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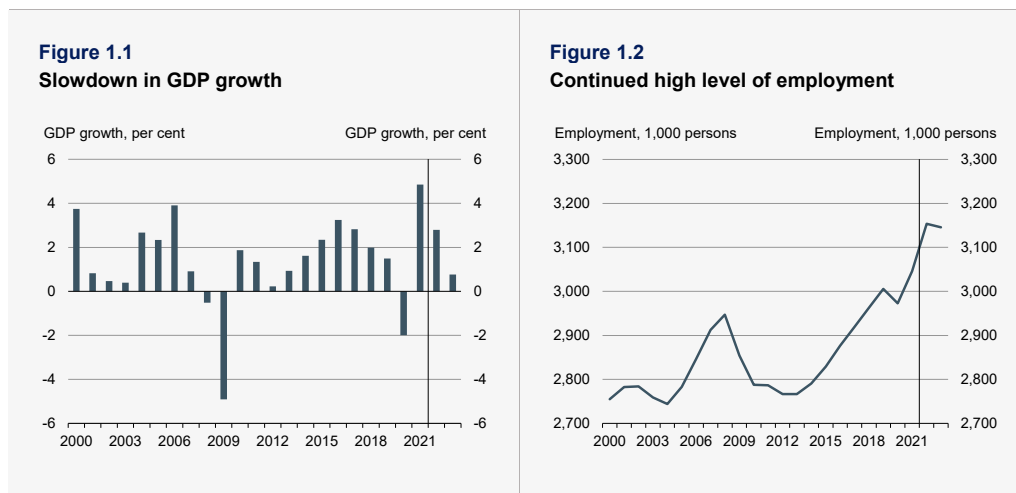
1. Summary

1.1 The current economic outlook

It is increasingly clear that the war in Ukraine and its consequences entail great costs for the global economy. The international economic consequences are becoming increasingly more widespread, and the recovery has lost momentum in many countries after rapid growth in the wake of the pandemic. Inflation has continued to increase across countries, and expectations for economic growth have generally become more subdued.

In Denmark, there are also signs of a slowdown in economic growth, but activity remains at a high level. Employment has continued to rise in recent months, and there are significant capacity pressures in the labour market. The increase in employment underscores the fact that the Danish economy has emerged quite well from the corona pandemic, and the high level of employment means that the Danish economy has good prerequisites to withstand a period of more limited growth. At the same time, good competitiveness for businesses, continued productivity growth and large savings by households provide a relatively robust basis, such that the growth pause may be temporary. However, the large price increases pose a challenge for many households.

GDP is projected to grow by 2.8 per cent in 2022 and 0.8 per cent in 2023, *cf. figure 1.1*. GDP is expected to decline slightly during the second half of 2022. Thus, the projected growth rate for 2022 is due to an increase in activity that has occurred. The expected development in GDP means that employment is set to fall slightly back in 2023 to a level of around 3,150,000 persons, *cf. figure 1.2*.



Source: Statistics Denmark and own calculations.

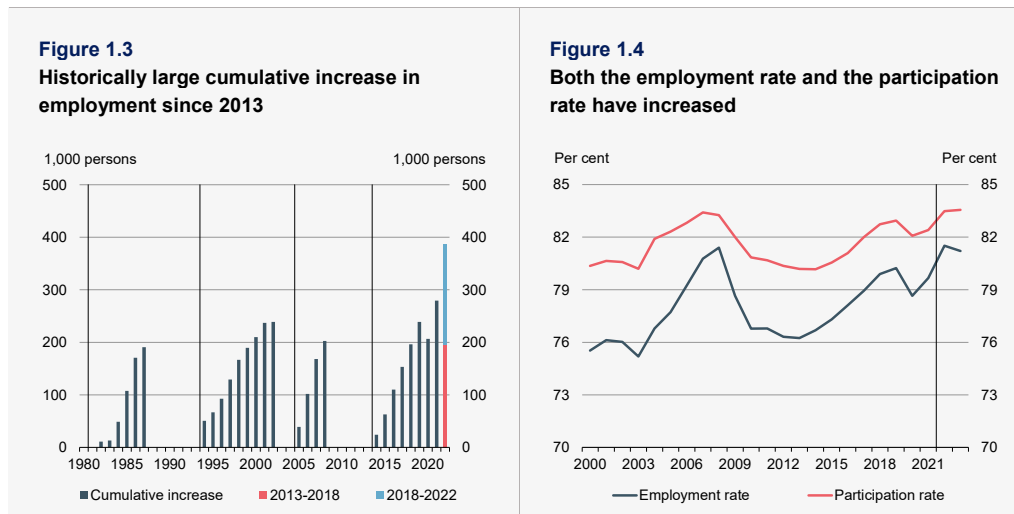
However, the level of activity and employment in Denmark is still expected to be high, and fiscal policy is set to be tighter, in order to contribute to dampen the pressure on the labour market. In addition

to fiscal policy tightening, a number of reforms and initiatives have also been adopted to help alleviate the labour shortage in the coming years, including the reform package *Faster jobs, a stronger labour market, investments in the future and innovative businesses* (January 2022) and *Agreement on strengthened international recruitment* (June 2022).

The forecast is subject to great uncertainty. In particular, there is a risk that the Danish economy could suffer a major drop in activity in the event of a halt to gas supplies to the EU from Russia. Also new, serious disruptions to global supply chains as a result of the pandemic in parts of the world where the immunity is smaller than in advanced economies could dent growth. Furthermore, in the forecast, it is assumed that a harmful price-wage spiral will not occur, where price and wage increases mutually reinforce each other. If Danish wages rise more than expected and more forcefully than abroad, Danish businesses' competitiveness could deteriorate drastically, which would impair the development of private employment.

Tight labour market

Before the corona pandemic, the Danish economy was in an economic boom after a large increase in employment since the turnaround in the labour market in 2013. During the pandemic, employment fell during phases with a decline in economic activity due to waves of infection, restrictions and shut-downs at home and abroad. Employment quickly recovered, thanks to, among other things, businesses' adaptability and economic policy efforts. Thus, by the spring of 2021, employment was already back at its previous level. Employment has continued to soar, and in total employment has grown by almost 400,000 persons since 2013. The increase is remarkable compared to other historical episodes with growth in employment, cf. figure 1.3.



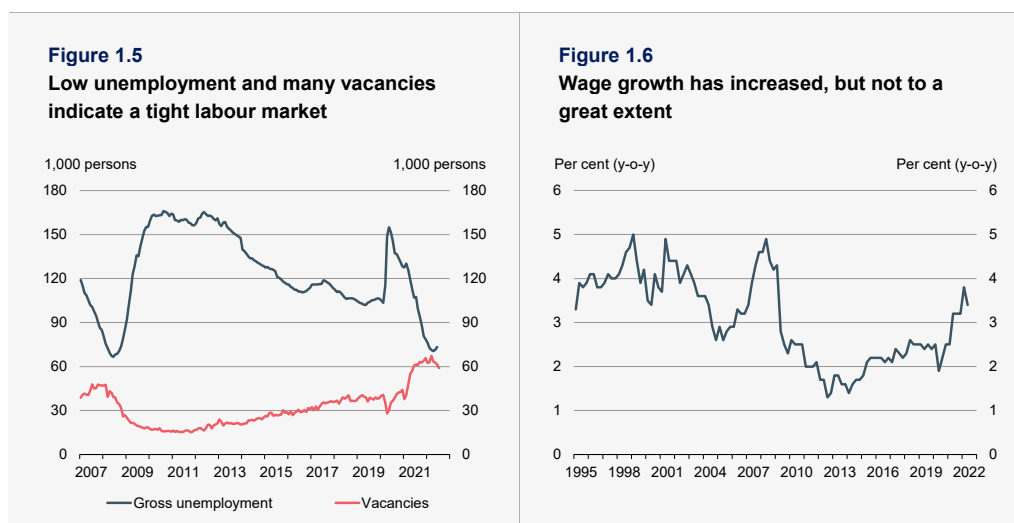
Note: Figure 1.3 shows the total increase in employment since employment started to rise (marked with a vertical line). The figure for 2022 includes the expected increase in employment from 2021 to 2022. In figure 1.4, the employment rate is calculated as total employment incl. leave in relation to the population between the ages of 15 and the national pension age. The participation rate is calculated as the workforce incl. leave in relation to the population between the ages of 15 and the national pension age.

Source: Statistics Denmark and own calculations.

The employment gains since 2013 should be seen in light of the decline in employment during the financial crisis. Employment fell by 150,000 persons, to a level below the estimated structural level. However, even when considering this, employment growth in recent years has been extraordinary and is due to, among other things, a number of reforms and influx of foreign labour, which has led to an expansion of the labour force.

Employment has increased by 175,000 persons from the 1st quarter of 2021 to the 1st quarter of 2022 alone. This increase is also reflected in the fact that both the participation rate and the employment rate are at their highest level since the boom in 2005-2007, *cf. figure 1.4*.

The rise in employment has also led to unemployment falling to below 75,000 persons. This is almost as low as in 2008, when unemployment bottomed out after the economic boom in the period 2005-2007, *cf. figure 1.5*. Unemployment has increased slightly in recent months (May and June). However, the increase must be seen in the context of the arrival of persons displaced from Ukraine, who are assessed as job-ready and receive self-support, repatriation and transition benefits due to the special act of Parliament. Thus, the recent increase in unemployment is not in itself a sign of a turnaround in the labour market. The low unemployment rate means that it has become more difficult for businesses to recruit the necessary employees. The number of vacancies has increased significantly since the start of 2021, and according to Jobnet.dk, in July 2022 there were just under 60,000 vacancies across the country. However, in recent months, the number of vacant and newly advertised positions has fallen slightly.



Note: Own seasonal adjustment is applied to the series for vacancies in figure 1.5. In figure 1.6, the wage growth is calculated incl. inconvenience allowance.

Source: Statistics Denmark, Confederation of Danish Employers and own calculations.

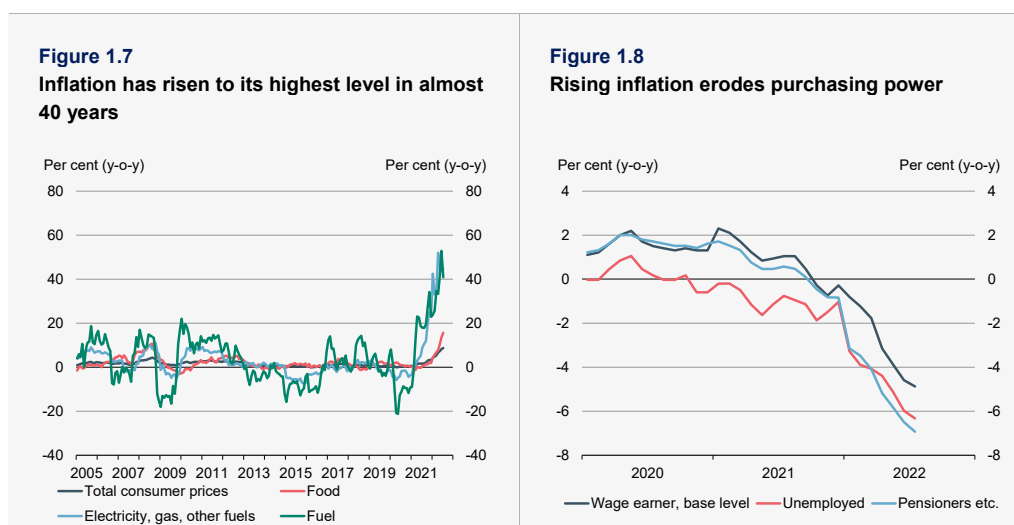
Despite a very tight labour market, there are currently no signs of high and accelerating wage growth that could lead to a sharp deterioration in competitiveness. Wages have risen most in the cyclically sensitive construction industries, but the rate of wage increases in these industries has been unchanged in the past three quarters, while there was a slight moderation in the annual growth rate of wages for the economy as a whole in the second quarter, *cf. figure 1.6*.

The experience from previous periods with capacity pressure in the labour market is that relatively large wage increases can occur quickly, albeit typically with a certain delay in relation to unemployment developments. The current high level of inflation could also entail wage pressure in response to the reduced purchasing power, which increases the risk of a harmful price-wage spiral, where price and wage increases mutually reinforce each other. However, the more muted growth prospects pull in the opposite direction, and a harmful price-wage spiral is not expected in the forecast.

Good starting point to withstand pressure, but noticeable consequences for the Danish economy from higher inflation

The Danish economy has a good starting point to withstand economic challenges. Households have collectively been saving up for a number of years and have built up an extra buffer during the corona pandemic when consumption options were more limited. Thus, many households have a good opportunity to maintain or increase consumption. At the same time, businesses are generally strong and international competitiveness is good, although some businesses are still feeling the effects of the pandemic. Furthermore, public finances are healthy and public debt is low.

Nevertheless, like other countries, the Danish economy is affected by the currently high inflation and expectations for growth are more subdued, especially as a result of the war in Ukraine. Inflation has increased by more than expected and is mainly driven by rising energy prices and a large increase in the price of food, *cf. figure 1.7*. The extraordinarily large increase in energy prices reflects, among other things, that the price of natural gas has roughly doubled in the past year, while the prices of electricity and fuel have increased by roughly 50 per cent compared to a year ago.



Note: Figure 1.8 shows the annual difference between increases in wages and rates and increases in consumer spending.

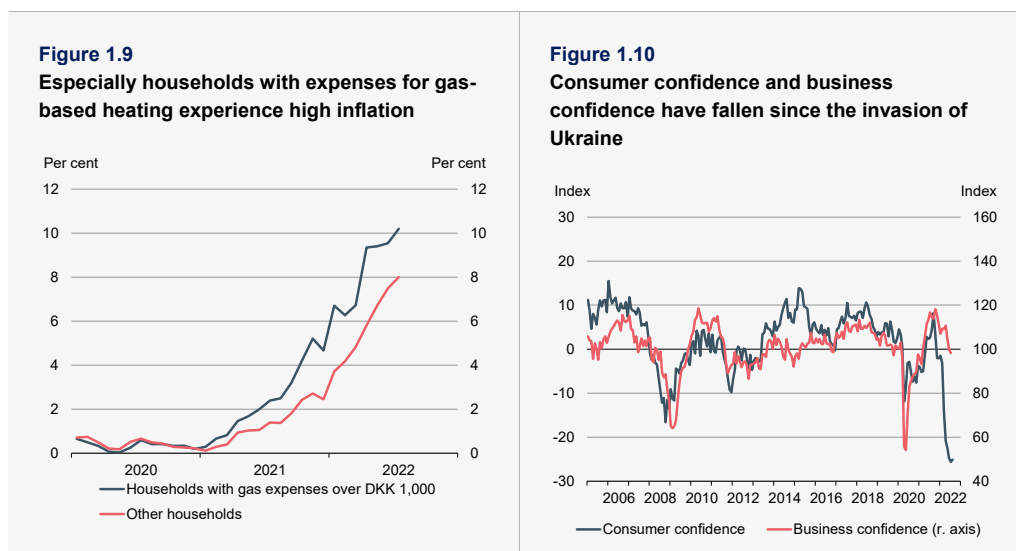
Source: Statistics Denmark and own calculations.

As a result of increased production costs and higher freight expenses, price increases are also seen for other goods. Thereby inflation has become more broadly based and can be expected to remain at a relatively high level for some time into 2023. Price increases on other goods typically come with little

delay in relation to energy price increases. Businesses will usually hold off on raising their prices for competitive reasons. At the same time, the delayed price reaction may be due to existing contracts. Among other things, the net price index is often used by private and public businesses to regulate contracts and to regulate rent contracts.

However, the recent increasing prices for goods and services other than energy show that businesses are increasingly adjusting their sales prices to the higher costs. However, many businesses still expect price increases in the coming months, just as there are fixed-price contracts that have not expired.

The rising inflation erodes households' purchasing power. The fall in purchasing power is most pronounced for recipients of transfer income, due to a relatively low rate adjustment in 2022, *cf. figure 1.8*. The rate adjustment follows the wage development on the labour market two years prior and will be higher in 2023 than in 2022. In addition, households are affected differently by price increases depending on the composition of their consumption. For example, households with expenses for gas-based heating experience higher rates of price increases than other households, *cf. figure 1.9*. In order to mitigate the consequences, a heating check for approx. 400,000 households was disbursed in the beginning of August, while public pensioners who receive an old-age check will receive a tax-free amount of DKK 5,000 in total, half of which will be paid out this year and the remaining part next year.



Note: Figure 1.9 shows the annual rate of price increases for households with and without expenses on natural gas. In figure 1.10, values for consumer confidence above 0 and business confidence above 100 indicate expectations of improvement.

Source: Statistics Denmark and own calculations.

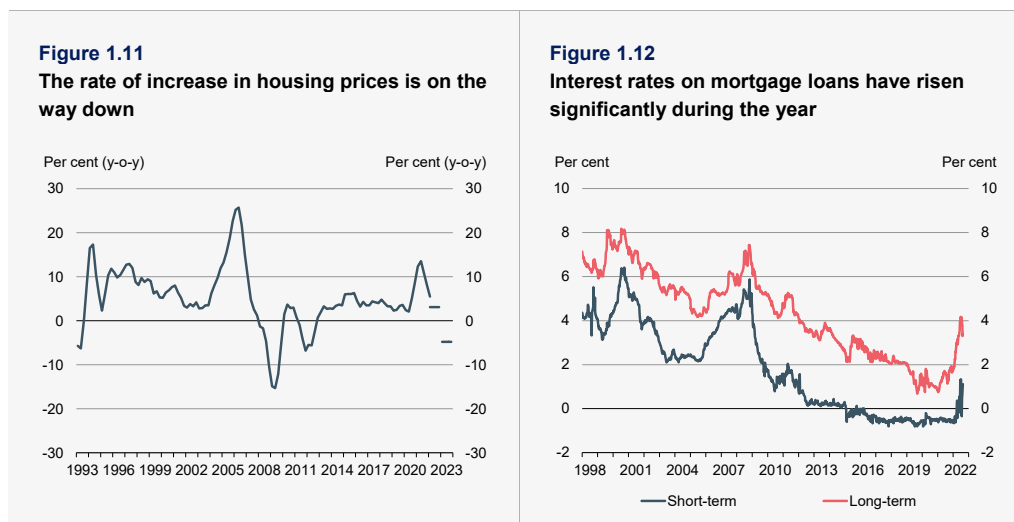
Against the background of the high inflation and more broadly based price increases, the government has decided to set up an inflation committee to look at the challenges posed by inflation and come up with suggestions on how the consequences can be mitigated without further pushing up inflation.

High inflation has contributed to consumer confidence sinking to a historic low, and households have become more reluctant to spend, *cf. figure 1.10*. Thus, private consumption, when adjusted for inflation, already declined relatively much in the 1st quarter of 2022. At the same time, the winter corona wave and supply problems in the car industry had a negative impact on consumption. The fall in consumer confidence in recent months indicates that consumption has continued to be subdued. Data from transactions with payment cards, adjusted for inflation, gives a similar impression.

While consumer confidence reacted quickly and strongly at the start of the year, business confidence has only declined more gradually in recent months. This mainly reflects falling expectations in retail trade and the cyclically sensitive construction industries. Despite the fall, expectations in the manufacturing industry are still at level which is similar to the level of expectations prior to the corona pandemic, and manufacturing production has been increasing in the first half of 2022 despite the uncertainties as a result of the Russian invasion of Ukraine as well as rising raw material prices and supply difficulties.

However, the fall in expectations for economic growth may be a harbinger that production will fall, due to lower demand, including from abroad, where the outlook has been adjusted downwards. This applies, among other things, to Germany, which has not yet reached the prepandemic level of activity, and there is a risk that a possible stop in supply of Russian natural gas will hit the German economy hard. The relatively weak starting point for the German economy is underlined by the fact that GDP in the second quarter of 2022 was 0.2 per cent below the level in the 4th quarter of 2019 before the outbreak of the corona pandemic. In comparison, in the same period, the United States has had an increase in GDP of 2.5 per cent, while the Danish economy stands out with cumulative growth of 6.2 per cent since the 4th quarter of 2019.

A turnaround is taking place in the Danish housing market. The number of homes for sale has been increasing over the past six months, and there has been a moderation in the rate of increases in house prices, which in large parts of 2021 exceeded 10 per cent, *cf. figure 1.11*. The development in house prices is amplified by the marked increase in mortgage interest rates, which reflects, among other things, already implemented or expected monetary policy tightening, which is intended to curb inflation. For example, the main interest rate on fixed rate mortgages has risen from just under 2 per cent at the turn of the year to approx. 4 per cent at the beginning of August, *cf. figure 1.12*. In the forecast, interest rates are expected to rise from 2022 to 2023, but compared to inflation, interest rates are expected to remain low in 2023.



Note: In figure 1.11, estimated housing price increase rates for 2022 and 2023 are indicated by a horizontal line. In figure 1.12, 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 are used as bonds, which lie behind the provision of adjustable-rate loans (the short-term interest rate).

Source: Statistics Denmark, Finance Denmark and own calculations.

Outlook for the coming years

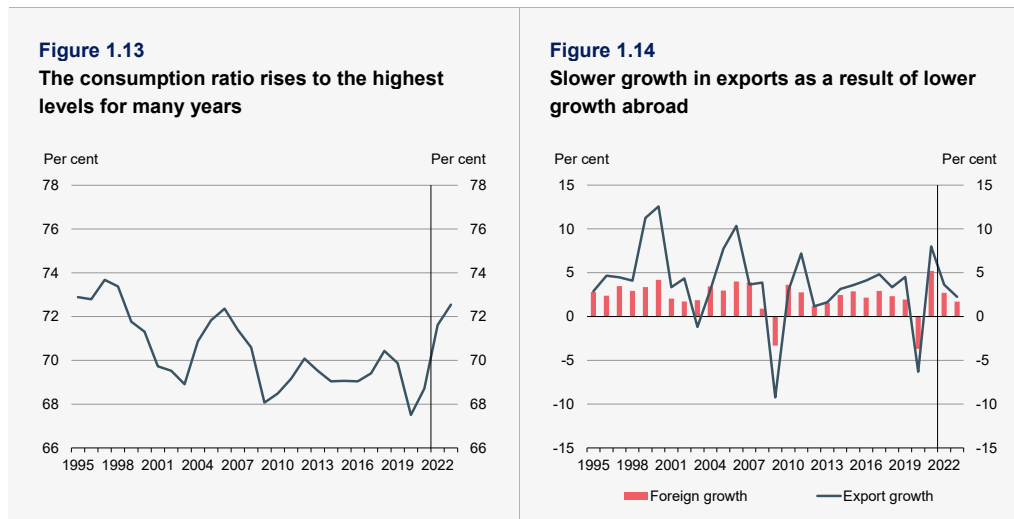
After a fall in GDP of 0.5 per cent in the 1st quarter there was an increase of 0.7 per cent in the 2nd quarter of 2022 according to Statistics Denmark's so-called GDP indicator. The indicator gives the first, preliminary estimate of the quarterly development before the first actual national accounts. The indicator is based on information about the production side of the economy, but disregards, for example, developments in foreign trade, investments and total consumption expenditure. In that light, the GDP indicator is usually subject to considerable uncertainty.

Thus, the preliminary figures indicate that there has only been limited growth in the first half of 2022, while relatively weak development is still be expected in the coming quarters. However, the Danish economy will continue to be in a situation where capacity utilization is greater than normal, and a decline in activity does not constitute a crisis.

The outlook reflects, among other things, that inflation is expected to remain at a high level well into 2023. On the other hand, there are no immediate signs of wage acceleration or unsustainable build-up of debt in businesses and households, which will require recovery and which may thereby extend the period of more limited growth. In other words, a gradual recovery is still likely.

Households are expected to increase the share of income spent on consumption, so that the consumption ratio will rise above the level before the pandemic, *cf. figure 1.13*. Households have the opportunity to increase consumption in current prices due to large savings, but is also an expression of the fact that prices have risen faster than wages, so that consumption expenditure rises faster than income. Adjusted for price developments, private consumption is set to grow only modestly in 2022 as

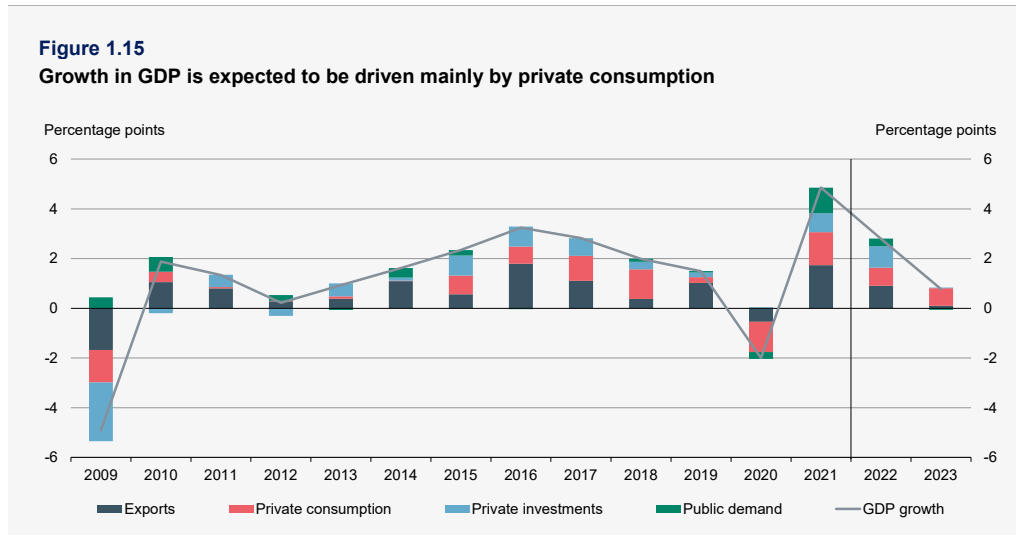
a whole, because of the decline in the first half of the year, while growth in private consumption is expected to pick up slightly in 2023. Similarly, relatively limited growth in exports is also expected in 2022 and in particular in 2023 because of lower growth abroad, *cf. figure 1.14*.



Note: In figure 1.13, the consumption ratio is calculated as a share of the households' core income. The foreign growth in figure 1.14 is calculated as a trade-weighted average of the GDP growth in Denmark's 36 most important trade partners.

Source: Statistics Denmark and own calculations.

Overall, GDP is expected to grow by 2.8 per cent in 2022 and 0.8 per cent in 2023. The higher annual growth rate for 2022 as a whole is due to an increase in GDP that has already taken place, and GDP is actually expected to fall slightly during 2022. In 2023, growth in GDP is again expected throughout the year, but for the year as a whole, growth will be limited, *cf. figure 1.15*.



Note: The figure shows contributions to GDP growth. The growth contributions have been corrected for their import content.

Source: Statistics Denmark and own calculations.

The estimate for 2023 also includes the delay in the reopening of the Tyra natural gas field – which is being redeveloped – from June 2023 to the winter of 2023/2024. This implies less energy production in 2023 in the North Sea than previously expected, which in isolation reduces GDP growth by ¼ percentage points. Adjusted for import content, private consumption is expected to be the main driver of economic growth in 2023.

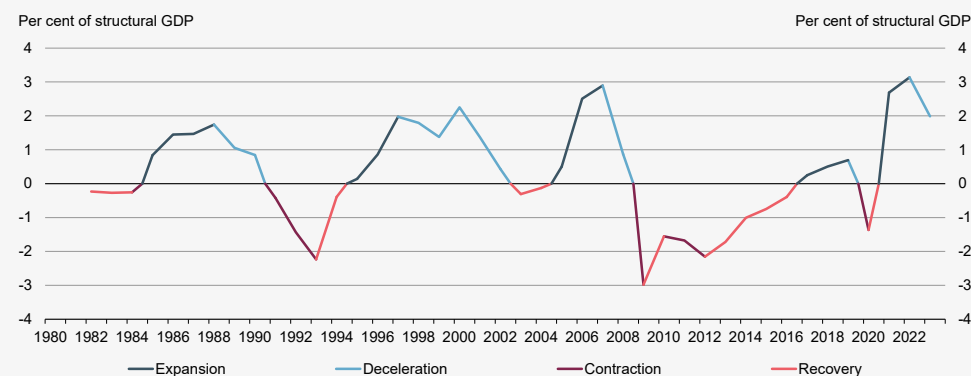
The prospect of a slowdown in growth also means that the Danish economy is entering a new economic phase, *cf. box 1.1*. The capacity pressure measured by the output gap is expected to amount to approx. 3 percent of structural GDP in 2022, which is roughly the same level as in 2007. Activity will remain somewhat above the normal level, although a certain narrowing of the output gap is expected in the forecast period. The continued high level of activity and employment indicates a relatively strict fiscal budget law for 2023, *cf. section 1.2*.

Box 1.1**Danish economy is entering a new phase of a business cycle**

The Danish economy entered a long-term upturn in 2013 with increasing activity and employment. The upturn was interrupted by strong, but short-lived GDP declines during the corona pandemic as a result of behavioural changes, restrictions and shutdowns at home and abroad. Disregarding the quarters with a decline during the corona pandemic, there has been growth in GDP in 29 out of 33 quarters during the period from 2013 to 2021, and employment has increased in 31 out of 33 quarters in the same period. As a result, the Danish economy has been in an economic boom in recent years, with capacity utilization above the usual level. Measured by the output gap, which shows the difference between actual GDP and structural GDP, i.e. the level of GDP that is compatible with stable price and wage development, capacity pressures is currently at the same level as during the boom in 2005-2007.

With the dampening of growth in the first half of 2022, the Danish economy has entered a new phase of a business cycle, where a gradual narrowing of the output gap is expected, *cf. figure a*. However, the economy, continues to operate above the normal level, and capacity pressure remains high. The marked improvement in economic activity at the end of 2021 implies an expected increase in the output gap for 2022 as a whole. In 2023, the output gap is estimated to decline somewhat, but remain at a relatively high level. Seen in isolation, this calls for a tight fiscal policy, which contributes to capacity utilization approaching the normal level again. In this way, fiscal policy can help to dampen the pressure in the economy and have a stabilizing effect on the economy. The economic booms in the 1980s and again in the 2000s came to a sudden stop, with GDP falling significantly below the structural level in a very short time because of, *inter alia*, significant imbalances in the housing market and high indebtedness.

It is normal for GDP to fluctuate over a business cycle, but growth in GDP in itself does not say anything about the state of the economy. At the start of an upswing, growth can be relatively high, for example, while slowing growth is natural at a later stage in the business cycle, when available resources are scarce. In this context, the term technical recession – defined as two quarters in a row with a fall in GDP – does not necessarily describe the nature of the decline in the economy. This also applies in the current economic situation, where employment has continued to rise despite a temporary drop in GDP, and where a high level of employment is still expected.

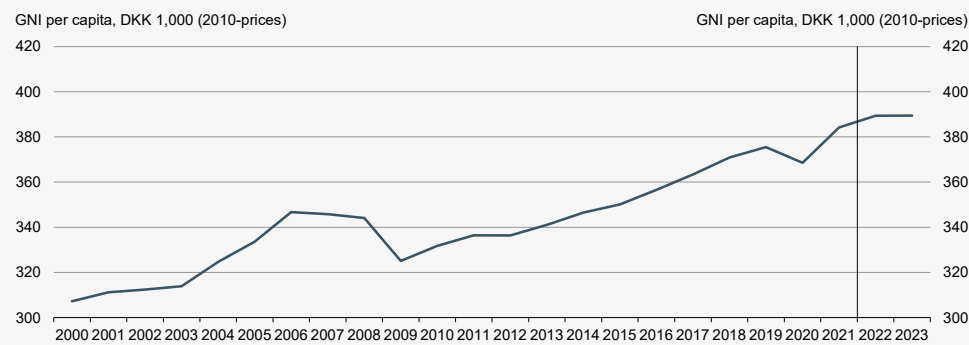
Figure a**Output gaps in different phases of a business cycle**

Note: Recoveries are defined as periods of narrowing negative output gaps, expansions are periods of widening positive output gaps, decelerations are periods of narrowing positive output gaps, and contractions are periods of widening negative output gaps.

Source: Statistics Denmark and own calculations.

The deceleration of growth is primarily a result of the high inflation and increased uncertainty as a result of the war in Ukraine, but also reflects that the Danish economy is reaching a late stage in the business cycle. Despite this, there is still the prospect of an increase in prosperity – measured by GNI per inhabitant – in 2022 and for maintaining this level of prosperity in 2023. Prosperity had already risen to the highest level ever in 2021 after a dip during the corona pandemic, *cf. figure 1.16*. The increase in prosperity fundamentally reflects the fact that a larger share of the population are in employment, but also ongoing productivity gains. Part of the increase in prosperity is also due to income earned by businesses as well as return on assets, for example on pensions, which will only be disbursed in the future.

Figure 1.16
Growth in prosperity despite corona and other challenges



Note: In figure 1.16, the level of prosperity is measured in real terms, i.e. adjusted for price developments. The series for GNI is adjusted with the GDP deflator, but is not adjusted for changes in terms of trade.

Source: Statistics Denmark and own calculations.

Risks

The economic consequences of the war in Ukraine have only just begun to materialise across countries. At this stage, it is not known how big the setback will be and for how long it will last. This depends, among other things, on the further course of the war and the supply of energy as well as on how businesses and households react to the increased uncertainty. The forecast assumes that supply difficulties resulting from the war do not escalate and that the stagnation in which many countries' economies are stuck does not worsen into a deeper recession.

A number of initiatives have already been taken to reduce dependence on fossil fuels from Russia, but abrupt disruptions to the supply of energy could have significant consequences. This applies especially to countries, which are very dependent on gas from Russia, such as *e.g.* Germany. In the worst case, this can lead to some businesses having to limit or completely stop production for a period of time. This also applies to a number of Danish businesses. In any case a deterioration abroad will have negative secondary consequences for Danish businesses through weakened export opportunities, *cf. box 1.2*.

Box 1.2**Risk of a more negative scenario as a result of shutdown of gas supply from Russia**

Russia's invasion of Ukraine has had significant, negative consequences for the world economy, and the Danish economy is no exception. There is still great uncertainty linked to the further course of the war and the resulting consequences for the supply of energy and energy prices. Further worsening of the supply difficulties, e.g. in the form of a full stop for Russian gas supply to the EU, entails a risk of a significantly more negative growth path for both the Danish and international economy than the baseline in the forecast in *Economic Survey, August 2022*.

Since the beginning of the war in February 2022, a number of international institutions etc. have attempted to quantify the impact on, among other things, GDP growth in various countries in the event of a stop of gas supply from Russia. The results range quite widely and depend to a large extent on assumptions about, among other things, the duration of the shock as well as adjustment and substitution possibilities in the economies. The effects on growth abroad embedded in the risk scenario in this box are based on a number of these international studies.¹

With regard to oil and gas prices, in the risk scenario, it is assumed that the level for 2023 as a whole corresponds approximately to the highest price level observed during 2022. For oil, this corresponds to just under USD 123 per barrel. It is also assumed that other import prices (and thus all prices in the economy) will also rise more than in the forecast in *Economic Survey, August 2022*.

In addition, an uncertainty effect is added to the risk scenario (in line with the method in the hard scenario in the note *Scenarier for dansk økonomi som følge af Ruslands invasion af Ukraine, March 2022*), which is reflected in greater adverse effects on private consumption and business investments than the changed foreign growth conditions and energy prices in themselves would dictate.

Based on the above-mentioned assumptions, the risk scenario implies that GDP growth will be reduced by approximately 1¼ percentage points in 2023 relative to the forecast in *Economic Survey, August 2022*. If applicable, this will imply a fall in the year's GDP of approximately ½ percent for 2023 as a whole. In addition, employment falls further by approx. 20,000 persons, while the high inflation rate increases by around 1 percentage point to 4.3 per cent, cf. *table a*.

This assessment is subject to a high degree of uncertainty, and the range of outcomes is wide. If a stop of Russian gas supplies leads to actual rationing and production stoppages in certain industries and geographical areas, there is a risk that behavioural effects in businesses and households in the form of greater expenditure restraint in response to increased uncertainty could lead to even greater and more far-reaching declines in demand and thus economic activity in the short term. The increase in inflation may also be greater.

Table a**Change in central estimates for 2023 in a more negative scenario**

	Forecast	Risk scenario
GDP, real growth, per cent	0.8	-0.4
Employment, change, 1,000 persons	-7.9	-28.4
Consumer price inflation, per cent	3.3	4.3

1) See e.g. IMF Blog: *How a Russian Natural Gas Cutoff Could Weigh on Europe's Economies*, July 2022; ESM Blog: *Cold winter ahead? Implications from a Russian gas cut-off for the euro area*, August 2022.

Source: Ministry of Finance: *Scenarier for dansk økonomi som følge af Ruslands invasion af Ukraine*, March 2022.

The greater expenditure restraint that businesses and households are now exhibiting must be seen in the context of price increases for energy and other raw materials spreading more widely through the economies. It also means that a generally higher price level is built into the expectations, which makes businesses and households decide to wait-and-see. Continued pessimism of businesses and households can prolong a period of subdued growth.

Inflation has increased by more than expected and has caused central banks to react and tighten monetary policy. Even now, the tightening of monetary which is expected or has already been implemented will help dampen growth for a period. If inflation turns out to be higher than expected, central banks may end up introducing further tightening of monetary policy, which, other things being equal, will put further downward pressure on growth prospects in the short term.

There is also a risk that the high capacity pressure and high inflation will lead to sharper increases in wage growth at home, which entails a risk of a self-reinforcing wage-price spiral, although there are still no signs of this. Such a development could, among other things, have a negative effect on the competitiveness of Danish businesses and thereby weaken export prospects and investments.

The economic challenges related to the corona pandemic are not yet over, and can materialise, *inter alia*, in new disruptions to global supply chains and the world economy. In particular, this could be a result of the restrictive approach to limiting the spread of infection in China. At home, the restrictions have been phased out, and covid-19 is no longer categorized as a disease critical to society.

Forecast basis and changes since the latest assessment

Significant assumptions behind the forecast and changes since the latest assessment in *Economic Survey, May 2022* appear in box 1.3.

Box 1.3

Forecast basis and changes since Economic Survey, May 2022

The forecast is based on the latest national accounts data, which together with the so-called GDP indicator are available up to and including the 2nd quarter of 2022, as well as a number of other indicators, the most frequent of which reach into August. This applies, among other things, to unemployment and inflation data. Added to this are a number of political decisions since the publication of *Economic Survey, May 2022*, including *Agreement on international recruitment* (June 2022), *Compensation of citizens for rising energy prices* (June 2022) and *Agreement on a new cash benefits system* (June 2022).

With a fall in GDP of 0.5 per cent in the 1st quarter of 2022, the national accounts numbers point to a weaker development than previously expected, while growth in the 2nd quarter of 2022 of 0.7 per cent according to the GDP indicator, on the other hand, was relatively strong. On the labour market, there has been continued growth in employment, but the outlook is affected by the fact that inflation has increased further. The increasing inflation reflects that the price increases have increasingly spread to other product groups than those that are purely energy-related and thus also affect the economy more widely.

Figure a
GDP growth

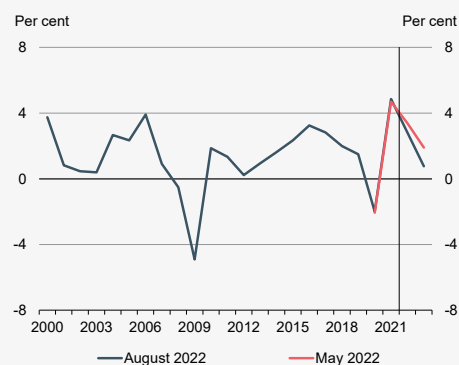
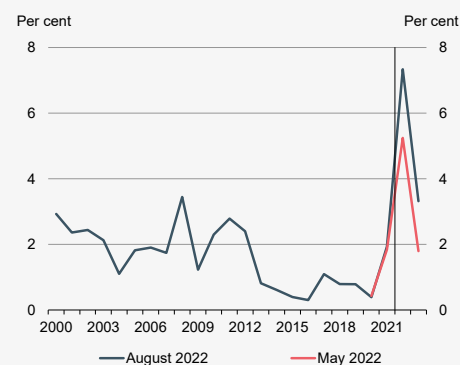


Figure b
Inflation



Source: Statistics Denmark and own calculations.

In connection with *Economic Survey*, assessments of the accuracy of the forecasted estimates for the economic development in Denmark are made on an ongoing basis, cf. box 1.4.

Box 1.4

The accuracy of forecast estimates in *Economic Survey* is on par with other forecasters

The Ministry of Finance's *Economic Survey* intends, among other things, to estimate the coming years' development in GDP and other key national economic figures. Forecasts are inherently uncertain and are at best only an expression of the most probable development at a given time. All other things being equal, a more accurate forecast constitutes a better decision-making basis for economic policy. Therefore, the accuracy of the forecasts in *Economic Survey* is assessed at regular intervals, including in relation to the accuracy of forecast estimates made by other organizations. A central focus of these assessments is the GDP growth forecast, which is the most widely used and comprehensive measure of development in the economy.

For the period 1980-2021, the accuracy of the Ministry of Finance's GDP estimates are on the better side when compared with other forecasters, although such comparisons must be taken with the caveat that different forecasts were made at different times of the year, cf. *Ministry of Finance (2022): Hvor godt rammer prognosen for BNP i Økonomisk Redegørelse ?* There are generally significant forecast deviations, cf. figure a. The largest forecast deviations have been in connection with major economic setbacks, such as the financial crisis in 2008-2009 and the start of the corona crisis in 2020. The forecast deviation for 2020 (that is, the difference between the GDP estimate for 2020 in *Economic Survey, December 2019* and the first estimate of GDP growth in 2020) was the largest deviation in the period 1980-2021.

Figure a
Actual GDP growth and forecast estimates in *Economic Survey*, December

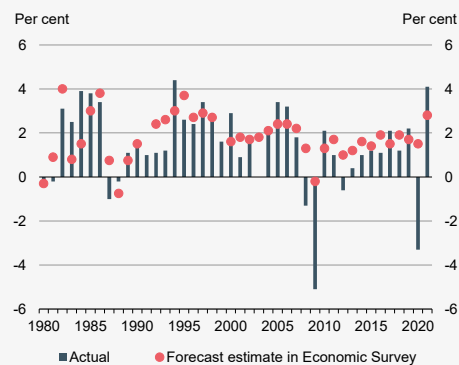
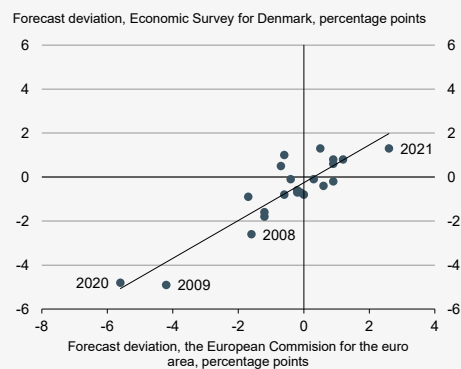


Figure b
The accuracy of forecasts



Box 1.4 (continued)**The accuracy of forecast estimates in Economic Survey is on par with other forecasters**

The challenge of economic forecasts during periods of very high or low growth and business cycle turning points is evident for all forecasters. This should also be seen in the context of the fact that various institutions' forecasts for the Danish economy are largely based on the same data sources and the same basic economic understanding and method. There is usually a high degree of consensus between forecasters for the Danish economy, and *Economic Survey* is typically within the range of the other forecasters' estimates.

Among other things, there is a clear correlation between the size of the forecast deviations for the international economy – measured by the forecast deviation in the European Commission's estimate for the euro area – and the forecast deviation in *Economic Survey* for the Danish economy, cf. *figure b*. This illustrates the great importance of external and unforeseen conditions for the accuracy of the forecasts. There are also no evidence of systematic forecast deviations in the estimates for GDP growth in *Economic Survey*. Thus, there is neither systematic overestimation nor underestimation of growth, just as the forecast deviation in one year cannot statistically be used to explain the forecast deviation for the following year.

Note: Figure a shows the GDP growth according to Statistics Denmark's first preliminary estimate and the GDP estimate in the December version of *Economic Survey* of the previous year. Thus, the first preliminary estimate of GDP growth in 2021 is compared with the estimate in *Economic Survey, December 2020*. Each point in figure b shows the deviation for one year, of which selected years appear explicitly. The forecast deviations for the euro area are calculated in the same way as the forecast deviations in *Economic Survey* for Denmark, but are based on the European Commission's estimate for the euro area in the autumn forecasts.

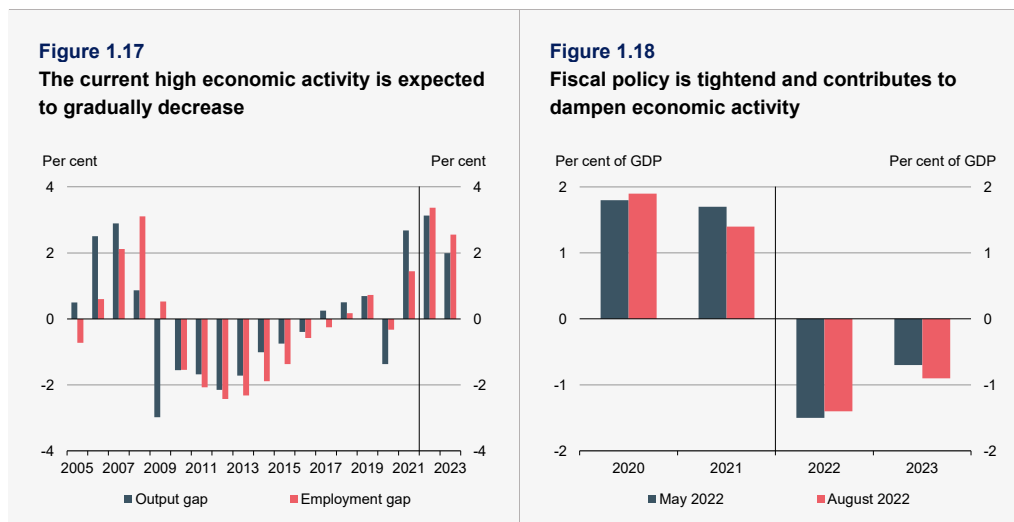
Source: Eurostat, the European Commission, Statistics Denmark, various editions of *Economic Survey/Economic Review* as well as Ministry of Finance (2022): *Hvor godt rammer prognosen for BNP i Økonomisk Redegørelse?*, which is published on the Ministry of Finance's webpage: www.fm.dk.

1.2 Fiscal policy and public finances

Despite a slowdown of the Danish economy due to the war in Ukraine, economic activity is still strong and employment is historically high. At the same time, Russia's war against Ukraine has entailed large increases in a range of international prices, especially on energy and many food items, which has contributed to a very high inflation. This affects all Danes.

The high economic activity and employment are shown in the output and employment gaps, which are measures of the capacity pressure in the economy and the pressure on the labour market. Both gaps are positive which reflect that the Danish economy is in an economic boom and production and employment are above their structural levels. Both the output- and employment gaps are projected to exceed 3 per cent this year, *cf. figure 1.17*. Next year the pressure on the Danish economy is expected to decrease, with the output gap declining to around 2 per cent of GDP. The pressure on the Danish economy is thereby expected to fall slightly quicker than in the May-survey, where the output gap was estimated to be 2¼ per cent in 2023.

The current projection of the Danish economy with a tight labour market and high inflation suggests that fiscal policy should be tightened. Measured by the one-year fiscal effect, fiscal policy is tightened by -1.4 per cent of GDP in 2022 and -0.9 per cent of GDP in 2023, *cf. figure 1.18*. The negative fiscal effects mean that fiscal and structural policy dampen the capacity pressure in the economy and thereby also the domestic part of the inflation pressure. This reflects a tightening of fiscal policy following expansionary economic policy during the corona crisis, including the phasing out of corona aid packages etc. and subdued public demand (consumption and investment in total) as the cyclical position is improved.



Note: Figure 1.18 shows how the effects of fiscal and structural policy in a given year affect changes in the output gap compared to the year before (the one-year fiscal effect).

Source: Statistics Denmark, Economic Survey, May 2022 and own calculations.

The effect of fiscal policy on economic activity in 2022 is approximately unchanged compared to the May-survey, while the effect in 2023 is slightly tighter. This is especially due to a lower level of public investments in 2023 than assumed in May, which reflects the spending of the medium-term public investments frame in connection to the submitted draft law for the Budget Bill for 2023 and the budget agreements with municipalities and regions for 2023, *cf. chapter 8*. The government has prioritized not to spend around DKK 1¾ bn. from the public investment frame so fewer new public investments are started in 2023 than previously (technically) assumed.

The expansionary economic policy during the corona pandemic implies that the multi-year fiscal effect is positive this and next year. The many policies enacted since 2019 to steer Denmark through the crisis with fewest possible costs, including aid packages, payment of frozen holiday allowances, the public health effort etc. continues to have a positive effect on current economic activity. Without these policies, the Danish economy would have had a worse starting point facing the economic dampening ahead. This does not change the fact that fiscal policy is tightened in both 2022 and 2023.

The war in Ukraine has created new challenges, including extraordinary large increases in energy prices, which have contributed to a very high inflation. This affects Danish households. Therefore, the government along with a broad majority in the Danish parliament agreed to compensate broad groups of the population that are challenged by inflation – while not putting further pressures on prices in the current situation, *cf. box 1.5*. This is done with temporary compensation policies that are fully financed, such that the general demand in the economy and thereby inflation is not increased. Thereby fiscal policy is designed to balance both the high capacity pressure in the Danish economy and supporting Danes that are impacted severely by inflation.

In order to accommodate firms' demand for more labour, the government and a broad majority of parties in the Danish parliament have agreed on *the Agreement for International Recruitment* (June 2022). Recruitment must be done subject to terms on the Danish labor market and the new temporary policies must counter the current labour shortage amongst Danish firms, including through a temporarily lowered Pay-Limit scheme, *cf. box 1.5*.

Additionally, a number of policies have been enacted to contribute to decreasing the dependency on fossil fuels and increasing the tempo of the green transition. The presented bill *Denmark Can Do More II* (April 2022) sets the direction for Danish independence of Russian gas and increasing the pace of the green transition. In connection to this, a large majority in the Danish parliament have agreed on the *Agreement for a Greener and More Secure Denmark* (June 2022), which contributes to quadrupling production of solar and wind energy on land in 2030 and making all gas green in Denmark. With *the Agreement for a Green Tax Reform* (June 2022) and *the Agreement on Establishing a Green Fund* (June 2022) the pace is further increased in the green transition and in the phase out of fossil fuels with a range of concrete initiatives.

Box 1.5**Central agreements in the light of the business cycle situation and the ambitious green transition**

In June 2022, the government and a broad majority in the Danish parliament agreed on a number of agreements in light of the business cycle and to strengthen the green transition contributing to meeting Denmark's climate goal:

- **Agreement on international recruitment.** The agreement strengthens international recruitment subject to terms on the Danish labour market. The agreement includes a new and temporary supplementary Pay-Limit scheme with a limit of DKK 375,000 from 1st of December 2022 and for three years to support the Danish economy in the current business cycle situation and counter the current labour shortage. The use of the scheme is conditional on the development in unemployment and the use of the scheme. At the same time the fast-track-scheme, the positive list for persons with a higher education and the Startup Denmark scheme are extended.
- **Compensation of citizens for increasing energy prices.** With the agreement, households are compensated for increasing energy prices. The agreement includes among other things a supplementary elder-check of in total DKK 5,000 in 2022 and 2023 targeted the economically most vulnerable pensioners, an increase of the employment deduction in 2022 and 2023 and the payment of a one-time check to certain recipients of income transfers. The expenditures amount to DKK 3.1 bn. in 2022 and 2023 and are financed primarily by decreasing public investments. The overall effect of the agreement dampens the capacity pressures in 2022 and 2023.
- **Agreement on a green tax reform for industry etc.** The agreement contributes to Denmark's climate goal by reducing CO₂ emissions by additionally 4.3 million tons towards 2030. This is done by introducing a CO₂ tax on companies. The agreement also includes elements of targeted help for the green transition of companies that are hit hardest by the CO₂ tax. The agreement also introduces a green investment window and a range of initiatives to secure a greener industry.
- **Establishment of a green fund.** With this agreement, a new green fund of DKK 53½ bn. is established for investments in the green transition from 2024 to 2040. The investments are meant to increase the pace of the green transition and the phase out of fossil fuels. The green fund is financed by moving forward taxation of pension payments by raising the contribution ceiling for the pension type "Aldersopsparing".
- **Agreement for a greener and more secure Denmark.** *The Climate Agreement for Green Electricity and Heating 2022* is agreed upon as an extension to *Denmark Can Do More II* (April 2022). The agreement aims to quadruple the production of solar and wind energy on land in 2030 and a fivefold increase of offshore wind electricity through a number of policies. Furthermore, it includes an ambition that all gas in Denmark is green by 2030 and that gas furnaces are phased out by 2035.

Beyond this the government has among other things agreed on the following agreements in June:

- **Agreement on a new cash benefit system.** The government, SF, Radikale Venstre, Enhedslisten, Alternativet and Kristendemokraterne have reached an agreement to change the cash benefits system, inspired by the recommendations of the Commission for Benefits. The agreement replaces the cash benefit ceiling with a new staircase income model, the personal income deductible is adjusted and a new permanent child benefit is implemented etc. The agreement increases labour supply by 300 fulltime persons.
- **Agreements on budgets for municipalities and regions 2023.** The government has together with KL and the Danish Regions made responsible agreements on the economic framework for 2023. The agreements dampens investment activity in both municipalities and regions in light of the extraordinary business cycle situation with very high inflation and high capacity pressure. At the same time, municipalities and regions are compensated for the demographic developments, such that there will be more funding, as there are more children and elderly.
- **Digitization strategy.** Together with KL and the Danish Regions, the government has launched a new public digitization strategy that secures a solid upgrade of the public digitalization in 2022-2025. The agreement aims to make it easier for citizens to handle digital solutions and help solve the challenges of a shortage of labour by freeing up workers and strengthening the green transition.

The structural budget balance is estimated to 0.3 per cent of GDP in 2022 and 0.4 per cent of GDP in 2023, *cf. table 1.1*. Thus, the estimates are revised upwards by 0.4 and 0.5 per cent of GDP in 2022 and 2023, respectively, compared to the May-survey. The adjustment should be viewed in connection with an upwards adjustment of the estimates for inflation and new information about tax revenue in 2021, *cf. chapter 8*. Since the public budget is fixed in current prices, an upwards adjustment of prices implies that expenses make up a smaller share of GDP.¹ In 2023, the upwards adjustment also reflects that the public investment frame is not fully spent in the proposal for the budget bill for 2023.

The estimates for the structural budget balance are associated with more uncertainty than usually. This is especially due to the high inflation, which in the short run can imply higher public revenues compared to expenses. This implies that the development in nominal public revenues and expenses do not follow the business cycle fluctuations to the same degree as normally, and therefore the budget balance corrected for business cycle fluctuations becomes more uncertain.

Table 1.1
Keys figures relating to fiscal policy

	2021	2022	2023
Structural budget balance, per cent of structural GDP	0.7	0.3	0.4
Actual budget balance, per cent of GDP	2.6	1.2	0.8
Net public debt, per cent of GDP	-12.4	-12.6	-13.1
EMU-debt, per cent of GDP	36.6	32.2	31.4
Public consumption growth, per cent ¹⁾	3.4	0.7	-0.7
One-year fiscal effect, per cent of GDP ²⁾	1.4	-1.4	-0.9
Multi-year fiscal effect, per cent of GDP ³⁾	3.4	2.0	0.9
Output gap, per cent ⁴⁾	2.7	3.1	2.0
Employment gap, per cent ⁴⁾	1.4	3.4	2.6

- 1) Public consumption is calculated using the input method incl. depreciations. The estimated growth in public consumption is technically assumed to be the same using the input and the output method. The estimated growth rates in the forecast years are strongly affected by extraordinary expenditures related to covid-19.
- 2) The one-year fiscal effect is a measure of how changes in the fiscal and structural policy in a given year affect the output gap compared to the previous year.
- 3) The multi-year fiscal effect is a measure of how much fiscal and structural policy affects the output gap (level effect compared to 2019). The effect includes the temporary aid packages, payment of frozen holiday allowances, and publicly initiated investments etc.
- 4) Calculated measure of how far production and employment are from their structural levels. When the gaps are positive, it indicates more scarce resources in the economy than under normal cyclical conditions.

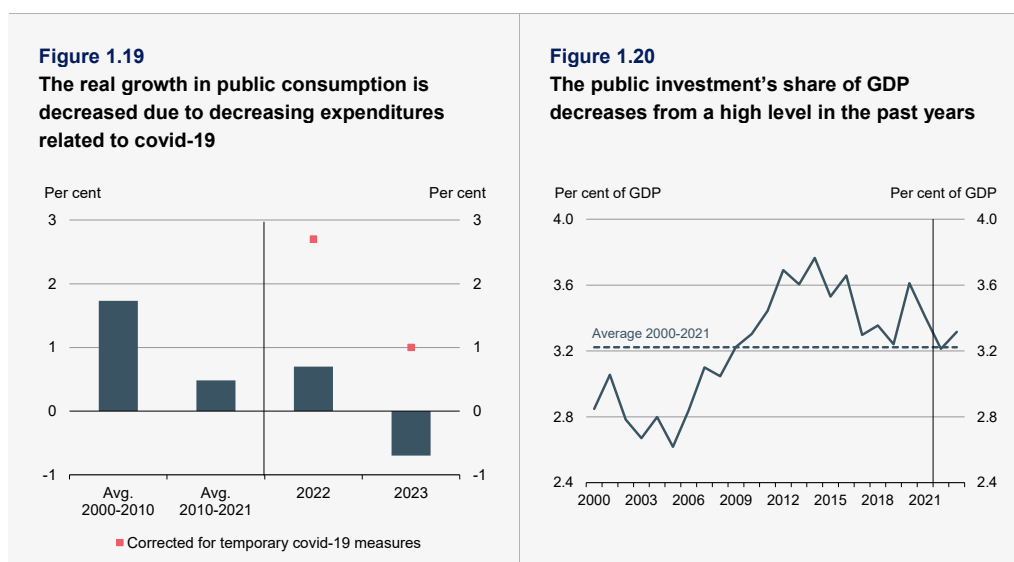
Source: Statistics Denmark and own calculations.

¹ The public budget will as per usual be adjusted according to the changed price and wage estimates in 2023 when the budget is planned for 2024.

The real public consumption growth is estimated to be 0.7 per cent this year and -0.7 per cent next year based on the proposed budget bill for 2023 and the budget agreements with the municipalities and regions for 2023 etc. When correcting for temporary measures related to covid-19, the public consumption growth is estimated to 2.7 per cent in 2022 (including expenditures for defense and for the reception of displaced people due to the war in Ukraine) and 1.0 per cent in 2023, *cf. figure 1.19*. The real growth in public consumption corrected for temporary conditions related to covid-19 in 2022 and 2023 exceeds the growth in the demographic pressure.

The estimates of real growth in public consumption are adjusted downwards by 0.1 percentage points in 2022 and 0.4 percentage points in 2023 compared to the May-survey. In 2022, the higher price estimates contribute to decreasing the growth in consumption, which is partially offset by an upwards adjustment of extraordinary expenses related to covid-19. In 2023, the higher price estimates also decrease the estimated consumption growth, *cf. chapter 8*. In itself, the priorities in the proposal for the budget bill for 2023 etc. increase the growth in public consumption as funds have been prioritized from the public investment frame to consumption.

At the same time, real growth in public investments is adjusted downwards in 2023 compared to the May-survey, while real growth is revised upwards in 2022. The public investments are expected to decrease by 2.3 per cent in 2022 and increase by 2.9 per cent in 2023. This corresponds to a public investment level of 3.2 per cent of GDP in 2022 and 3.3 per cent of GDP in 2023, which approximately corresponds to the average level since 2000, *cf. figure 1.20*. Besides the conversion of funds from the public investment frame in the proposal for the budget bill in 2023, the growth in public investments has among other things also decreased due to the agreement on *Compensation of citizens for increasing energy prices* (June 2022). The agreement contains a financial contribution from the public investment frame of about DKK ¼ bn. in 2022 and approximately DKK 2½ bn. in 2023.

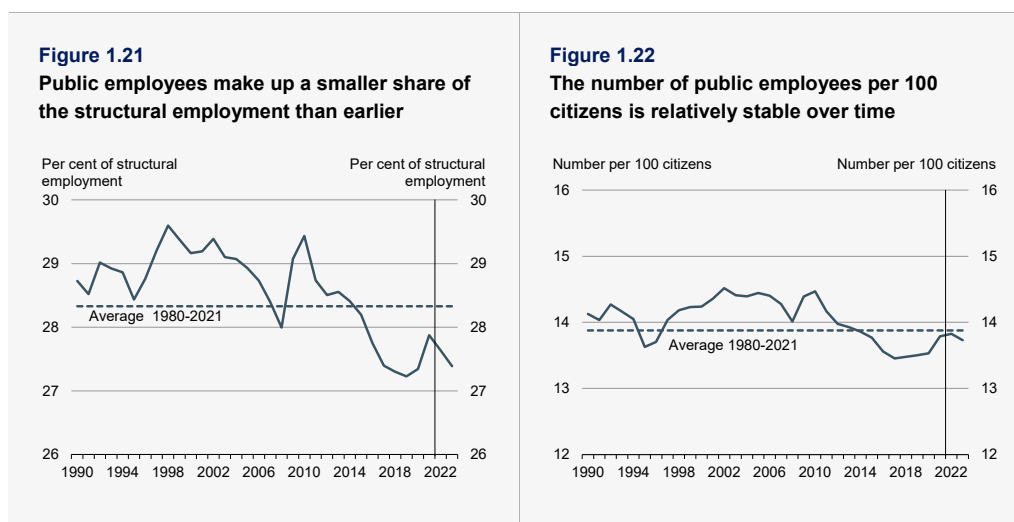


Note: The growth rate in real public consumption incl. depreciations in figure 1.19 is measured by the input method. Public investments in figure 1.20 does not include public net purchases of buildings.

Source: Statistics Denmark and own calculations

Public employment increased during the covid-19 pandemic. In 2021, there was approximately 25,000 more public employees than in 2019, and the increase has continued this year. The development should be seen in light of a temporary increase in employment related to testing, tracing effort and vaccinating as well as a underlying increase in public employment, which stems from demographic pressures and initiatives to strengthen the quality of public services. In the light of this, public employment is expected to increase by 6,000 persons in 2022 compared to the level on a year-basis in 2021, while public employment is expected to decrease by 3,000 in 2023.

The current level of public employment is not high compared to the total labour force participation and the size of the population. Public employment amounted to around 28 per cent of the structural employment in 2021, which is slightly less than the historic average, cf. figure 1.21. Comparing the level of public employment to the population, the level is also slightly lower than the historic average. In 2021 the average was almost 14 public employees per 100 citizens, compared to about 14½ employees in the 2000s when the share was at its highest, cf. figure 1.22.



Source: Statistics Denmark and own calculations.

Alongside the business cycle projections, a 2030-projection has been prepared which acts as the basis for the proposed expenditure ceilings for the year 2026 and the draft law for changes to the current expenditure ceilings for 2022 to 2025. The medium term projection and expenditure ceilings for 2026 is described more closely in *2030-planforløb: Grundlag for udgiftslofter 2026* and *Dokumentation for fastsættelse af udgiftslofter for 2026*, which are accessible on www.fm.dk.

Larger public surplus and lower public debt

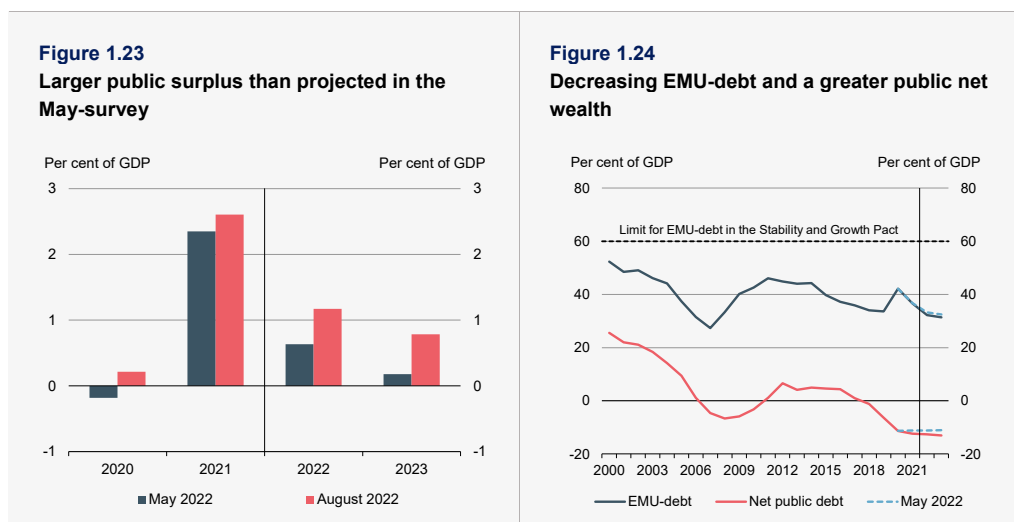
Despite the expansionary fiscal policy during the covid-19 pandemic with massive aid packages, payment of frozen holiday allowances and other expansionary initiatives, public finances are still healthy.

The actual public budget balance amounted to about DKK 65 bn. in 2021 corresponding to 2.6 per cent of GDP. That is the largest surplus among EU countries in 2021. The surplus is due among other

things to a large revenue from corporate taxation, payment of holiday allowance and pension yield taxation.

The budget balance is also projected to show a surplus this year and next year, where the actual budget balance is estimated to be 1.2 per cent of GDP in 2022 and 0.8 per cent of GDP in 2023, cf. Figure 1.23. For both years this is an upwards revision since the May-survey, which among other things reflects higher expected revenues from income taxes.

The improvement of the budget balance contributes to decreasing public debt. The public gross debt (EMU-debt) decreased by DKK 63½ bn. in 2021 to DKK 917 bn. This amounts to around 36½ per cent of GDP. Towards 2023, the EMU-debt is expected to decrease further to around 31½ per cent of GDP, which is below the level from before the outbreak of the covid-19 pandemic, cf. figure 1.24. This is also well below the limit for EMU-debt of 60 per cent of GDP set out in The Stability and Growth Pact, and the Danish EMU-debt is among the lowest in the EU countries.



Source: Statistics Denmark, *Economic Survey*, May 2022 and own calculations.

Public net debt is the key concept of debt when assessing the long-term sustainability of fiscal policy. The net debt includes publically held financial assets, including the government's deposit in the Danish central bank, re-lending and shares in a range of companies e.g. Ørsted. The net debt has been negative since 2018, meaning that Denmark has a public net wealth. In 2021, the public net wealth amounted to around 12½ per cent of GDP. The net wealth is expected to grow slightly this year and next year, such that it will amount to around 13 per cent of GDP in 2023.

1.3 Annex table

Table 1.2
Key figures from the August survey and comparison with estimates in the May survey

	2021	2022		2023	
		May	August	May	August
Real change, per cent					
Private consumption	4.2	2.6	0.5	2.0	1.1
Total government demand	3.7	0.3	0.3	1.5	-0.3
- of which government consumption	4.2	0.8	0.7	-0.3	-0.7
- of which government investments	0.4	-3.5	-2.3	14.3	2.9
Housing investment	9.9	2.0	5.8	2.3	-8.0
Business fixed investment	6.3	3.7	4.2	4.5	1.3
Inventories (cont. to GDP-growth)	0.0	0.1	0.4	-0.2	0.0
Total domestic demand	4.6	2.2	1.8	2.0	0.2
Exports	8.0	5.1	3.6	3.7	2.3
- of which manufacturing exports	11.0	3.1	2.8	1.5	0.8
Total demand	5.9	3.3	2.5	2.6	1.0
Imports	8.0	3.1	2.0	4.0	1.4
- of which imports of goods	10.5	1.9	0.2	3.2	0.8
GDP	4.9	3.4	2.8	1.9	0.8
Gross value added	5.1	3.7	3.3	1.8	0.7
- of which non-farm private sector	6.1	4.4	3.8	1.9	0.8
Change in 1.000 persons					
Labour force, total	48	51	79	16	7
Employment, total	73	70	108	15	-8
- of which private sector	51	76	102	14	-5
- of which public sector	21	-6	6	1	-3
Gross unemployment	-25	-19	-28	0	15
Cyclical developments, per cent					
Output gap	2.7	2.8	3.1	2.3	2.0
Employment gap	1.4	2.8	3.4	2.6	2.6
Unemployment gap	-0.6	-1.0	-1.5	-0.9	-0.9

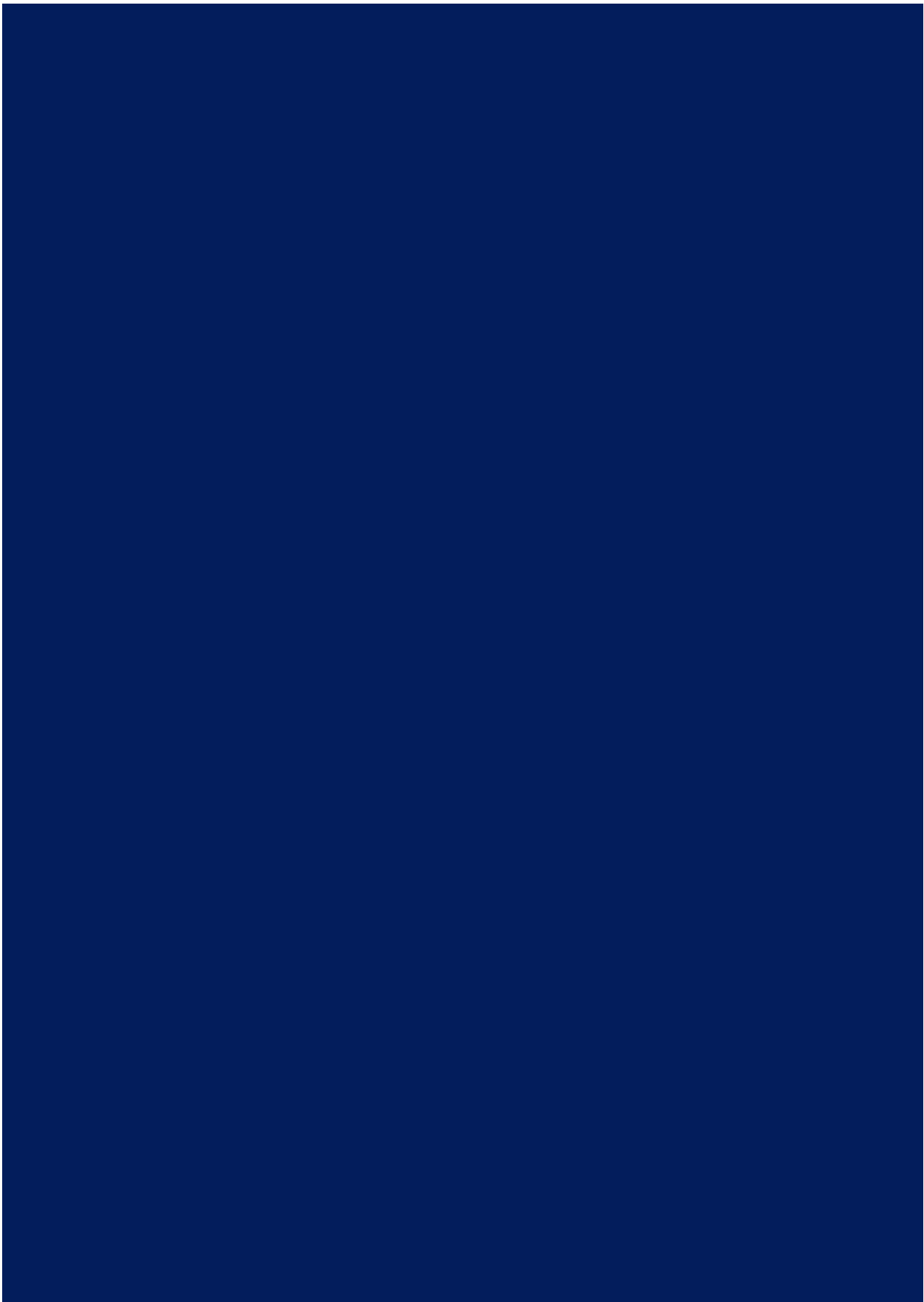
Note: The change in volume for public consumption is calculated using the output method.

Source: Statistics Denmark and own calculations.

Table 1.2 (continued)**Key figures from the August survey and comparison with estimates in the May survey**

	2021	2022		2023	
		May	August	May	August
Change, per cent					
House prices (single family houses)	10.6	4.8	3.1	0.9	-4.8
Consumer prices	1.9	5.2	7.3	1.8	3.3
Hourly earnings in the private sector	2.9	3.7	3.6	3.6	3.6
Real disposable income, households	1.3	1.6	-0.1	2.2	-0.2
Productivity in the private non-farm sector	1.4	1.3	0.1	1.4	1.7
Per cent p.a.					
1-year rate loan	-0.5	0.1	0.4	1.2	1.4
10-year government bond	-0.1	1.0	0.9	1.3	1.2
30-year mortgage credit bond	1.3	2.5	3.4	3.5	3.7
Public finances					
Actual public balance (DKK bn.)	65.2	16.6	31.7	4.8	21.8
Actual public balance (per cent of GDP)	2.6	0.6	1.2	0.2	0.8
Structural public balance (per cent of GDP)	0.7	-0.1	0.3	-0.1	0.4
Gross debt (per cent of GDP)	36.6	33.3	32.2	32.5	31.4
Labour market					
Labour force, total (1.000 persons)	3.151	3.215	3.230	3.231	3.237
Employment, total (1.000 persons)	3.046	3.130	3.153	3.146	3.145
Gross unemployment (yearly average, 1.000 persons)	106	86	78	87	93
Gross unemployment (per cent of labour force)	3.4	2.7	2.4	2.7	2.9
External assumptions					
Trade-weighted international GDP-growth, per cent	5.2	3.0	2.7	2.5	1.7
Export market growth (manufactured goods), per cent	10.2	5.5	5.5	4.5	3.3
Exchange rate (DKK per USD)	6.3	6.7	6.9	6.8	7.3
Oil price, dollars per barrel	70.7	103.5	104.3	98.6	94.1
Balance of payments					
Current account balance (DKK bn.)	219	170	231	160	208
Current account balance (per cent of GDP)	8.8	6.5	8.5	5.9	7.5

Source: Statistics Denmark, OECD, Macrobond, Danish Confederation of Employers and own calculations.



2. The evolution of the labour share

The labour share is a key economic concept that provides an overall picture of how society's total income is distributed between wages of employees and compensation of the capital stock. This question that concerned economists such as Adam Smith as early as the 18th century, and many subsequent economists have returned to the subject. In recent years, there has been a renewed focus on the evolution of the wage share, as labour receives a declining share of the income generated in many countries. The decline in the labour share should be seen in the context of the fact that the labour share historically has been relatively stable. The phenomenon is widespread across sectors and is particularly evident in Western countries, including Denmark, where the labour share has been falling, especially in manufacturing.

The fall in the labour share can be interpreted in several ways. It may be due to a weakening of the bargaining power of employees, which may contribute to greater inequality. It may also reflect the fact that firms generate more value at a given labour cost and that this value may benefit society as a whole, including through taxation.

The trend towards a declining labour share coincides with the globalisation of recent decades, which has led, among other things, to new modes of production through global value chains. It also means that Danish employees have come into greater competition with the labour forces of other countries. Conversely, this development is helping generate greater value added through a more productive use of resources, and productivity developments are crucial to a society's prosperity. There are other explanations, but there is no consensus among economists on a definitive explanation.

This chapter looks at the evolution of the labour share in Denmark based on detailed company data. The data set allows for the inclusion of more specific information such as firm size. Among other things, the analysis indicates:

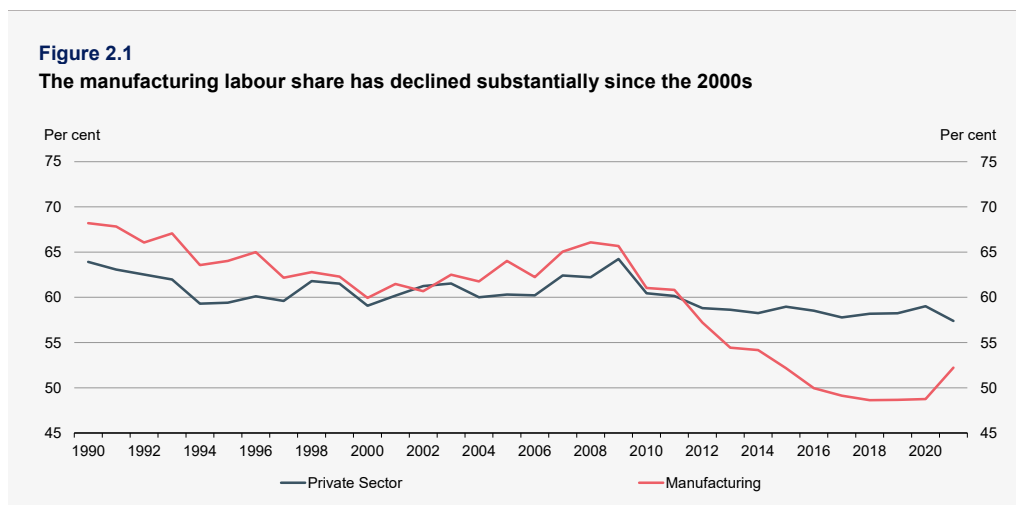
- The labour share has especially fallen in manufacturing firms.
- The top 1 per cent of manufacturing firms in terms of value added have significantly reduced their overall labour share over the past two decades. The labour share of the other 99 per cent of manufacturing firms is close to unchanged over time.
- The top 1 per cent firms have grown strongly relative to other manufacturing firms. Thus, over the period, they have both reduced their labour share and increased their share of total value added, contributing to the decline in the total labour share.
- The trend reflects, among other things, that there has been a strong shift in firms' value added, which implies that a much larger share of value added takes place in firms that, in isolation, have relatively low labour shares compared to 20 years ago. Thus, the trend is not due to a broad

trend across all firms in the economy.

- The distribution of employment across manufacturing firms has not shifted significantly over the period. This underlines that the decline in the labour share is related to a less direct link between the economy's value added and employment in the largest Danish firms.
- Companies that have not reduced their overall labour share over time employ a majority of manufacturing employees.

2.1 Declining labour share in manufacturing over the last decades

The labour share is a measure of the share of value added of firms going towards compensation of employees. Increases in the labour share in good times, when there is greater pressure on the labour market, and decreases in bad times are normal, but over a longer period, the labour share in the Danish private sector has been relatively stable, as historically around two-thirds of firms' value added has been used to pay employees, *cf. figure 2.1*.



Note: The private sector labour share is total labour compensation expressed as a share of current GVA, adjusted for the contribution of self-employed to GVA.

Source: Statistics Denmark and own calculations.

In recent decades, however, there has been a downward trend in the labour share of many countries when looking at aggregate figures for the total economy. The downward trend in labour shares applies to most advanced economies, and there has especially been a significant decline in the manufacturing labour share in Denmark.

The international phenomenon of declining labour shares has been the subject of a large academic literature over the past decade, which attempts to identify the driving forces behind the trend. Although the research has not reached an unequivocal explanation, it is clear that the trend is likely due to a combination of a number of long-term trends in the global economy, including technological change, increasing globalisation, the growing importance of knowledge capital, IT services and intellectual property rights, etc. This is also true for Danish firms.

In addition, the decline in the labour share in a Danish context has been linked to a large growth in the value added of firms in *merchandising* and *processing*,¹ which essentially is the value created by Danish firms by trading goods that are produced and sold abroad without having been on Danish soil, and which is included in the value added (GVA) of Danish firms and is part of their income.²

The growing importance of globalisation for the Danish economy entails, among other things, that Danish firms increasingly produce goods abroad and thus have business models that in many cases fall under either merchandising or processing. This is reflected, for example, in the fact that firms' production abroad has gone from virtually nothing over the past two decades to constituting almost 15 per cent of Denmark's total exports of goods in the period 2017-2019.

In practice, a Danish firm with all or part of its production abroad will have knowledge workers etc. employed in Denmark, who contribute to the value added created by the firm's production both at home and abroad. This is why the profit from foreign production is included in the gross value added, GVA, of national accounts, despite the fact that the processing itself takes place outside the country's borders.

A fall in the labour share implies that firms generate more value at a given labour cost. The manufacturing labour share has fallen relatively more in Denmark than in foreign trading partners, *cf. Statistics Committee (2021): Status report 4th quarter 2021*. There are several general explanations behind this development, including outsourcing of production. However, firm-specific factors also help explain the development, as a few large firms/super-performers are particularly able to generate value and drive the development. This can be further analysed with firm-specific data.

2.2 The decline in the manufacturing labour share is largely due to the largest firms

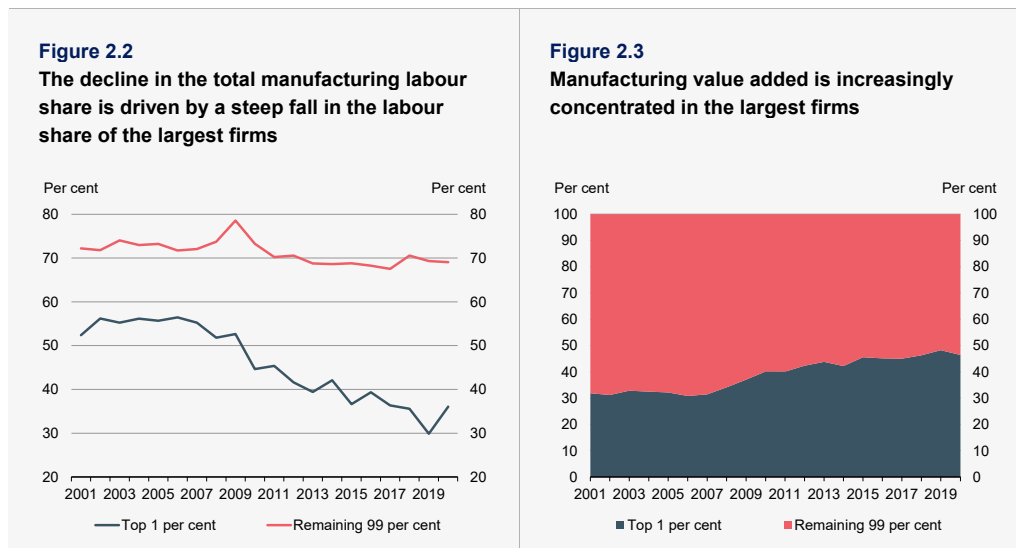
In order to get a better understanding of the evolution of the labour share, an examination based on detailed enterprise data is described below.³ These data make it possible, among other things, to analyse how shifts at the firm level have affected the labour share, *cf. appendix 2.1*.

¹ *Processing* is sales after processing abroad, where the Danish company owns the raw materials, while *merchandising* is trade abroad in goods purchased abroad, *cf. Statistics Denmark (2021), "Hvordan indgår dansk produktion af varer i udlandet i nationalregnskabet?"*

² See e.g. Danmarks Nationalbank (2019): "Globaliseringen påvirker mål for lønkonkurrenceevne".

³ Previous Danish studies have found similar results as in the present analysis, *cf. Mejer (2021): "The Evolution of the Danish Manufacturing Labor Share"*, Master thesis, University of Copenhagen and Hémous & Olsen (2022): "The Firms Behind the Labor Share: Evidence From Danish Micro Data", Rockwool Fonden.

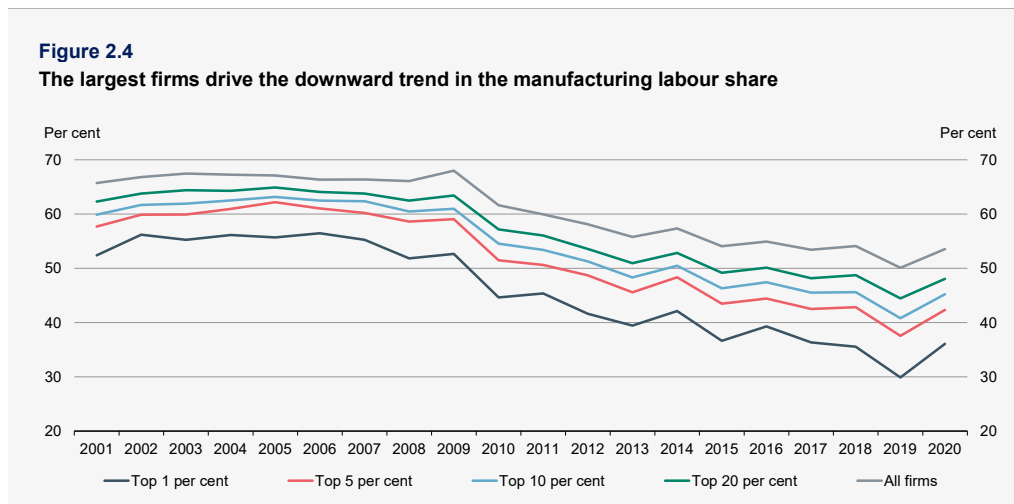
Comparing the labour share of the top 1 per cent of manufacturing firms in terms of value added with the labour share of the other 99 per cent of firms, it is evident that almost the entirety of the decline in the manufacturing labour share is attributed to the largest firms. Thus, the labour share of the other 99 per cent does not show the same declining trend as the labour share of the top 1 per cent, *cf. figure 2.2*. Moreover, the top 1 per cent have increased their share of value added, moving from just over 30 per cent of value added in 2001 to almost 50 per cent in 2020, *cf. figure 2.3*.



Note: The top 1 per cent is defined as the group of the 1 per cent largest companies in the distribution of value added in each year. The labour shares are calculated as the weighted labour shares of both size groups.

Source: Statistics Denmark and own calculations.

The 1 per cent largest firms in terms of value added stands out by having a generally lower labour share and by having experienced a larger decline over time, *cf. figure 2.4*. Thus, when including more firms than the very largest, the level of the labour share is generally higher, and the decline in the wage share over the period 2001-2020 is lower.



Note: The weighted labour share is calculated for every size group in each year. Value added in this context is used as a measure of firm size, as it is exactly value added that determines the weight given to a firm or group in the calculation of the labour share.

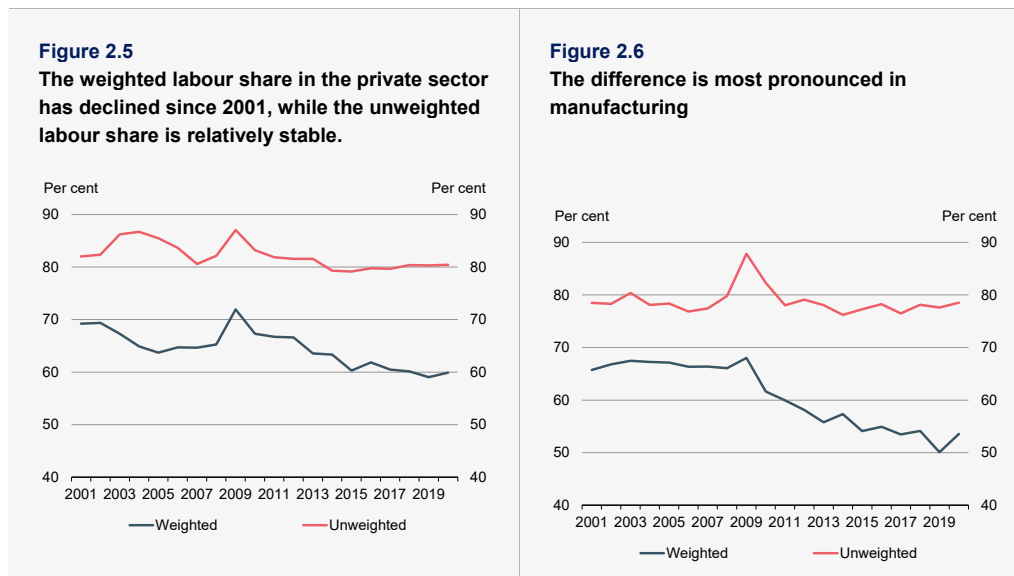
Source: Statistics Denmark and own calculations.

A plausible explanation for this significant development is that a small group of the largest manufacturing firms have been relatively more capable of taking advantage of globalisation and technological advances to optimise and streamline production, while their products have a strong position in global markets due, for example, to strong brands and patents. Thus, if large firms have gained a relative advantage over time by, for example, implementing new production technology or have benefited from a trend towards concentration of international market activity in fewer firms, this may help explain the observed evolution of the manufacturing labour share.⁴

2.3 The industrial labour share is affected by shifts in activity at the firm level

A closer analysis of firm-level data underlines that the trend has to be seen very much in the context of shifts in activity at the firm level. This can be illustrated, for example, by comparing the evolution of the actual labour share with the evolution of a simple unweighted average of the labour shares of individual firms. In the calculation of the labour share, each firm is included with a weight corresponding to its share of total value added. The differences in the evolution of the weighted and unweighted wage share are most pronounced in manufacturing, *cf. figure 2.6*.

⁴ See e.g. Bighelli et al (2020): "Firm Concentration and Aggregate Productivity", *Firm Productivity Report*, and Autor et al (2020): "The Fall of the Labor Share and the Rise of Superstar Firms", *The Quarterly Journal of Economics*.

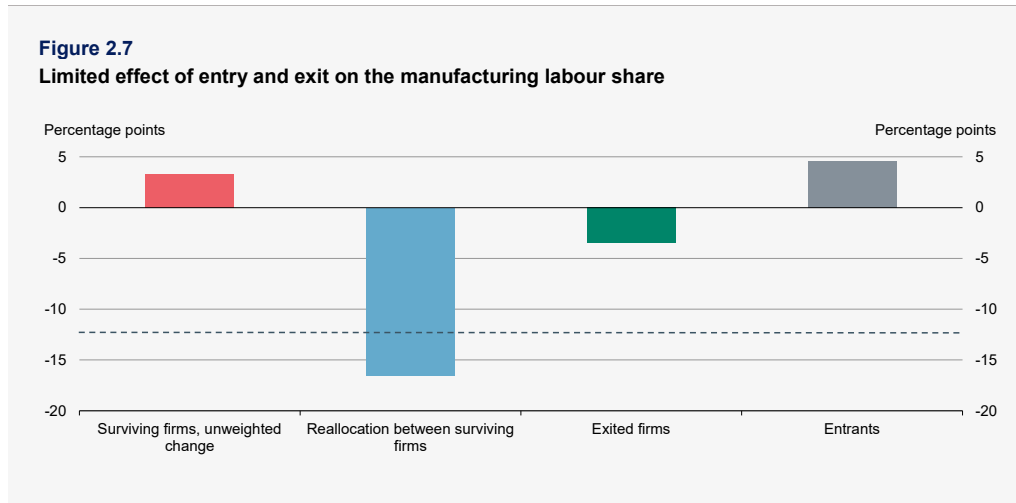


Note: The weighted labour share is equivalent to the usual calculation of the labour share, where each firm is included with a weight corresponding to its share of total value added. The unweighted labour share is calculated as a simple average of the individual labour shares of the firms, such that all firms are included with the same weight.

Source: Statistics Denmark and own calculations.

This illustrates that the decline in particularly the manufacturing labour share is closely linked to a continuous shift of value added towards firms with relatively low wage shares.

In contrast, the tendency for value added and hence economic weight to shift towards firms with low labour shares cannot be attributed to firm dynamics where, for example, firms with high labour shares and low profits cease to exist and exit the economy. Decomposing the decline in the manufacturing labour share shows that the net effect of continuous entry and exit of firms from the dataset is slightly positive, while the vast majority of the negative development comes from a reallocation of value added between firms that have survived throughout the period, *cf. figure 2.7*.



Note: The dashed line indicates the sum of the contributions, which exactly corresponds to the decrease in the manufacturing labour share. The decline in the labour share between 2001 and 2020 is divided into four contribution components in the figure: 1) The unweighted change among surviving firms represents a shift in the mean value of the labour share distribution. 2) The reallocation effect represents the shift in value added across the labour share distribution. 3) *Exited firms'* shows the effect of the labour shares of firms that exited the dataset between 2001 and 2020 differing systematically from the labour share of surviving firms. 4) *Entrants* shows the effect of the labour shares of firms that entered the dataset between 2001 and 2020 differing systematically from the labour share of firms that survived the whole period. It should be noted that firms exiting or entering are not necessarily discontinued or new entrants respectively, as this may also be due to the firm not being included in the dataset for other reasons, *cf. appendix 2.1*. The calculations are based on the decomposition method of Melitz & Polanec (2015), "Dynamic Olley-Pakes productivity decomposition with entry and exit", *RAND Journal*.

Source: Statistics Denmark and own calculations.

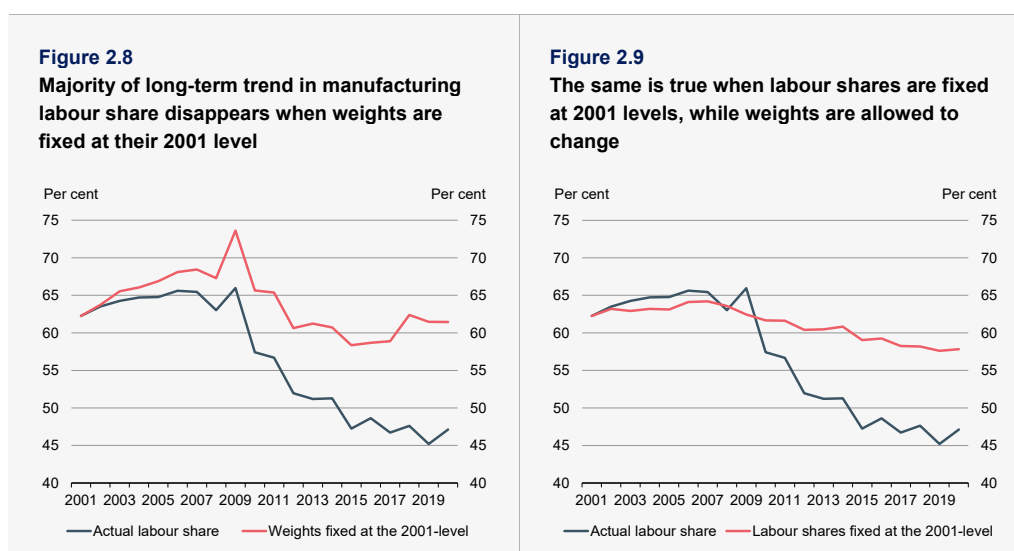
2.4 The largest firms have simultaneously experienced a decline in labour shares and an increase in value added

By looking only at the manufacturing firms that have existed throughout the period from 2001 to 2020, it is possible to get an indication of whether the decline in the labour share is primarily driven by initially large firms reducing their labour shares over time, or whether it is to a greater extent due to the shift in value added and hence economic weight towards firms that already operate with relatively low labour shares. A third possibility is that some firms have simultaneously increased their value added and reduced their labour shares.

Overall, the group of manufacturing firms that have survived between 2001 and 2020 has experienced a decline in the labour share similar to the observed trend when all firms are included. When an alternative labour share is constructed, keeping the weight of each firm at its original level - i.e. its share of total value added in 2001 - the downward trend is no longer as clear, *cf. figure 2.8*. This shows, that the changes in the shares of value added across firms plays a significant role in the decline of the labour share.

Similarly, when the labour shares of firms are fixed at their initial level and letting the value added weights vary over time the downward trend in the labour share is again less clear, *cf. figure 2.9*. This shows that the decline in the labour share cannot be attributed to an increase of the share of value added by firms, which had a low labour share in 2001.

When the decline in the labour share cannot be attributed to the pure effects of large firms having reduced their labour shares, or of firms with low labour shares having increased their economic weight, most of the development must be attributed to a combination of the two effects. That is, some firms have expanded their economic activity and reduced their labour shares at the same time. Thus, the development we have seen is most consistent with a hypothesis that this group of firms has managed to increase their markups and their market shares over the period, due to e.g. positive demand shifts and improved productivity.



Note: A balanced panel is used for both figures, i.e., a version of the dataset that includes only firms that existed in all years between 2001 and 2020.

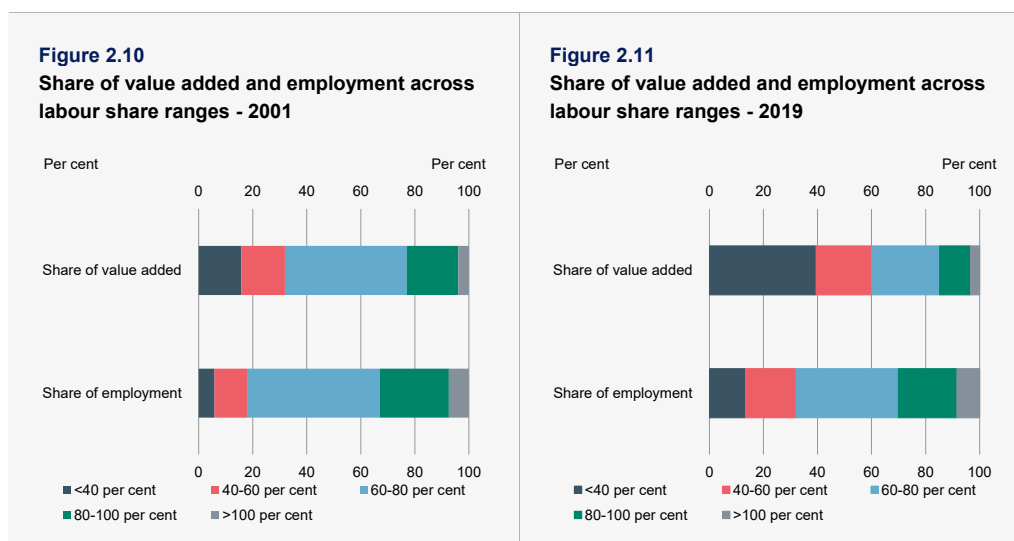
Source: Statistics Denmark and own calculations.

2.5 Link between manufacturing employment and value added has weakened

As shown above, the decline in the manufacturing labour share is largely related to the increasing shift in value added towards firms that have simultaneously reduced their labour shares and increased their share of value added. By extension, it can be examined whether a similar shift has taken place in the employment of firms. This does not appear to be the case. Firms with labour shares below 40 per cent in 2001 accounted for just under 16 per cent of total manufacturing value added, while firms with labour shares between 60 and 80 per cent generated almost half of the value added. In 2019, firms with labour shares below 40 per cent accounted for more than a third of value

added, i.e., significantly more than in 2001, while firms with labour shares between 60 and 80 per cent accounted for just 25 per cent, i.e., much less than in 2001, *cf. figure 2.11*.

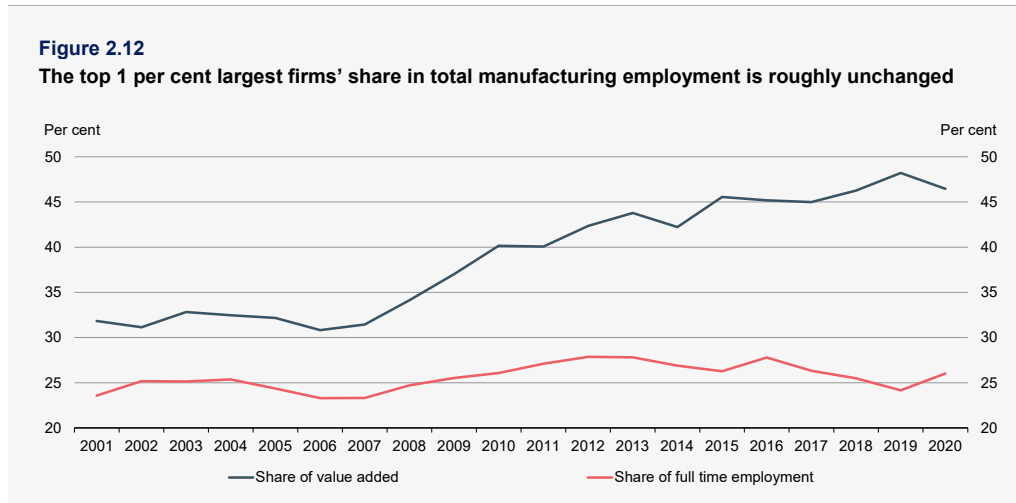
The same pattern is not found in the distribution of employment, where the largest share of employment is still in firms with labour shares between 60 and 80 per cent. Despite an increase in the share of employment in firms with labour shares below 40 per cent from around 6 per cent to 13 per cent, the increase does not match the strong shift in value added.



Note: In the figures, manufacturing firms are grouped by labour share intervals, and the share of value added and employment is calculated for each range in 2001 and 2019, respectively, with 2019 chosen so that results are not affected by the coronavirus pandemic, which is not the focus of the analysis.

Source: Statistics Denmark and own calculations.

As shown, the decline in the manufacturing labour share is driven almost entirely by a development in the top 1 per cent of firms in terms of value added. Over time, the labour share has declined in these firms, and towards the end of the period these firms accounted for almost half of manufacturing value added. The share of employment in the top 1 per cent of firms has remained broadly unchanged over time. This shows that the vast majority of manufacturing employees continue to be employed in the remaining 99 per cent of firms that have not experienced a decline in the labour share, *cf. figure 2.12*.



Note: The total share of value added and full-time employees for the top 1 per cent of manufacturing firms measured by value added in each year. Full-time employees for each firm are measured in annual full-time equivalents.

Source: Statistics Denmark and own calculations.

2.6 Conclusion

The analysis in this chapter shows that the fall in the manufacturing labour share can be largely attributed to the largest firms, which over the past few decades have both reduced their labour shares and increased their share of total value added. This should be seen in relation to the increasing cross-border expansion of the largest manufacturing firms, which in many cases generates value added that is included in Danish GVA, but is not reflected in domestic labour costs and employment to the same extent. Thus, three-quarters of manufacturing employees are still employed in the group of firms that, in general, have not contributed to the observed decline in the manufacturing labour share. Overall, this indicates that the fall in the labour share can be related to a broad international economic trend, where, for example, globalization and technological advances lead to an increasing concentration of market activity in a smaller group of highly productive firms, which is largely consistent with the recent academic literature, *cf. box 2.2*.

Box 2.2**Explanations in the literature for falling labour shares**

The international phenomenon of falling labour shares is the subject of a rapidly growing academic literature, which tries to explain the trend with a wide range of possible causes that are not mutually exclusive. Some of the most important explanations that have been examined in recent years are reviewed below.

The relationship between capital and labour.⁵ Part of the literature connects the international phenomenon of falling labour shares to a changing relationship between capital and labour in the economy. A frequently proposed explanation is a fall in the relative price of investment – i.e. the ratio of the price of capital goods and consumer prices – for example as the result of a sharp fall in the prices of information technology in recent decades. If it is assumed that capital and labour are gross substitutes, a fall in the relative price of investment implies a shift towards a more capital-intensive production. Thus, a decreasing share of value added is going to workers, that is, a decrease in the labour share. However, the assumption that labour and capital can be largely substituted is not widely supported by the empirical literature, which in many cases find that capital and labour are gross complements.

Automation and artificial intelligence.⁶ Even when it is assumed that capital and labour are gross complements, a mechanism where the speed of the ongoing process of automation of formerly manual tasks performed by workers exceeds the speed with which new tasks and jobs are created in the economy could potentially lead to a fall in the labour share. The emergence of industrial robots and artificial intelligence means that tasks, which, until recently, were carried out, by, e.g., manufacturing workers or secretaries and clerks are increasingly being automated. However, this can be offset by new job creation and in general employment has increased in western economies.

Measurement issues can affect the labour share.⁷ Some studies reveal how changes in, for example, the calculation and definition of value added can significantly affect the observed labour share. For instance, this applies, to firms' investments in intellectual property products, including research and development, software purchases etc., which until recent revisions of the national accounting manuals were treated as expenses in line with costs of input materials, whereas today it is accounted for as capital investments in the same way as, for example, machinery and equipment.

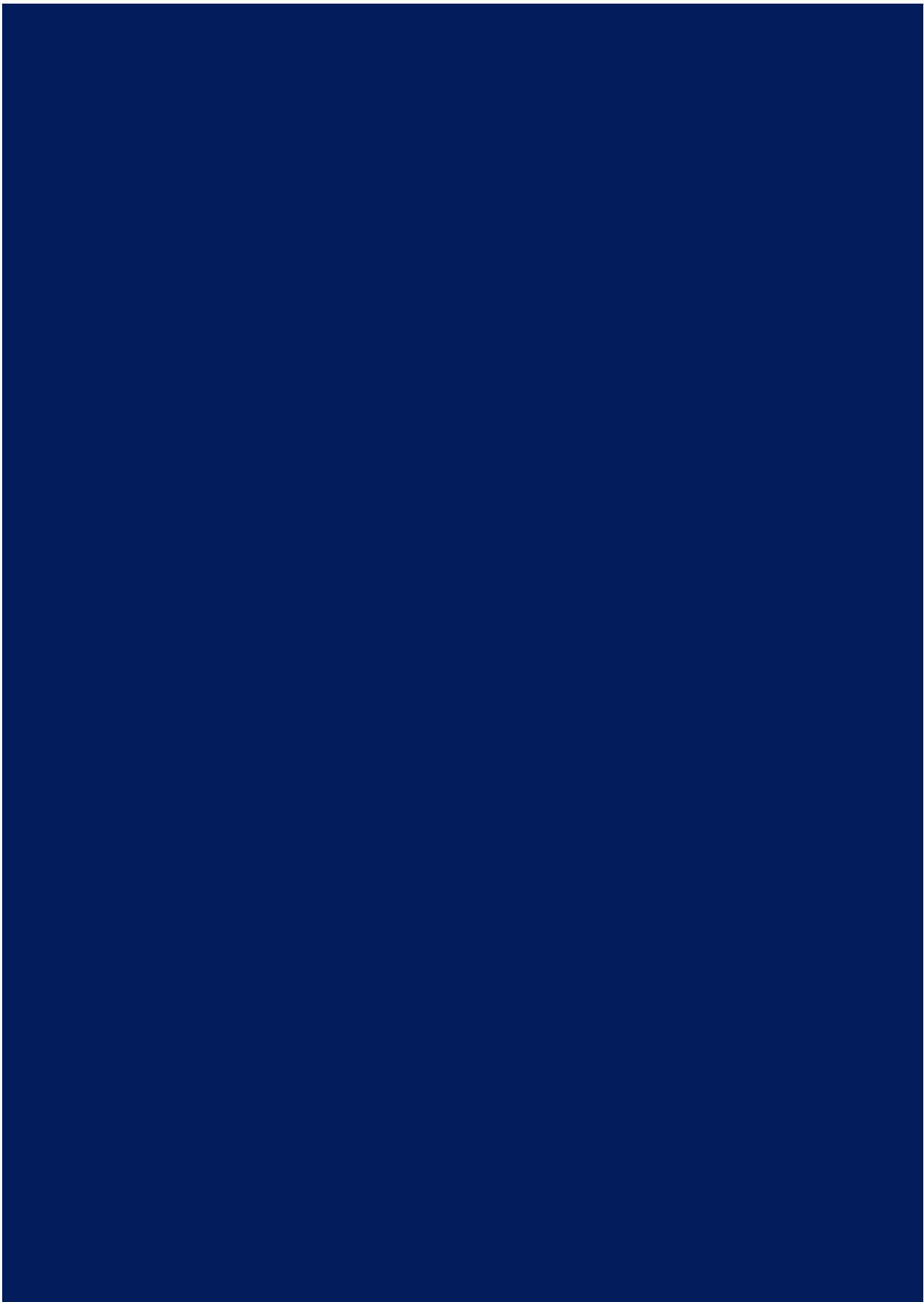
The rise of “superstar” firms.⁸ Recent literature based on firm-level data of U.S. firms find that falling labour shares are closely related to a development where a small group of firms with high profit margins and thus low labour shares have substantially increased their market shares and their share of total value added in the economy. When firms with high profit margins and low labour shares increase their economic weight, it generally leads to a decreasing labour share. In the literature, this group of internationally market-leading firms is referred to as “superstar” firms. The emergence of superstar firms can most likely be attributed to a combination of several factors related to the development of advanced economies in recent decades, including technological development, increasing globalization, changes in the competitive environment in favour of certain products, greater importance of network effects with the spread of the internet etc.

⁵ E.g. Karabarbounis & Neiman (2014): “The Global Decline of the Labor Share”, *The Quarterly Journal of Economics*.

⁶ E.g. Acemoglu & Restrepo (2019): “Automation and new tasks: How technology displaces and reinstates labor”, *Journal of Economic Perspectives*.

⁷ E.g. Koh et al. (2020): “Labor Share Decline and Intellectual Property Products Capital”, *Econometrica*.

⁸ E.g. Autor mfl. (2020): “The Fall of the Labor Share and the Rise of Superstar Firms”, *The Quarterly Journal of Economics*.



Annex tables

Table B.1
Demand, import and production

	2021	2022	2023	2021	2022	2023	2021	2022	2023
	DKK bn.			Volume, per cent			Prices, per cent		
Private consumption	1,142	1,231	1,286	4.2	0.5	1.1	2.1	7.3	3.3
Public consumption ¹⁾	608	626	640	4.2	0.7	-0.7	1.5	2.2	3.0
Public investments ²⁾	85	87	92	0.4	-2.3	2.9	1.3	4.3	2.8
Residential investment	151	167	159	9.9	5.8	-8.0	3.4	5.0	3.2
Fixed business investment	330	364	380	6.3	4.2	1.3	3.0	5.8	3.2
Domestic demand excl. in- ventory investment	2,320	2,480	2,562	4.7	1.3	0.1	2.1	5.5	3.2
Inventory investment ³⁾	5	18	18	0.0	0.4	0.0			
Total domestic demand	2,325	2,498	2,580	4.6	1.8	0.2	2.1	5.5	3.1
Exports of goods and ser- vices	1,494	1,699	1,698	8.0	3.6	2.3	8.4	9.7	-2.2
Total demand	3,819	4,197	4,278	5.9	2.5	1.0	4.5	7.2	0.9
Imports of goods and services	1,315	1,492	1,504	8.0	2.0	1.4	7.9	11.2	-0.6
Gross domestic product	2,504	2,705	2,774	4.9	2.8	0.8	2.8	5.1	1.8
Taxes on products, net	328	338	348						
Gross value added	2,176	2,367	2,427	5.1	3.3	0.7	2.6	5.3	1.8
- Non-farm private sector ⁴⁾	1,453	1,595	1,708	6.1	3.8	0.8	0.2	5.8	6.2
Gross national income	2,584	2,765	2,824						

Note: The division into volume and price components is made based on a fixed price calculation in the previous year's prices.

- 1) The change in volume for public consumption is calculated using the output method. For 2022-2023, growth in public consumption using the input method is assumed to equal growth using the output method.
- 2) Public investments exclude general government net purchases of buildings, and therefore the figures will deviate from public investments in table B.7.
- 3) The volume figures reflect changes in inventories compared to GDP.
- 4) Non-farm private sector consists of manufacturing, construction and private service excluding shipping.

Source: Statistics Denmark and own calculations.

Table B.2
Interest rates, oil price and exchange rates and external assumptions

Interest rates, per cent		2019	2020	2021	2022	2023
USA	Federal Funds Target Rate	2.3	0.5	0.3	1.8	3.4
	3-month LIBOR	2.3	0.7	0.2	2.1	3.5
	10-year government bond	2.1	0.9	1.4	2.5	2.7
Euro area	Main Refinancing Operations Rate	0.0	0.0	0.0	0.4	1.5
	3-month EURIBOR	-0.4	-0.4	-0.5	0.1	1.2
	10-year government bond (Germany)	-0.2	-0.5	-0.3	0.7	1.1
Denmark	Certificates of deposit rate	-0.7	-0.6	-0.5	-0.2	0.9
	3-month CIBOR	-0.4	-0.2	-0.2	0.3	1.3
	1-year adjustable mortgage rate	-0.6	-0.5	-0.5	0.4	1.4
	10-year government bond	-0.2	-0.4	-0.1	0.9	1.2
	30-year mortgage interest rate	1.4	1.1	1.3	3.4	3.7
Average interest rate		0.5	0.3	0.4	1.7	2.2
Oil price						
Dollar per barrel		64,4	41,8	70,7	104,3	94,1
DKK per barrel		429,2	273,2	444,4	719,8	688,2
Exchange rate						
DKK per 100 dollar		666.9	654.2	628.7	690.1	731.3
DKK per 100 euro		746.6	745.4	743.7	744.1	744.5
Effective Krone Rate Index (1980=100)		102.9	102.9	102.9	101.8	100.9
Real growth rate, per cent						
External assumptions						
Export market growth ¹⁾ , per cent		1.5	-4.7	10.2	5.5	3.3
Trade weighted GDP-growth ²⁾ , per cent		1.9	-3.7	5.2	2.7	1.7

Note: The projections are based on data through July 31, 2022. Annual averages are own calculations. For monetary policy interest rates, the interest rate estimate is based on an assessment of the latest announcements by central banks and market expectations. For money market rates and the yield on 10-year government bonds, estimates are based on market expectations, which are based on the prices of swap interest rates. For the 1-year and 30-year mortgage rate bonds, data is Finance Denmark's bond rates and estimates are based on spreads to the 3-month money market rate and the 10-year government bond rate respectively. Estimates for exchange rates are calculated technically by assuming that the exchange rate for the remaining forecast period corresponds to the average during the last ten days prior to the estimation. Estimates for the oil price are based on the International Energy Agency, *World Energy Outlook, October 2021*, as well as futures prices.

1) Calculated as the weighted average of import growth in Denmark's 36 most important trade partners. The weights reflect the countries' share of Danish manufacturing exports in 2020.

2) Calculated as the weighted average of the GDP-growth in Denmark's 36 most important trade partners. The weights reflect the countries share of Danish export of goods and services in 2020.

Source: Macrobond, Nordea Markets, The International Energy Agency, *OECD Economic Outlook, June 2022* and own calculations.

Table B.3
Population and labour market

	2019	2020	2021	2022	2023
1.000 persons					
Total population	5,814	5,831	5,857	5,884	5,904
- Labour force	3,107	3,103	3,151	3,230	3,237
- Total employment	3,005	2,973	3,046	3,153	3,145
- Ordinary employment ¹⁾	2,917	2,883	2,949	3,049	3,034
- Subsidised employment ²⁾	89	90	96	105	111
- Gross unemployment (incl. activation) ³⁾	104	131	106	78	93
- Net unemployment	86	119	94	65	76
- Outside the labour force	2,707	2,729	2,706	2,654	2,667
- Recipients of unemployment benefits and cash benefits in activation outside the labour force	97	93	85	86	91
- Early retirement pensioners outside the labour force	183	191	198	205	205
- Senior pensioners outside the labour force	0	3	11	17	19
- Voluntary early retirement	46	48	52	47	37
- Persons under 15 years	955	951	947	944	941
- Pensioners outside the labour force	989	977	970	958	965
- Others outside the labour force	437	466	443	397	409

Note: Recipients of education assistance benefit, the special education benefit and other temporary benefits (kontantydelse) are included as cash benefit recipients.

- 1) Calculated as the difference between employment as determined in the national accounts and subsidised employment, which is based on data from AMFORA. Due to differences in the definition of employment in the two sources, the data is subject to a degree of uncertainty
- 2) Includes persons in employment with wage subsidies (including flex jobs and light duty jobs
- 3) The number of unemployment benefit recipients in activation and labour-market-ready cash benefit recipients includes persons in subsidised employment.

Source: Statistics Denmark and own calculations.

Annex tables

Table B.4
Employment (including persons on leave) by industry

	2019	2020	2021	2022	2023
1.000 persons					
Employment, total	3,005	2,973	3,046	3,153	3,145
- Service industries	1,583	1,556	1,595	1,679	1,680
- Construction	192	194	203	211	206
- Manufacturing	311	303	307	316	315
- Agriculture	70	68	67	67	67
- Public sector	830	833	854	860	857

Note: The industry division is based on the division in the ADAM model, which are not identical to the division in the national accounts.

Source: Statistics Denmark and own calculations.

Tabel B.5
Unemployment

	2019	2020	2021	2022	2023
1.000 persons					
Gross unemployment	104	131	106	78	93
- per cent of workforce	3.4	4.2	3.4	2.4	2.9
Net unemployment	86	119	94	65	76
LFS unemployment (per cent)	5.1	5.8	5.2	3.9	4.5

Note: Differences in the definition of the labour force between the Ministry of Finance and Statistics Denmark mean that the gross unemployment rate in per cent of the workforce is estimated at a lower level.

Source: Statistics Denmark and own calculations.

Table B.6
Benefit recipients etc.

	2019	2020	2021	2022	2023
1.000 persons					
Unemployment benefits (excl. activation)	71	101	82	52	60
Cash benefits (excl. activation)	80	85	75	69	72
Recipients of unemployment benefits and cash benefits in activation ¹⁾	34	24	22	23	25
Holiday benefit	4	3	3	1	1
Early retirement pensioners ²⁾	203	210	218	225	225
Senior pension	0	3	12	19	21
Resource assessment benefit	38	36	33	37	35
Voluntary early retirement	46	48	52	47	37
Early retirement	0	0	0	7	14
Flex job scheme benefit	3	3	3	3	3
Disablement rehabilitation benefit ³⁾	3	3	2	2	1
Sickness benefit ⁴⁾	59	76	84	69	64
Maternity leave	50	51	52	51	52
Benefit for unemployed	16	18	16	14	15
Self-support, home-travelling and transitional benefits ⁵⁾	13	12	10	17	24
Total	621	674	664	637	650
Student grant (SU)	322	318	315	307	303
Total, including SU	943	992	979	944	953
Pensioners	1,145	1,124	1,116	1,101	1,111
Total, including SU and pensioners	2,088	2,116	2,095	2,045	2,065
Subsidised employment ⁶⁾	89	90	96	105	111
Total, including SU, pensioners and subsidised employment	2,176	2,206	2,191	2,150	2,176

Note: Recipients of education assistance benefit, the special education benefit and other temporary benefits (kontantydelse) are included as cash benefit recipients.

- 1) The data does not cover persons in subsidised employment and thereby differs from other register-based data and table B.3. Furthermore, both labour market ready and non-labour market ready cash benefit recipients are included in the group of recipients of unemployment benefits and cash benefits in activation schemes.
- 2) Early retirement and retirement pension include pensioners living abroad as well as pensioners, who are employed.
- 3) Excl. persons on disablement rehabilitation with wage support.
- 4) The number of sickness benefit recipients does not reflect the total absence due to illness. It includes the part of the sickness absence, which is not covered by the employer. Specifically, this covers sickness absences longer than 30 days as well as sickness among the unemployed.

Annex tables

- 5) The number of self-support and home-travelling as well as transitional benefits are calculated excl. recipients of wage subsidies
- 6) Includes persons in employment with wage subsidies (including flexi-jobs and sheltered jobs).
- Source: Statistics Denmark, DREAM and own calculations.

Table B.7
Gross investments

	2021	2019	2020	2021	2022	2023
	DKK bn.	Real growth rate, per cent				
Gross fixed capital formation	566	-1.3	5.1	6.2	3.7	-0.9
<i>Divided into groups:</i>						
- Construction investments	284	2.7	4.7	8.9	3.9	-3.8
- Tangible and intangible investments	282	-4.9	5.6	3.6	3.5	2.0
<i>Divided into groups:</i>						
- Residential investments	151	6.3	9.1	9.9	5.8	-8.0
- Public investments ¹⁾	85	-3.0	12.2	0.3	-1.7	3.4
- Total business investments	330	-3.7	1.7	6.3	4.2	1.3
- Construction investments	87	1.8	-5.1	7.9	3.1	0.6
- Tangible and intangible investments	243	-5.6	4.4	5.6	4.6	1.6

- 1) Public investments are incl. public acquisitions of buildings, which is why numbers differ from what is stated in table B.1.
- Source: Statistics Denmark and own calculations.

Table B.8**Balance of payments**

	2019	2020	2021	2022	2023
DKK bn.					
Goods exports	799	780	893	978	1,009
Goods imports	701	675	814	941	951
Goods balance, total	98	105	79	37	57
Service exports	556	496	601	721	690
Service imports	491	454	501	551	553
Service balance, total	65	42	100	170	137
Balance of goods and services	163	147	179	207	194
- Per cent of GDP	7.1	6.3	7.1	7.6	7.0
Investment income from abroad, net	76	88	92	70	60
Wage income from abroad, net	-13	-14	-14	-13	-13
EU payments, net	-13	-16	-16	-13	-16
Other current transfers from abroad, net	-18	-19	-20	-20	-18
Net transfers from abroad, total	32	39	40	24	13
Current account, total	196	186	219	231	208
- Per cent of GDP	8.5	8.0	8.8	8.5	7.5
Net foreign asset position	1,797	1,603	1,888	2,522	2,967
- Per cent of GDP	77.7	69.0	75.4	93.2	106.9

Source: Statistics Denmark and own calculations.

Annex tables

Table B.9
Exports og imports

	2021	2019	2020	2021	2022	2023
	DKK bn.	Real growth rate, per cent				
Exports						
Goods, total	893	6.3	-0.8	11.4	1.0	0.1
- Agricultural goods etc.	131	1.5	1.2	6.1	-1.5	1.5
- Industrial goods (excl. ships etc.)	678	8.2	0.7	11.0	2.8	0.8
- Other goods ¹⁾	85	-0.6	-16.3	28.7	-9.7	-7.5
Services, total	601	2.0	-14.2	2.6	7.6	5.2
- Sea transport	333	1.3	-5.4	5.8	0.0	2.5
- Other services	238	3.2	-13.2	-1.1	11.5	8.0
Total	1,494	4.5	-6.3	8.0	3.6	2.3
Imports						
Goods, total	814	1.5	-0.7	10.5	0.2	0.8
- Agricultural goods etc.	92	2.8	-5.8	5.6	-3.9	4.7
- Industrial goods (excl. ships etc.)	531	4.4	2.2	11.3	1.0	0.4
- Other goods ²⁾	191	-6.4	-5.9	10.9	-0.1	0.1
Services, total	501	5.4	-7.6	4.2	4.9	2.5
Total	1,315	3.0	-3.6	8.0	2.0	1.4
Memo						
		Nominal growth rate, per cent				
Export of basic goods ³⁾	843	6.7	0.6	11.2	9.2	3.9
Export prices						
		Change, per cent				
Goods, total	-	-0.2	-1.5	2.8	8.4	3.0
Services, total	-	4.7	3.9	18.0	11.6	-9.0
Total	-	1.8	0.5	8.4	9.7	-2.2
Import prices						
Goods, total	-	0.2	-2.9	9.2	15.3	0.3
Services, total	-	4.4	0.0	5.9	4.8	-2.1
Total	-	1.9	-1.8	7.9	11.2	-0.6

1) Raw materials, energy and ships etc.

2) Raw materials, energy, cars and ships etc.

3) Export of basic goods consists of export of goods excluding energy, ships and airplanes.

Source: Statistics Denmark and own calculations.

Table B.10
Private consumption

	2021	2019	2020	2021	2022	2023
	DKK bn.	Real growth rate, per cent				
Total consumption	1,142	1.6	-1.4	4.2	0.5	1.1
Retail trade	391	1.2	6.2	5.0	-4.3	0.9
- Food, drinks and tobacco	176	0.4	4.1	3.3	-7.4	1.5
- Other goods	215	1.8	7.9	6.3	-1.8	0.5
Purchase of vehicles	49	7.5	0.9	0.3	-9.1	6.0
Electricity, fuels and gas	55	-3.8	-0.7	5.1	-7.4	-1.0
Gasoline and similar	26	-1.1	-9.3	3.3	-9.0	-1.6
Housing	255	1.2	1.4	1.1	1.6	1.2
Other services	366	2.2	-12.5	4.6	9.6	1.8
Tourist expenditures	31	0.4	-47.2	26.8	40.0	5.0

Source: Statistics Denmark and own calculations.

Table B.11
Net lending by sectors

	2019	2020	2021	2022	2023
DKK bn.					
Private sector, total	101	181	157	200	187
- Households	11	35	17	26	27
- Corporations	91	145	139	174	159
- Non-financial corporations	40	109	83	133	127
- Financial corporations	50	36	56	41	33
General government	95	5	65	32	22
Total	197	186	222	231	208

Note: Net lending of general government corresponds to the general government budget balance. The total (except for the typically small net capital transfers from abroad) corresponds to the current account balance, cf. table B.8.

Source: Statistics Denmark and own calculations.

Annex tables

Table B.12
Gross value added (GVA)

	2021	2019	2020	2021	2022	2023
	Share, per cent	Real growth rate, per cent				
Total GVA	100	1.5	-2.4	5.1	3.3	0.7
Public sector	20	1.4	-4.2	3.3	3.1	-0.5
Private sector	80	1.5	-2.0	5.5	3.3	1.0
Private sector excl. mining and quarrying	79	1.7	-1.7	5.5	3.4	1.0
Non-farm private sector ¹⁾	67	1.6	-2.2	6.1	3.8	0.8

1) Non-farm private sector consists of manufacturing, construction and private services excluding shipping.
Source: Statistics Denmark and own calculations.

Table B.13
Hourly productivity in selected industries

	Avg. 1997-2021	2019	2020	2021	2022	2023
Real growth rate, per cent						
Total	1.1	0.7	0.6	1.2	0.2	1.3
Public sector	0.4	1.0	-2.2	0.7	1.2	-0.5
Private sector	1.3	0.6	1.4	1.2	-0.2	1.8
Private sector excl. mining and quarrying	1.5	0.8	1.6	1.2	-0.1	1.9
Non-farm private sector ¹⁾	1.4	0.7	1.3	1.4	0.1	1.7

Note: Hourly productivity is defined as gross value added in constant prices relative to the total number of hours.

1) Non-farm private sector consists of manufacturing, construction and private services excluding shipping.
Source: Statistics Denmark and own calculations.

Table B.14
Contributions to growth in households' real disposable income¹⁾

	2019	2020	2021	2022	2023
Real growth rate, per cent					
Disposable income ²⁾	2.5	0.1	1.3	-0.1	-0.2
Contribution, percentage points					
Compensation of employees ³⁾	2.7	1.1	3.6	-2.4	-0.5
Social benefits	0.5	1.7	-0.5	-2.4	0.3
Income taxes	-1.5	-2.4	0.1	2.0	0.4
Net interest income	1.7	-0.5	1.6	-0.6	-0.7
Dividend etc, ⁴⁾	0.4	-0.8	0.2	-0.5	-0.1
Pension contribution	-2.6	0.4	-2.4	3.2	-0.3
Payment from pension schemes ⁵⁾	0.3	0.0	-0.6	0.9	0.3
Others ⁶⁾	0.9	0.6	-0.8	-0.3	0.3

1) The household sector in the Economic Survey includes Non-Profit Institutions Serving Households (NPISH).

2) Taxation on payments of frozen holiday funds is subtracted in the calculation of disposable income.

3) Covering only employees residing in Denmark.

4) Incl. dividends from investment funds.

5) Occupational pensions etc. (but not individual pension schemes in banks, etc.)

6) Including the self-employed.

Source: Statistics Denmark and own calculations.

Table B.15
Households' net lending¹⁾

	2019	2020	2021	2022	2023
DKK bn.					
Disposable gross income ²⁾	1,137	1,142	1,181	1,266	1,305
Private consumption	1,085	1,074	1,142	1,231	1,286
Gross investment ³⁾	110	111	123	135	132
Net capital transfers ⁴⁾	-3	4	-2	3	15
Direct net lending	-61	-40	-86	-98	-98
Adjustment for the change in pension entitlements ⁵⁾	71	75	103	124	126
Net lending⁶⁾	11	35	17	26	27
Per cent of disposable gross income					
Direct net lending	-5.3	-3.5	-7.2	-7.8	-7.5
Net lending	0.9	3.1	1.5	2.1	2.1

1) The household sector in the Economic Survey includes Non-Profit Institutions Serving Households (NPISH).

2) Taxation on payments of frozen holiday funds is subtracted in the calculation of disposable income.

3) Households' gross investments include investments in owner-occupied housing and investments in buildings and materials by sole proprietors.

4) Net capital transfers in 2022 include property taxes refunded to owner-occupied property owners, funds for specific challenges as a result of covid-19 and further stimulants as well as reimbursement of contributions to the voluntary early retirement scheme.

5) Net payments to and returns (excl. tax on pension yield) on household capital in life insurance companies and pension funds.

6) Households' (net) acquisition of financial assets (incl. shares) in other sectors.

Source: Statistics Denmark and own calculations.

Table B.16
Real estate market and construction

	2019	2020	2021	2022	2023
Per cent					
Change in the price of traded single-family houses ¹⁾	3.0	4.8	10.6	3.1	-4.8
Housing gross investment (real growth)	6.3	9.1	9.9	5.8	-8.0

1) The change is adjusted for developments in the volume of housing sales.

Source: Statistics Denmark and own calculations.

Table B.17
Labour wage ratio, wage increases and computational preconditions

	2019	2020	2021	2022	2023
Labour wage ratio, per cent					
Private sector	57.9	58.9	58.2	57.1	58.0
The entire economy	63.0	63.8	63.1	62.0	62.6
Wage increase, per cent					
Private sector					
- Hourly earnings (excl. nuisance bonus)	2.5	1.9	2.9	3.6	3.6
Public sector					
- Hourly earnings (excl. nuisance bonus)	2.2	2.5	1.2	-	-
- Budgetary impact	1.8	2.5	1.3	1.9	2.7
Wage adjustment rate, per cent ¹⁾	2.0	2.0	2.0	1.2	2.7

Note: The labour income ratio is calculated as aggregated labour income relative to the GVA (gross value added) and adjusted for the number of self-employed. The hourly wage increases in the private sector in 2019-2020 are published by The Confederation of Danish Employers. The hourly wage increases in the public sector are a weighted average of wage indices for the state, the municipalities and the counties, all reported by Statistics Denmark. No estimates are made on the development in public sector hourly earnings. The budgetary impact is based on the contractually agreed wage increases including contributions from the adjustment scheme (reguleringsordningen) but excluding any residual increases. The hourly wage increases for the private and public sectors are not comparable.

1) The wage adjustment rate stated for 2019-2023 is the announced wage adjustment rate.

Source: The Confederation of Danish Employers, Statistics Denmark, and own calculations.

Annex tables

Table B.18
Price developments and explanatory factors

	2019	2020	2021	2022	2023
Change, per cent					
Net price index	0.9	0.4	1.4	8.6	3.6
Tariffs and housing benefits, contribution	-0.1	0.0	0.5	-1.3	-0.3
Consumer price index	0.8	0.4	1.9	7.3	3.3

Note: The contribution from tariffs and housing benefits is computed as the difference between the consumer price inflation and the net price inflation. Changes in the prices of taxed goods such as energy can therefore influence the contribution from taxes, even though the tax level remains unchanged.

Source: Statistics Denmark and own calculations.

Table B.19
Public finances

	2019	2020	2021	2022	2023
DKK bn.					
Public consumption	557.6	575.4	608.4	625.8	639.8
Income transfers ¹⁾	365.2	385.8	388.1	385.5	402.4
Investments	74.9	83.9	85.3	86.9	92.0
Interest expenditures	17.0	12.8	14.1	15.1	13.6
Subsidies	38.0	75.6	63.3	40.8	37.3
Other expenditures ²⁾	71.8	86.9	86.6	91.1	98.5
Total expenditure³⁾	1,124.4	1,220.4	1,245.9	1,245.3	1,283.7
Personal income taxes, etc. ⁴⁾	487.9	510.3	519.6	534.8	547.0
Labour market contributions	100.8	106.3	110.4	114.7	117.8
Pension yield taxation	63.4	48.2	63.2	6.5	5.6
Corporate taxes	72.8	66.6	93.6	82.5	79.4
VAT	223.2	231.6	250.0	265.3	271.8
Other duties	145.1	142.4	147.4	146.5	151.8
Other taxes ⁵⁾	4.5	4.0	2.8	1.0	1.0
Interest revenues	23.5	20.3	24.5	25.7	27.7
Other revenues ⁶⁾	101.7	98.8	103.2	103.7	107.3
Tariffs etc. to the EU	-3.1	-3.1	-3.7	-3.7	-3.8
Total revenue⁷⁾	1,219.8	1,225.4	1,311.1	1,277.0	1,305.5
General government budget balance	95.5	5.0	65.2	31.7	21.8
Net interest expenditure	-6.5	-7.5	-10.4	-10.6	-14.1
General government primary balance ⁸⁾	89.0	-2.5	54.8	21.1	7.7

Annex tables

- 1) Income transfers exclude other regular transfers to households such as mileage allowance and index supplement.
- 2) Other expenditures include capital transfers, transfers to the Faroe Islands and Greenland and the Danish EU-contributions.
- 3) Total expenditure differs from Statistics Denmark's equivalent. Total expenditure is calculated from a definition of the total expenditure, where all sub-elements of public consumption – e.g. imputed expenditure from depreciation and revenue from sales of goods and services – are defined as expenditures.
- 4) Personal income taxes include withholding taxes, tax on imputed income from owner-occupied dwellings, specific taxes from households, tax on estates of deceased persons and other personal taxes.
- 5) Other taxes include media license and mandatory pension payments for civil servants.
- 6) Other revenues include profits from public enterprises, current and capital transfers from other domestic sectors and the EU, and imputed (calculated) revenues such as contributions to civil servants' earned pension. Moreover, revenues from oil and gas explorations in the North Sea, duty on pipelines, and the hydrocarbon tax are included in other revenues.
- 7) Total revenue differs from Statistics Denmark's equivalent, where the sales of public goods and services are counted as revenue and not – like here – counted as a part of the total expenditures. Furthermore, total revenue here includes a revenue-counterpart to the imputed depreciation expenditures included in public consumption.
- 8) The general government primary balance states the balance of the general government finances before net interest expenditures.

Source: Statistics Denmark and own calculations.

Table B.20
Taxes and tax burden

DKK bn.	2019	2020	2021	2022	2023
Indirect taxes	365.2	371.0	393.7	408.1	419.8
- VAT	223.2	231.6	250.0	265.3	271.8
- Registration tax	20.3	18.7	16.4	14.6	16.9
- Excise duties	69.0	68.8	71.7	67.5	68.3
- Energy (incl. PSO)	38.3	37.3	37.6	35.2	34.4
- Environmental	3.3	3.5	3.7	3.8	3.8
- Tobacco and spirits etc.	11.6	12.6	13.2	10.9	11.9
- Others	15.9	15.4	17.1	17.6	18.1
- Property taxes	30.6	31.6	32.4	32.9	33.7
- Motor vehicle tax paid by businesses	3.9	3.9	4.0	4.0	4.1
- Other indirect taxes	18.2	16.3	19.3	23.7	25.0
Direct taxes	719.9	727.3	781.5	732.8	744.2
- Withholding taxes ¹⁾	463.8	488.1	497.6	513.7	526.7
- State tax	163.4	172.7	178.1	183.1	189.0
- Bottom-bracket tax	143.4	151.6	155.0	160.7	165.2
- Top-bracket tax	17.6	18.8	20.3	19.9	21.2
- Health contributions	0.0	0.0	0.0	0.0	0.0
- Limited tax liability	2.3	2.3	2.8	2.5	2.6
- Total municipal tax	247.7	263.0	270.9	276.3	282.8
- Property value tax	14.8	15.0	13.8	14.1	13.9
- Other withholding taxes ²⁾	38.0	37.5	34.8	40.3	41.0
- Pension yield tax	63.4	48.2	63.2	6.5	5.6
- Corporate tax	72.8	66.6	93.6	82.5	79.4
- Other personal taxes	8.2	8.3	8.1	7.9	7.2
- Media license	3.5	2.7	1.2	0.0	0.0
- Motor vehicle tax paid by households	7.3	7.2	7.3	7.4	7.6
- Labour market contributions	100.8	106.3	110.4	114.7	117.8
Social security contributions ³⁾	1.0	1.4	1.5	1.0	1.0
Capital taxes	8.6	6.7	6.6	5.7	5.5
Customs and import duties (collected by the EU)	3.1	3.1	3.7	3.7	3.8
Total taxes	1,097.8	1,109.4	1,187.1	1,151.4	1,174.3
GDP	2,311.0	2,323.9	2,504.2	2,704.9	2,774.3
Total taxes, share of GDP	47.5	47.7	47.4	42.6	42.3

Annex tables

- 1) For 2019-2021, the distribution of withholding taxes to the state and municipalities is from Statistics Denmark. For 2022-2023, an estimate is used based on the Ministry of Finance's tax base forecast.
 - 2) Includes equity income tax, tax on estates of deceased persons and revenue from the Danish business scheme etc.
 - 3) Includes mandatory pension payments for civil servants in public enterprise etc.
- Source: Statistics Denmark and own calculations.

Table B.21
Development in the tax base for municipalities

	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
	DKK bn.					Per cent				
May 2018	1005.3	-	-	-	-	2.5	-	-	-	-
August 2018	1008.0	-	-	-	-	2.9	-	-	-	-
December 2018	1013.2	1045.9	-	-	-	3.5	3.2	-	-	-
August 2019	1005.7	1033.8	-	-	-	4.0	2.8	-	-	-
December 2019	1006.3	1035.9	1073.4	-	-	4.2	2.9	3.6	-	-
May 2020	1008.8	997.6	1042.7	-	-	4.5	-1.1	4.5	-	-
August 2020	1010.7	1054.6	1044.9	-	-	4.7	4.3	-0.9	-	-
December 2020	1007.3	1063.6	1070.7	1087.2	-	4.3	5.6	0.7	1.5	-
May 2021	1006.8	1060.5	1070.3	1085.6	-	4.3	5.3	0.9	1.4	-
August 2021	1006.8	1058.3	1075.5	1081.7	-	4.3	5.1	1.6	0.6	-
December 2021	1006.8	1064.4	1094.1	1104.2	1153.8	4.3	5.7	2.8	0.9	4.5
May 2022	1006.8	1064.4	1102.1	1105.9	1148.2	4.3	5.7	3.5	0.3	3.8
August 2022	1006.8	1064.4	1136.4	1122.8	1148.8	4.3	5.7	6.8	-1.2	2.3

Note: Rows show the time of the budgeting of the municipal tax base. The columns show the tax base in the year concerned.

Source: Statistics Denmark and own calculations.

Table B.22
Income transfers

	2019	2020	2021	2022	2023
DKK bn.					
Unemployment benefits (excl. activation)	14.6	21.2	17.7	11.5	13.2
Cash benefits ¹⁾ (excl. activation)	24.4	26.4	26.9	32.1	33.7
Vacation allowance	0.7	0.7	0.6	0.3	0.3
Anticipatory pensions ²⁾	41.9	44.1	46.3	47.1	49.0
Resource rehabilitation allowance	6.7	6.3	5.8	6.4	6.2
Early retirement benefit	8.2	8.5	8.9	7.8	6.0
Rehabilitation benefit	0.8	0.6	0.5	0.4	0.3
Sickness benefit	11.9	14.1	16.2	13.4	12.5
Maternity pay	11.1	12.0	12.1	11.9	12.6
Rent benefit	15.1	15.4	15.5	15.8	16.2
Child and youth benefit	14.7	14.8	14.9	15.0	15.3
Other transfers ³⁾	21.6	24.6	22.2	20.5	22.6
Student grants (SU)	20.7	20.9	21.0	20.8	20.9
Public pension scheme ⁴⁾	142.5	144.6	146.2	146.3	155.0
Other pension schemes ⁵⁾	30.2	31.5	33.5	36.1	38.5
Total⁶⁾	365.2	385.8	388.1	385.5	402.4
Total, excl. public and other pensions	192.5	209.7	208.5	203.1	208.9
Total, excl. education grants, public pensions and other pensions	171.8	188.8	187.5	182.3	188.0

1) Taxable and non-taxable benefits incl. the integration benefit.

2) Incl. early retirement benefits to retired citizens in foreign countries.

3) Activation benefits, dependent child allowance, subsidy for childcare, unemployment benefits, special education benefit, green check and pay scheme for holders of flexi-jobs etc.

4) Incl. differentiated allowances and heating allowance for pensioners. Incl. pension schemes for citizens in foreign countries.

5) Civil servants in public enterprises and part-time early retirement scheme etc.

6) Income transfers exclude other regular transfers to households such as mileage allowance and index supplement.

Note: The expenditures to income transfers is not directly equivalent to the number of benefits recipients in table B.6.

Source: Statistics Denmark and own calculations.

Table B.23
Key figures estimated at different times

	Dec. 2020	Maj 2021	Aug. 2021	Dec. 2021	Maj 2022	Aug. 2022
2020						
GDP (real growth rate, per cent)	-3.8	-2.7	-2.1	-2.1	-2.1	-2.0
Gross unemployment (1.000 persons)	133	133	133	132	133	131
Consumer prices (change, per cent)	0.5	0.4	0.4	0.4	0.4	0.4
Balance of payments (DKK bn.) ¹⁾	162	181	192	190	190	186
Actual budget balance (DKK bn.)	-81	-27	-14	-4	-4	5
2021						
GDP (real growth rate, per cent)	2.8	2.4	3.8	3.9	4.7	4.9
Gross unemployment (1.000 persons)	126	122	114	107	106	106
Consumer prices (change, per cent)	1.2	1.1	1.3	1.8	1.9	1.9
Balance of payments (DKK bn.) ¹⁾	160	160	165	181	206	219
Actual budget balance (DKK bn.)	-31	-74	-47	-5	59	65
2022						
GDP (real growth rate, per cent)	3.1	3.6	2.8	2.8	3.4	2.8
Gross unemployment (1.000 persons)	119	115	104	78	86	78
Consumer prices (change, per cent)	1.6	1.5	1.5	2.2	5.2	7.3
Balance of payments (DKK bn.) ¹⁾	187	182	175	186	170	231
Actual budget balance (DKK bn.)	-39	-16	10	25	17	32
2023						
GDP (real growth rate, per cent)	-	-	-	2.1	1.9	0.8
Gross unemployment (1.000 persons)	-	-	-	77	87	93
Consumer prices (change, per cent)	-	-	-	1.8	1.8	3.3
Balance of payments (DKK bn.) ¹⁾	-	-	-	174	160	208
Actual budget balance (DKK bn.)	-	-	-	20	5	22

1) The current account balance.

Source: Statistics Denmark and own calculations.

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