarding factors such as life expectancy and retirement age.

Sustainability is assessed under the assumption of unchanged tax and duty burdens beyond 2030, as well as technical assumptions regarding public expenditure. For example, per capita consumption expenditures at a given age are projected to follow the general wage development. The various technical calculation assumptions and other factors used in the Ministry of Finance's long-term projections, including the assessment of the fiscal sustainability indicator, are further described in box 5.3.

Box 5.3

Principles for the projection after 2030

The projection principles after 2025 generally reflect an extrapolation of the structures of the economy as they appear in 2030 with the addition of agreed initiatives with a longer time horizon.

- Nominal public consumption expenditures are projected based on an assumption that expenditures per user grow in line with wages, while the number of users of public services evolves in line with the calculated impact of changing demographics, including a correction for healthy aging. Public sector wages grow in line with private wages, and public wage expenditures make up a constant share of public consumption expenditures.
- Social benefit rates are projected in accordance with the current regulation towards 2030, including the effect from *Agreement on New Regulation of the State Pension and the Introduction of Compulsory Savings for the Public Transfer Recipients* (November 2018), where compulsory savings is gradually build up in accordance with the agreement. Beyond 2030, the social benefit rates are presumed to increase in line with wage growth in the private sector, thus assuming that the degree of compensation during unemployment etc. is constant overall.
- From the outset, labour participation rates and the propensities at which various social benefits are received are assumed constant across age, gender and origin. However, the ratios are adjusted to account for the expected effects of changes in education composition as well as the duration of immigrants' stay in Denmark and adopted reforms. This includes the effects of reforms that increase labour supply over time by increasing the retirement age according to the indexation rules of *the Welfare Agreement* (2006) and *the Early Retirement reform* (2011).
- Gross public investment is projected in order to ensure that the growth in the public capital stock (gross and efficiency corrected) equals the increase in a weighted development in gross value added (GVA) in the public and private sector (weight of 70 per cent for public GVA and 30 per cent for private GVA). The private sector share reflects the public investment directed towards infrastructure etc. and thereby supports private sector production.
- Public subsidies and net foreign transfers are constant relative to GDP.
- Besides the effects of adopted tax policy, the tax burden is projected to remain unchanged after 2030, i.e. tax rates in per cent remain constant, while excise duties etc. set in nominal terms are technically assumed to increase in line with price development.
- The total revenue follows the Danish Energy Authority's projection of the Danish car stock towards 2035, hereafter, the revenue is technically assumed to make up a constant share of GDP. The fall towards 2035 must be seen in connection with the larger use of zero emission cars.
- Property taxes are projected in accordance with the rules of the *Agreement on Security Regarding Property Taxation* (May 2017). The projection accounts for the postponement of the property valuation, the agreement *Compensation for Property Owners and Continued Security Regarding Property Taxation* (May 2020) etc
- The revenues from the North Sea activities are based on The Danish Energy Authority's long-term projection of oil and gas production and the effects of *Agreement on the Future of Fossil Extraction in the North Sea* (2020). Long-term oil price assumptions are described in chapter 2 and are based on market expectations as well as IEA's newest projection (Stated Policies Scenario in World Energy Outlook 2022).
- Towards 2030, the projection includes a development in energy consumption, etc., in line with the projection (2022) of The Danish Energy Authority. Beyond 2030, the technical setting of the projection presumes a gradual reduction of the energy intensity in both consumption and production, which reflects the ongoing improvements in energy efficiency.
- A gradual normalization of interest rates is assumed. Thus, the 10-year interest rate on government bonds is assumed to increase to 2.8 per cent in 2030 and further to 4 per cent in 2050, and remaining unchanged thereafter.

For the Convergence Program, an updated projection model has been developed for private pension contributions, payouts and wealth development, *c.f. box 5.4.*

Box 5.4
Principles behind the projection of private pension contributions, payouts and wealth

The Danish Ministry of Finance’s medium-term projections include estimates for contributions to and payouts from pension schemes, as well as the development of pension wealth. These estimates are based on a cohort model that simulates Danes’ pension contributions, payouts and wealth over time, taking into account birth cohorts and gender. The model covers the funded pension schemes, including occupational pension plans and private pension savings, as well as the insurance elements incorporated within these schemes. State pension (Folkepension) and its associated supplementary benefits, as well as civil servants pensions, are projected separately from the pension model.

The model draws on various data sources, with the central ones being the individual-based income registers, pension contributions, payouts, and wealth data provided by Statistics Denmark. Additionally, the model utilizes data from the National Bank of Denmark and the Danish Financial Supervisory Authority to account for corrections related to pension funds’ equity and provisions for risk coverage. The principles underlying the projection of pension contributions, payouts and wealth can be summarized as follows:

- Gender- and age-specific pension contributions are determined based on empirical contribution rates, which constitute a constant proportion of the cohort's income base. The proportion may vary across age groups due to current legislation and is projected considering the development of the retirement age.

- Gender- and age-specific pension payouts are determined based on empirical payout ratios and are projected considering the development of the retirement age. The modeling assumes that fluctuations in pension wealth due to asset revaluations gradually affect payouts, following historical patterns.

- The projection takes into account decided initiatives, including *the Agreement on the establishment of a Green Fund* (2022), from June 2022, which includes measures expected to change the contribution patterns between tax-deductible pension schemes and non-tax-deductible pension schemes.

- It is assumed that cohorts' pension wealth is invested in stocks, bonds, and other assets. In the model, each cohort's portfolio reflects a risk reduction as cohorts approach the retirement age. Younger cohorts, therefore, take on higher investment risks and have higher expected returns compared to cohorts close to or already at the retirement age, who have lower investment risks and more moderate expected returns.

- The pension wealth of cohorts in each scheme is projected based on pension contributions and payouts in a given year, as well as expectations for portfolio returns. A normal return of 4.5 percent per year for the total pension wealth is assumed in the medium-term perspective.

Appendix 5.1 Development in the Structural Budget Balance and Public Debt Compared to the Latest Projection from August 2022

The Convergence Programme 2023 includes an underlying improvement of the structural budget balance in 2030 of around 0.4 per cent of GDP compared to the projection in the 2030-plan, August 2022. This reflects, amongst other things a higher estimated level for the structural employment. On top of this is a range of movements in opposite directions, *cf. Appendix table 5.1*.

Appendix table 5.1
Changes to the structural budget balance and fiscal policy sustainability indicator compared to the latest projection in August 2022

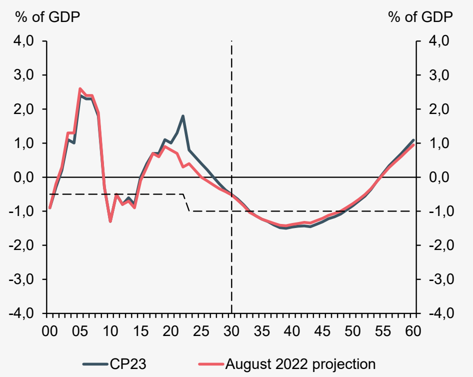
Pct. of GDP	2030	HBI
August 2022	**-0.5**	**1.4**
Changes		
Structural Employment[1)]	0.45	0.45
Structural dividend and capital gains tax on stocks	0.10	0.10
Lower estimate of future property value and land tax revenue[2)]	-0.25	-0.25
Higher net interest rate income and other factors, rounding etc.	0.10	0.10
***Convergence Programme 2023*, before adjustment for target of structural budget of –½ pct. of GDP in 2030**	**-0.1**	**1.8**
Realization through increased fiscal space up to 2030	-0.35	-0.30
Convergence Programme 2023	**-0.5**	**1.5**

Note: Numbers aer rounded to the nearest 0.05 per cent of GDP.
1) he structural employment level has been revised upward by 22,000 persons in 2024, due to higher net immigration and increased employment among resident immigrants, contributing approximately 15,000 persons. Additionally, the employment level is also revised upward due to a reduction in the number og early retirement beneficiaries. The impact of these factors increases towards 2030 based on the updated projection, resulting in an overall upward revision of employment by approximately 30,000 persons in 2030. The revision of structural employment strenghtens the structural balance in 2030.
2) Reflects updated assessment information as well as information on taxable properties etc.
Source: Statistics Denmark, August 2022 projection and own calculations.

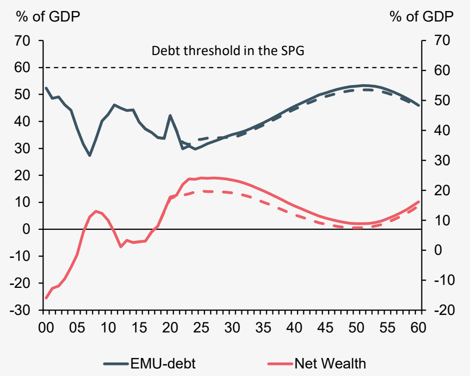
After adjustment of the development in the fiscal space, such that the balance requirement of –½ pct. of GDP is met in 2030, the fiscal policy sustainability indicator is still positive, equivalent to approximately 1.5 per cent of GDP.

The balance development beyond 2030, as well as the development of the EMU debt and the public net wealth in the long term, is approximately unchanged compared to the latest medium-term projection from August 2022, *c.f. appendix figure 5.1 and 5.2.*

Appendix figure 5.1
The hammock-challenge is estimated to be roughly unchanged compared to earlier



Appendix figure 5.2
Net wealth falls from a high level but is roughly unchanged in the long run



Anm.: The dotted lines in appendix figure 5.2 reflects the EMU-debt and net debt in *DK2030,* august 2022.
Source: Statistics Denmark, August 2022 projection and own calculations.

6. Public Finances and Institutional Framework

6.1 Institutional Framework

The economic policy is planned within the framework provided by the Danish Budget Law, the Stability and Growth Pact and the government's medium-term goals and framework for economic policy. The framework specifies concrete objectives for the public finances, focusing on fiscal sustainability and a target for the structural budget balance of -0.5 per cent of GDP by 2030. The objectives are supported by four-year expenditure ceilings, which are determined based on a medium-term projection that adheres to a precautionary principle, incorporating only the effects of reforms and measures that have gained majority support in the Danish Parliament.

The Danish Budget Law of 2012 introduced a structural deficit limit for the structural public balance, thereby fixing the role of the structural balance as a central fiscal policy objective by law. The Budget Law also implements the balance requirement of the Fiscal Compact. Additionally, the Budget Law introduced binding and multiannual expenditure ceilings for central government, municipalities and regions. Continuous evaluations and monitoring are in place to ensure compliance with the expenditure ceilings. Compliance is supported by sanction mechanisms, and budget adherence has strengthened since the introduction of the Budget Law.

As part of the *National compromise on Danish security policy* (March 2022), it was agreed to relax the Budget Law's deficit limit to 1 per cent of GDP, effective from the 1st of July 2022.

The report *Experiences with the Budget Law 2014-2020* (April 2022) summarises the impact of the Budget Law. The analysis show that the implementation of expenditure ceilings at the state-, municipal- and regional level has contributed to enhancing expenditure management without significant adverse consequences. The analysis also demonstrates that easing the deficit limit to 1 per cent of GDP is fully compatible with maintaining responsible fiscal policy, ensuring a stable and low public debt and does not risk Denmark's AAA credit rating.

Key elements of the Danish Budget Law are described in box 6.1.

Box 6.1
Key elements in the Danish Budget Law

- Within the framework of a sustainable fiscal policy, a balance requirement is established for the overall public finances. The structural balance must not exceed an annual deficit corresponding to the deficit limit at the presentation of the budget proposal for a given year, unless there are exceptional circumstances. An automatic correction mechanism is activated in case of significant estimated deviations from the balance requirement.

- Expenditure ceilings support compliance with the overall fiscal policy targets. The ceilings establish binding limits for expenditures in the central government, municipalities and regions. The expenditure ceilings are adopted in the Danish Parliament (Folketinget) and cover a continuous four-year period. Measures to improve financial management and economic sanctions support compliance with the ceilings.

- The Danish Economic Council provides ongoing (annual) assessments of the sustainability of long-term public finances and the medium-term development of the public balance. They also ensure compliance with the expenditure ceilings and their alignment with the medium-term fiscal objectives.

The governance framework of the Budget Law has been partially deviated from in recent years due to extraordinary circumstances related to the outbreak of COVID-19 (2020-22) and the situation in Ukraine (2022). Subsequently, a return to normal expenditure management framework has occurred with the presentation of the budget proposal for 2023.

The key focal points of the Danish overall economic policy – fixed exchange rate policy and stability-oriented fiscal policy – are as follows:

Since 1982, Denmark has pursued a *fixed exchange rate policy*, initially against the German/Deutsche Mark, and since 1999 against the euro. The fixed exchange rate policy solely aims to maintain a stable exchange rate with the euro, while the economic policy contributes to a responsible and stability-oriented approach to ensure credibility in the fixed exchange rate policy.

Expenditure policy supports compliance with the fiscal policy objectives through the establishment of expenditure ceilings for the central government, municipalities and regions, which cover approximately ¾ of total public expenditures. The expenditure ceilings support that public expenditure evolves in accordance with medium-term fiscal objectives.

Fiscal policy is planned with the objective of ensuring that the annual structural deficits do not exceed the deficit limit stipulated by the Budget Law and to achieve the medium-term target of a budget balance of -0.5 per cent of GDP in 2030. Fiscal policy is planned in order to achieve a long-term sustainable development in public finances (i.e. the so-called sustainability indicator must always be at least zero). As stated in the Budget Law, the fiscal policy is subject to a precautionary principle, which implies that planned development of public expenditures can only be based on reforms and initiatives supported by a majority in the Danish Parliament.

The government's approach to *tax policy* is to reduce the overall level of Danish taxes and duties. This is achieved through a tax freeze, meaning that any decision to increase taxes or duties must be offset by corresponding reductions elsewhere, ensuring that the overall tax burden does not increase.

Tobacco and nicotine duties are exempt from this principle. The principle does not apply to business taxation, where the revenue, such as from the forthcoming CO2 tax on agriculture, is returned in full to the respective sectors. Pre-agreed indexation of rates and thresholds, which maintain the real economic impact of individual taxes and duties, is not subject to the tax freeze.

6.2 Reforms and priorities in economic policy towards 2030

The Danish government, formed by the Social Democratic Party (Socialdemokratiet), the Liberal Party of Denmark (Venstre) and The Moderates (Moderaterne) after the 2022 parliamentary election, aims to present an updated 2030-plan later in the year. The plan will include a structural budget target of -0.5 per cent of GDP budget balance by 2030. The government will i.a. prioritise citizen-focused welfare, ensuring that funds keep up with demographic changes, and intends to increase defence expenditures to 2 per cent of GDP by 2030.

The government is committed to responsible economic policy that supports high employment and prosperity, with fiscal policy continuously adjusted to economic developments. In addition, during the election period the government plans to implement measures to increase structural employment by 45,000 full-time persons and secure new funding of DKK 11 bn. by 2030.

The government will implement a tax reform that increases the disposable income of wage earners making it more attractive to participate in the labor market. An allocation of DKK 5 bn. is set aside for the tax reform, including an increase in the employment allowance. At the same time, the top-bracket tax rate is reduced by 7.5 percentage points for incomes (before labor market contributions) up to DKK 750,000, while the top-bracket tax rate is increased by 5 percentage points for incomes (before labor market contributions) over DKK 2.5 million. Overall, the revenue from the top-bracket tax is reduced as a result of this restructuring.

Furthermore, the government aims to reform employment initiatives to reduce expenses by DKK 3 bn. in 2030. This involves phasing out job centres, granting municipalities more autonomy from state processes and prioritising measures that help the unemployed get closer to the labor market.

The government intends to facilitate better access to foreign workers as long as unemployment remains low. The government has therefore made the *agreement on strengthened international recruitment* permanent while also intensifying efforts to combat social dumping. Additionally, a new scheme with lower threshold wage limits for certified companies complying with fair wages and working conditions will be introduced.

To finance increased defense expenditures in the coming years, the government abolished the great prayer day as a public holiday as of 2024.

The government recognizes that wages and working conditions are important for attracting and retaining skilled and dedicated employees in the public sector. Therefore, the government has invited labor market stakeholders (i.e the representatives of employees and employers) to negotiations to allocate an extraordinary DKK 1 bn. in 2024, increasing to DKK 3 bn. in 2030, for wages and working conditions in the public welfare sector. The allocation is financed through the spending cuts in administration expenses for municipalities and regions.

With the aim of strengthening the Danish economy, the government will actively work to reduce the burden on the businesses, present an entrepreneurship strategy and establish a new business support system. Danish positions of strength such as life science, shipping and value-added food products should be supported and developed, while also promoting the establishment of new ones, such as environmental and welfare technology. Denmark's position as a digital pioneer and showcase must be maintained and further developed for the benefit of citizens, businesses, public sector personnel and the country as a whole.

Appendix tables according to EU's Code of Conduct

Table 1a
Macroeconomic prospects

	2022	2022	2023	2024	2025	2026	2027	2028
	Bn. DKK	**Change, per cent**						
Real GDP	2,264	3,8	0.6	1.4	1.1	0.5	0.5	1.2
Nominal GDP	2,798	11.7	-1.4	3.9	3.0	3.0	2.6	3.2
Components of real GDP								
Private consumption expenditure	995	-2.3	0.5	1.3	2.5	2.4	2.3	2.2
Government consumption expenditure[1)]	519	-3.5	0.6	1.8	2.1	1.2	2.0	1.3
Gross fixed capital formation	534	8.6	-6.1	-2.9	-0.1	2.7	0.7	0.5
Changes in inventories [2)]	38	0.8	-0.8	0.3	-0.1	-0.0	-0.1	0.1
Exports of goods and services	1,395	8.6	3.1	3.7	2.2	2.6	1.5	2.5
Imports of goods and services	1,218	4.2	-0.5	2.8	3.2	5.3	3.4	3.3
Contributions to real GDP growth		**Percentage points**						
Final domestic demand	2	0.1	-1.1	0.3	1.6	2.0	1.7	1.5
Changes in inventories	18	0.8	-0.8	0.3	-0.1	-0.0	-0.1	0.0
External balance of goods and services	64	2.9	2.5	0.8	-0.4	-1.5	-1.2	-0.4

1) Government consumption in table 1a is including depreciation. Public consumption growth in 2022 is calculated using the output method. Calculated using the input method, including depreciation, public consumption growth is -3.5 per cent in 2022. The estimated growth in public consumption from 2023 onwards is assumed to be the same for the input and output methods.
2) Contribution to GDP growth.
Source: Statistics Denmark and own calculations.

Table 1b
Price developments

	2022	2022	2023	2024	2025	2026	2027	2028
	Level	Rate of change, per cent						
GDP- deflator	123.6	7.6	-1.9	2.5	1.9	2.5	2.1	2.0
Privat consumption deflator	120.4	7.4	4.3	3.0	2.4	2.2	2.0	1.9
Consumer price index	121.7	7.7	4.3	3.0	2.5	2.3	2.0	1.9
HICP	120.9	8.4	4.3	3.0	2.2	2.0	1.7	1.6
Net price index	121.3	7.7	6.1	2.7	2.2	2.2	2.0	1.9
Public consumption deflator	118.5	4.8	3.2	3.6	3.2	3.4	3.0	2.5
Investment deflator	122.0	6.0	4.4	2.3	-0.1	2.2	1.9	1.8
Export price deflator	139.0	19.5	-6.8	2.0	1.4	1.9	1.7	1.8
Import price deflator	134.8	19.8	1.1	2.7	1.5	1.8	1.8	1.9

Note: For all price indices, 2010=100.
Source: Statistics Denmark and own calculations.

Table 1c
Labour market development

	2022	2022	2023	2024	2025	2026	2027	2028
		Rate of change, per cent						
Employment, (1,000 persons)	3,164	3.9	0.0	-0.7	-0.5	-0.4	-0.5	0.2
Employment, hours worked (mill. hours)	4,339	4.5	-0.6	-0.7	-0.4	-0.5	-0.4	0.2
		Pct.						
Unemployment rate (per cent) harmonized EU-definition 1)		4.5	5.6	6.0	6.2	6.6	7.0	7.0
		Rate of change, per cent						
Labour productivity, persons (DKK 1,000) 2)	620	0.8	0.6	2.2	1.5	0.9	1.1	1.2
Labour productivity, hours worked (DKK) 2)	452	0.2	1.3	2.2	1.4	1.0	1.0	1.1
Compensation of employees (DKK bn.) 3)	1,373	7.2	3.2	4.3	3.2	3.2	2.9	3.4
Compensation per employee 4)	475	2.4	3.1	5.1	3.8	3.7	3.4	3.2

1) The number corresponds to the EU-harmonized unemployment in per cent of the labour force. The data is based on Statistics Denmark's Labour Force Survey (AKU).
2) Productivity is measured as GVA.
3) Based on current price, i.e. growth rates are in nominal terms
4) Calculated as compensation per employed wage earner.
Source: Statistics Denmark and own calculations.

Table 1d
Sectoral balances

	2022	2023	2024	2025	2026	2027	2028
				Per cent of GDP			
Net lending/borrowing vis-a-vis the rest of the world	13.1	8.4	8.5	9.0	7.2	6.1	5.2
Of which:							
- Balance of goods and services	10.6	7.7	7.9	7.3	5.9	4.6	4.0
- Balance of primary income and transfers	2.5	0.8	0.6	1.8	1.4	1.6	1.2
- Capital accounts	-0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Net lending/borrowing of the private sector	10.0	6.8	8.2	8.8	7.6	6.2	5.6
Net lending/borrowing of general government	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2
Statistical discrepancy	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Statistics Denmark and own calculations.

Table 2a
General government budgetary prospects

	2022	2022	2023	2024	2025	2026	2027	2028
	Bn. DKK	Per cent of GDP						
Net lending by sub-sector								
General government	93.0	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2
Central government	92.4	3.3	1.7	0.4	0.4	-0.2	0.1	-0.2
Local government	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Social security funds	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.0
General government								
Total revenue	1,332	47.6	48.5	47.6	48.0	48.4	49.4	49.4
Total expenditure	1,239	44.3	46.6	47.0	47.7	48.6	49.3	49.7
Net lending/borrowing	93.0	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2
Interest expenditures	20.6	0.7	0.5	0.5	0.5	0.5	0.5	0.5
Primary balance[1)]	113.6	4.1	2.4	1.1	0.9	0.3	0.5	0.3
One-off and other temporary measures [2)]	-26.1	-0.9	-0.9	-1.3	-0.8	-0.8	0.0	0.0
Selected components of revenue								
Total taxes[3)]	1,188	42.5	43.3	42.7	42.9	43.2	44.1	44.1
Taxes on production and imports	404	14.4	14.9	14.5	14.7	14.8	14.9	15.0
Current taxes on income and wealth ect.	775	27.7	28.2	28.0	27.9	28.1	29.0	28.9
Capital taxes	7.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Social contributions[4)]	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property income.[5)]	31.9	1.1	1.3	1.3	1.1	1.1	1.1	1.1
Other(residual)[6)]	112.0	4.0	3.8	3.6	4.0	4.1	4.2	4.2
Total revenue	1,332	47.6	48.5	47.6	48.0	48.4	49.4	49.4
p.m.: Tax burden[7)]	1,193	42.6	43.5	42.8	43.1	43.4	44.3	44.3
Selected components of expenditure								
Compensation of employees and inter-mediate consumption	607	21.7	22.9	23.2	23.5	23.9	24.5	24.6
- Compensation of employees	384	13.7	14.3	14.4	14.5	14.8	15.1	15.2

Table 2a
General government budgetary prospects

	2022	2022	2023	2024	2025	2026	2027	2028
	Bn. DKK	Per cent of GDP						
- Intermediate consumption	223	8.0	8.6	8.8	9.0	9.1	9.3	9.4
Total social transfers	421	15.1	16.0	16.1	16.4	16.8	17.1	17.2
- Social transfers in kind[6)]	34.1	1.2	1.3	1.3	1.3	1.3	1.3	1.3
- Social transfers other than in kind	393	14.1	14.9	15.0	15.3	15.7	15.9	16.0
Interest expenditure	20.6	0,7	0,5	0,5	0,5	0,5	0,5	0,5
Subsidies	39.5	1.4	1.4	1.4	1.3	1.3	1.3	1.3
Gross fixed capital formation	82.3	2.9	3.4	3.4	3.4	3.5	3.6	3.5
Capital transfers	16.8	0.6	0.8	0.7	0.4	0.4	0.4	0.4
Other (residual)[6)]	45.7	1.6	1.5	1.6	1.9	2.0	1.8	1.9
Total expenditure	1,239	44.3	46.6	47.0	47.7	48.6	49.3	49.7
p.m.: Public consumption (nominal)	615	22.0	23.2	23.5	24.0	24.4	25.0	25.2

1) Defined as the EDP-definition of net lending plus the EDP-definition of interest expenditures.
2) Based on the calculation of the structural budget balance and includes temporary variations in revenues from pension yield taxation, North Sea activities, net interest, corporate taxes and other special items.
3) Defined as the sum of taxes on production and imports, current taxes on income, wealth, etc. and capital taxes. Does not include compulsory social contributions, which are traditionally included in the tax burden.
4) Does not include voluntary and imputed social contributions, since these are not included in the tax burden .
5) Includes interest income and dividends and land rent etc .
6) Statistic Denmark does not publish figures for all the subgroups (P.11+P.12+P.131+D.39+D.7+ D.9 (other than D.91), D.6311, D.63121, D.63131, D.29+D.4 (other than D.41) +D.5+D.7+D.9+P.52+ P.53+K.2+D.8), and no estimates are available for these individual components in the projections.
7) Defined as the sum of taxes on production and imports (incl. those collected by the EU), current taxes on income, wealth etc. and capital taxes and compulsory social contributions.

Source: Statistics Denmark and own calculations.

Table 2b
No-policy change projections

	2022	2022	2023	2024	2025	2026	2027	2028
	Bn. DKK	Per cent of GDP						
Total revenue at unchanged policies	1,332	47.6	48.4	48	48.4	48.7	49.7	49.8
Total expenditure at un-changed policies	1,239	44.3	46.9	47.5	48.1	48.5	49.1	49.2

Source: Statistics Denmark and own calculations.

Table 2c
Amounts to be excluded from the expenditure benchmark

	2022	2022	2023	2024	2025	2026	2027	2028
	Bn. DKK	Per cent of GDP						
Expenditure on EU programmes fully matched by EU funds revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Of which: investment fully matched by revenue from EU funds	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cyclical unemployment benefit expenditure	14.5	0.5	0.6	0.7	0.7	0.7	0.8	0
Effect of discretionary revenue measures	-2.1	-0.1	0.1	-0.5	0.1	0	0	0
Revenue increases mandated by law	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note.: The cyclical unemployment benefit expenditure consists of the cost of unemployment benefits and social assistance for unemployed (both excluded the cost of people in activation programmes).
Source: Statistics Denmark and own calculations.

Table 3
General government expenditure by function

	COFOG	2021	2026
		Per cent of GDP	
General public service	1	6	
Defence	2	1.2	
Public order and safety	3	1	
Economic affairs	4	4.1	
Environmental protection	5	0.4	
Housing and community amenities	6	0.1	
Health	7	9.2	
Recreation, culture and religion	8	1.6	
Education	9	6	
Social protection	10	21.1	
Total expenditures[1)]	TE	50.8	48.6

Note: Short-term and longer-term projections do not include general government expenditures by function. The focus of both short-term and longer-term projections is public expenditures by type of transaction

1) The estimate for the total expenditure-to-GDP ratio in Statistics Denmark's calculation deviates from the estimate in table 2a due to definitional differences in the approach of calculation (table 2a includes depreciations in public consumption, which is not the case in Statistics Denmark's approach).

Source: Statistics Denmark and own calculations.

Table 4
General government debt developments

	2022	2023	2024	2025	2026	2027	2028
				Per cent of GDP			
Gross debt	29.8	30.9	29.7	30.6	31.7	32.5	33.4
Change in gross debt ratio[1)]	-6.8	1.1	-1.2	0.9	1.1	0.8	0.9
Change in gross debt[2)]	-2.9	0.7	0.0	1.7	2.0	1.6	1.9
Contributions to change in gross debt							
Primary balance[3)]	-4.1	-2.4	-1.1	-0.9	-0.3	-0.5	-0.3
Interest expenditure[4)]	0.7	0.5	0.5	0.5	0.5	0.5	0.5
Other factors (residuals)[5)]	0.4	2.5	0.5	2.1	1.8	1.7	1.6
p.m. implicit interest rate on debt[6)]	2.3	1.7	1.7	1.7	1.6	1.6	1.7
Other relevant variable							
Central government account in Danmarks Nationalbank	6.0	5.8	6.2	6.9	6.1	5.4	5.3
Public net debt	-16.6	-18.7	-18.5	-19.0	-18.9	-19.0	-18.9
Net debt in central and local governments	-16.5	-18.4	-18.1	-18.6	-18.5	-18.7	-18.6

1) Change in gross debt ratio is defined as Dt/GDPt – Dt-1/GDPt-1, where D is public debt measured in nominal terms (DKK).
2) Change in gross debt is defined as Dt/GDPt – Dt-1/GDPt, where D is public debt measured in nominal terms (DKK).
3) As defined in table 2a.
4) As defined in table 2a.
5) At present information is not available to split stock-flow adjustment into subgroups.
6) Proxied by interest expenditures divided by the debt level of the previous year.
7) In the estimate of the public net debt and the net debt in central and local governments, the central governments deposit in Danmarks Nationalbank together with the central governments additional assets are subtracted.

Source : Statistics Denmark and own calculations.

Table 5
Cyclical developments

	2022	2023	2024	2025	2026	2027	2028
Real GDP growth	3.8	0.6	1.4	1.1	0.5	0.5	1.2
				Per cent of GDP			
Net Lending of general government	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2
Interest expenditure[1)]	0.7	0.5	0.5	0.5	0.5	0.5	0.5
One-off effects	-0.9	-0.9	-1.3	-0.8	-0.8	0.0	0.0
- Of which, revenue	2.9	-0.4	-0.7	-0.8	-0.6	0.0	0.0
- Of which, expenditure	-2.3	-0.9	-0.8	0.0	-0.1	0.0	0.0
				Per cent			
Potential GDP growth[2)]	3.0	1.7	2.2	1.5	0.9	0.9	1.2
				Percentage points			
Of which, contributions from:							
- Labour	1.3	0.3	0.1	0.1	0.1	0.1	0.1
- Capital	1.0	0.7	0.6	0.5	0.6	0.5	0.5
- Total factor productivity	0.7	0.7	1.5	0.9	0.2	0.2	0.6
				Per cent of GDP			
Output gap	3.1	2.0	1.2	0.8	0.4	0.0	0.0
Cyclical components[3)]	2.4	1.9	1.2	0.8	0.4	0.0	0.0
Structural balance[4)]	1.8	0.8	0.6	0.4	0.2	0.0	-0.2
Primary structural balance[4)]	1.3	0.3	0.1	-0.2	-0.3	-0.4	-0.7

1) As defined in table 2a.
2) Including a contribution from indirect taxes.
3) The calculation of the cyclical component is based on both the output gap and the employment gap.
4) The structural budget balance is not calculated on EDP-basis. The calculations of structural budget balance are based on public finances according to national account principles. The primary structural budget balance is based on an actual primary balance defined via net interest expenditures and not gross interest expenditures.

Source: Statistics Denmark and own calculations.

Table 6
Divergence from previous update

	2022	2023	2024	2025	2026	2027	2028
			Rate of change, per cent				
Real GDP growth							
Previous update	2.8	0.8	0.9	0.7	0.6	0.8	0.9
Current update	3.8	0.6	1.4	1.1	0.5	0.5	1.2
Difference	1.0	-0.2	0.5	0.4	-0.1	-0.3	0.3
			Per cent of GDP				
Output gab (per cent of GVA)							
Previous update	3.1	2.0	1.5	1.0	0.5	0.0	0.0
Current update	3.1	2.0	1.2	0.8	0.4	0.0	0.0
Difference	0.0	0.0	-0.3	-0.2	-0.1	0.0	0.0
General government net lending							
Previous update	1.2	0.8	0.5	0.1	-0.5	-0.2	-0.3
Current update	3.3	1.9	0.6	0.4	-0.2	0.0	-0.2
Difference	2.2	1.1	0.1	0.2	0.2	0.3	0.1
General government gross debt							
Previous update	32.2	31.4	33.1	33.3	33.8	33.9	33.9
Current update	29.8	30.9	29.7	30.6	31.7	32.5	33.4
Difference	-2.4	-0.4	-3.4	-2.7	-2.1	-1.3	-0.5

Source: Own calculations.

Table 7
Long-term sustainability of public finances

	2007	2010	2020	2030	2040	2050	2060
				Per cent of GDP			
Total expenditure	48.9	55.5	52.5	50.0	51.8	51.6	49.3
Of which:							
Age-related expenditure	26.5	30.0	28.2	28.4	29.0	28.1	26.5
Pension expenditure	9.1	10.0	9.7	9.3	9.1	8.3	7.1
- Old-age and early pensions	7.1	7.8	7.9	7.4	7.2	6.3	5.0
- Other pensions (disability, survivors)	2.0	2.2	1.9	1.9	2.0	2.1	2.1
Health care	5.6	6.3	6.2	5.8	6.1	6.0	5.8
Expenditure on care for the elderly	2.7	3.0	3.0	3.1	3.6	3.9	4.1
Education expenditure	4.8	5.5	5.1	4.3	4.5	4.5	4.3
Other age-related expenditures	4.4	5.2	4.2	5.9	5.7	5.4	5.2
Interest expenditure	1.6	1.9	0.6	0.6	1.3	2.2	2.0
Total revenue	53.9	52.8	52.7	49.5	50.3	50.8	50.4
Of which:							
Property income[1)]	2.4	2.4	0.9	1.0	1.3	1.7	1.7
- From pensions contributions	-1.3	-0.9	-0.6	-0.2	0	0.2	0.2
Pension reserve fund assets	124.2	139.3	193.4	194.0	215.1	224.8	226.6
Of which:							
Public pension fund assets	0.1	0.0	0.1	0.3	0.1	-0.1	-0.2
				Per cent			
Antagelser							
Labour productivity growth	-1.7	4.3	-1.5	1.1	0.9	1.0	1.0
Real GDP growth[2)]	0.9	1.9	-2.0	1.2	1.3	1.5	1.4
Participation rate, males (aged 20-64)	82.9	80.1	81.3	81.5	82.2	82.3	82.5
Participation rate, females (aged 20-64)	73.9	72.6	74.3	74.7	75.4	75.9	75.9
Total participation rate (aged 20-64)	78.5	76.4	77.8	78.1	78.8	79.2	79.2
Unemployment rate[3)]	3.5	5.8	4.4	3.6	3.6	3.6	3.6

Structural unemployment[3)]	4.9	4.6	4.1	3.6	3.6	3.6	3.6
Population aged 65+, over total population	15.4	16.5	20.0	22.7	24.8	24.5	24.9

1) Includes public revenues from interest income and dividends.
2) In some years after 2025 GDP growth is effected by the regulation of early- and old age person ages in line with longevity.
3) Registered gross unemployment (including people in activation programmes).
Source: Statistics Denmark and own calculations.

Table 7a
Contingent liabilities

	2021	2022
	Per cent of GDP	
Public garantees	13.9	12.4
- af hvilke: linked to the financial sector	1.1	1.0

Note: Does not include deposit guarantees. Public guarantees consists of "statsforskrivninger", guarantees concerning loans and other guarantees. Guarantees linked to the financial sector consists of the Financial Stability Company.
Source: Government accounts for the fiscal year 2022.

Table 8
Basic assumptions

	2022	2023	2024	2025	2026	2027	2028
Short term interest rate (annual average)	0.6	3.4	3.3	2.4	2.4	2.4	2.4
Long term interest rate (annual average)	1.5	2.5	2.5	2.5	2.6	2.6	2.7
USD/EUR exchange rate (annual average)	105.1	107.5	108.6	110.2	111.9	113.6	115.4
Nominal effective exchange rate (1980=100)	101.9	103.7	104.1	104.1	104.1	104.1	104.1
World excluding EU, GDP growth[1)]	3.4	3.2	3.3	3.3	3.4	3.3	3.3
EU GDP growth[1)]	3.7	0.8	1.6	2.2	2	1.8	1.7
Growth of relevant foreign markets[1) 2)]	7.3	1.9	2.5	3	3.1	3	3
World import volumes, excluding EU[1) 3)]	4.3	2.2	3.7	3.6	3.7	3.7	3.5
Oil prices (Brent), USD per barrel	100.8	81.7	80.4	80.0	80.0	80.3	80.9

1) Based on IMF World Economic Outlook April 2022.
2) Calculated as a weighted average of the import growth of Denmark's 36 most important trading partners, where the weights reflect the country's importance for Danish industrial exports in 2021.
3) Import growth in the world excluding the EU is based on IMF estimates for world and euro area import growth. Euro area import growth is used as a proxy for total EU import growth. It is assumed that import growth in the EU is included with a weight of 31.6 per cent, which is based on the latest full forecast of the European Commission, European Economic Forecast, Autumn 2022.

Source: Statistics Denmark, EU Commission Autumn Forecast November 2022, IMF World Economic Outlook April 2022, OECD Economic Outlook October 2022, Macrobond, Nordea Markets and own calculations.

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