Chapter 1

Summary

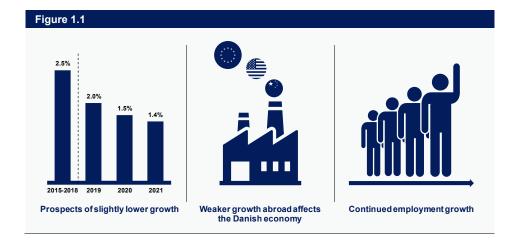
1.1 The current economic outlook

The Danish economy is currently operating above potential. Employment is at record high levels and continues to increase, while unemployment has dropped to a low level. The upswing started in 2013, and the Danish economy has now reached a stage in the business cycle, where the growth rate naturally slows down. GDP expanded by approximately $2^{1/2}$ per cent per year in 2015-2018, and the economy is expected to grow by 2.0 per cent in 2019 and approximately $1^{1/2}$ per cent in 2020 and 2021.

The expected slowdown is mainly due to a weaker global economy. Global growth has become more subdued and is only expected to improve gradually. This will affect the Danish economy. However, Danish companies are in a relatively good position and the composition of exports mitigates the effect of lower growth in the euro area and in the global economy on Danish exports. Also, the conditions are good for private consumption to contribute to continued growth in the Danish economy in the coming years.

Employment is expected to continue to increase, but at a gradually slower pace compared to earlier in the upswing. Thus, the pressure on the labour marked decreases.

There is still considerable uncertainty associated with developments on Danish export markets. The future relationship between the UK and the EU remains unclear, a flare-up of the US-China trade conflict cannot be ruled out, and the slowdown in the European economy may also prove to be more long-lasting. Enduring weakness on Danish export markets will also mean a more subdued outcome for the Danish economy.

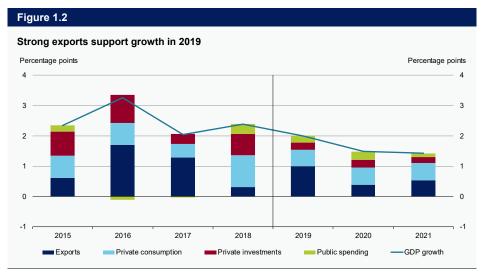


Prospects of lower growth

After a prolonged upswing, the Danish economy is entering a stage in the business cycle with slightly lower growth. This reflects, among other things, that the economy is operating above potential so production must gradually adjust to a normal level.

At the same time, more subdued growth in the global economy affects the opportunities for Danish companies to export goods and services. Since 2018, the world economy has shown signs of weakness. World trade has been declining and global manufacturing production has slowed down. Among other things this is reflected in the German car industry, which is also affected by new emission standards. The Chinese economy is also slowing down, and there are signs of slightly lower growth in the US economy.

However, the composition of Danish exports makes it less sensitive to cyclical fluctuations on export markets. In 2019, a large increase in exports of pharmaceutical products leads to an expectation of relatively high export growth, and Danish exports thus contribute relatively strongly to GDP growth, *cf. figure 1.2*.



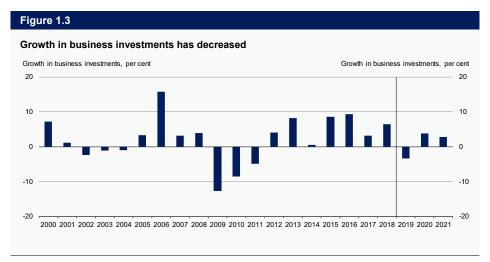
Note: Growth contributions are adjusted for import content. Source: Statistics Denmark and own calculations.

In 2020 and 2021 the economic slowdown in the euro area and the global economy is expected to result in a lower contribution to growth from exports. However, in line with the forecasts from international organizations, the forecast assumes a slight improvement in the global economy in 2021.

The expected dampening of the Danish economy is already reflected in the investments. This applies to both business investments and residential investments.

Business investments rose relatively sharply in the beginning of the upswing, which contributed to an increase in the capital stock of companies, i.e. the machines, buildings,

software, patents and the like that is used in production. The capital stock is now estimated to have reached a size, where the increase in business investments is expected to dampen in the coming years. In addition, uncertainty about future export opportunities is expected to have a negative impact on investments during the forecast period. On this background the rate of increase in investments is expected to slow towards 2021, *cf. figure 1.3*.

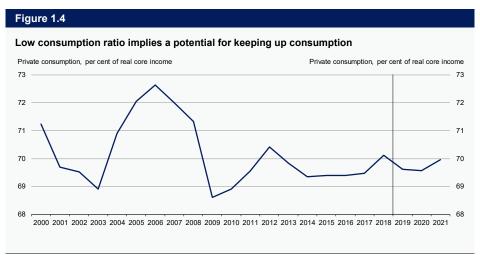


Note: In 2018, growth in business investments was strongly supported by extraordinarily large ship investments, while the lapse of these investments will reduce growth in 2019.

Source: Statistics Denmark and own calculations.

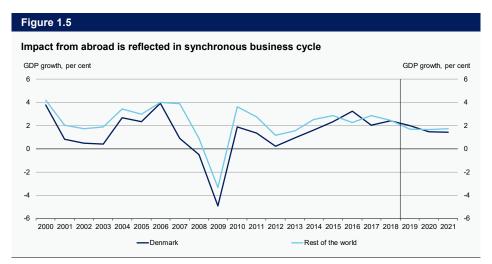
On the other hand, there are good opportunities for private consumption to continue to increase. In recent years, private consumption has grown steadily and in line with incomes. Households have been reluctant to increase consumption and from a historical perspective consumption is low relative to incomes, *cf. figure 1.4.*

Growth in employment is the primary driver of income gains. Although employment will grow more moderately in the coming years, there is potential for continued growth in consumption. This should be seen in conjunction with the low consumption ratio, which means that households can increase consumption without creating imbalances. In addition, consumption is supported by increasing real wages and, especially in 2021, by the repayment of property taxes to those homeowners who have been taxed based on a too high property valuation.



Note: Real core income is earnings and transfers. Source: Statistics Denmark and own calculations.

Overall, GDP growth is estimated at 2.0 per cent in 2019, declining to 1.5 per cent and 1.4 per cent in 2020 and 2021 respectively. The moderate slowdown in the growth rate means that the Danish economy will be aligned with growth abroad, *cf. figure 1.5*.



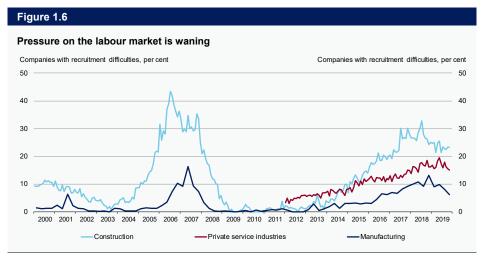
Note: The figures for rest of the world is trade-weighted GDP. Source: Statistics Denmark and own calculations.

The synchronous development is a consequence of the interdependence of economic development across countries that can be self-reinforcing through expectations and confidence. Thereby the development in Denmark is also sensitive to a possible slowdown abroad.

Waning pressure on the labour market

Since the start of 2013, 240,000 jobs have been created, bringing employment to a higher level than ever before. Naturally, this has caused some pressure on the labour market.

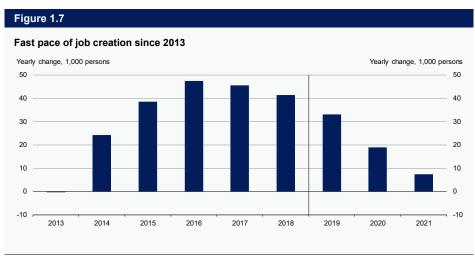
However, the pressure has not increased to the same extent as during the boom in the 2000s, when the labour market overheated and the expansion ended with a hard landing. Furthermore, the proportion of companies reporting recruitment difficulties as a limitation on production has decreased over the past year, *cf. figure 1.6*.



Note: The figure shows the proportion of companies (weighted by employment) that report labour shortage as a production limiting factor.

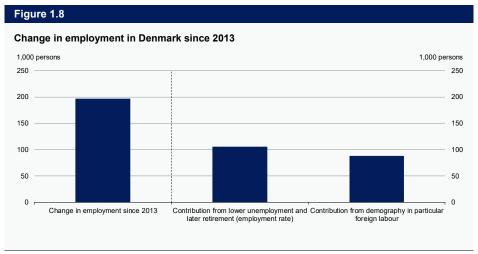
Source: Statistics Denmark and own calculations.

Employment is forecast to continue to increase during the forecast period, but at a slower pace compared to previous years. It is expected that employment growth will fall to just over 30,000 persons this year and decline further in 2020 and 2021, *cf. figure 1.7*. This will contribute to reducing the pressure on the labour market.



Source: Statistics Denmark and own calculations.

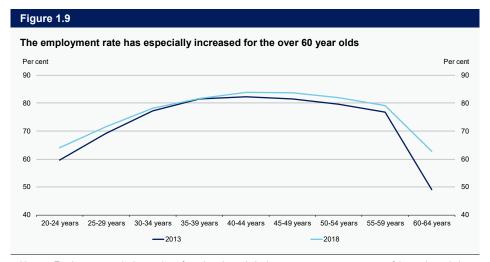
The relatively moderate pressure on the labour market is due to the fact that increasing demand for labour has been largely met by lower unemployment and more persons joining the labour force in Denmark. This is reflected in a rising employment rate – i.e. a larger proportion of the population in employment – and an influx of foreign labour, *cf. figure 1.8*.



Note: The figure shows the development in employment on an annual basis from 2013 to 2018.

The rising employment rate is due to a fall in unemployment and also that more over 60 year olds remain on the labour market. Unemployment has fallen by around 45,000 persons in the period 2013-2018, while the employment rate for 60-64 year olds has increased from just under 50 percent in 2013 to just over 60 per cent in 2018, *cf. figure*

1.9. This corresponds to an increase in employment in this age group of almost 50,000 persons or about a quarter of total employment growth during 2013-2018 of just under 200,000 persons.



Note: Employment rate is the number of employed people in that age group as a percentage of the total population in that age group.

Source: Statistics Denmark and own calculations.

Employment among younger age groups has also risen, but employment growth has been particularly weak for young people in their late 20s and early 30s. This reflects, among other things, increased educational activity and that there is still considerable unemployment in the transition from study to employment.

The remaining part of the increase in employment since 2013 can mainly be attributed to an inflow of foreign labour, which explains almost half of the increase in employment.

Higher retirement age will also in the coming years contribute to a greater labour supply. This helps support growth potential and reduces pressure on the labour market. Simultaneously, declining employment growth is expected, while the unemployment rate is expected to remain unchanged during the forecast period. The development on the labour market thus appears balanced.

Risks are tilted to the downside

Over the past year, developments in the global economy have been characterized by great uncertainty and negative surprises. The forecast comprises new, lower estimates for developments in the global economy, partly due to the fact that some events that were previously considered risks to the forecast have materialized and caused downward revision of the growth forecasts. This applies, for example, to the consequences of trade disputes, which have contributed to stagnation in global trade and a significant weakening of global industrial production.

Nevertheless, risks remain mostly negative. The possibility of a speedy recovery in the global economy is diminished. Global trade may have suffered more lasting damage, partly through a disruption of global value chains. Trade disputes may also affect new economic areas, including the car industry in Europe, which is already challenged by stricter emission requirements and the demand for greener cars. Brexit has once again been postponed and the forecast is based on a premise of unchanged trade conditions. Although a no-deal Brexit seems less likely, there is still considerable uncertainty about Britain's future relationship with the EU.

A deterioration can also occur if the current weakness in the manufacturing sector spreads to the services sector and further affects employment and consumer confidence. In addition, a cyclical downturn in the US and lower structural growth in China may slow down global growth more than expected. Finally, climate change, such as unusual weather conditions, poses a risk to the economic development.¹

These factors mean that uncertainty associated with developments in the global economy has remained high. On the other hand, a US-China trade agreement as well as a final clarification of brexit could reduce uncertainty to the benefit of the global economy.

If negative risks materialize, or if uncertainty in itself makes households and companies more cautious, developments in the Danish economy may also turn out more negative. As risks are tilted to the downside, it implies that a lower growth scenario relative to the central estimate is more likely than a higher growth scenario. The OECD has assessed that their central estimate for Danish GDP growth of 1.4 per cent in 2021 lies in an interval between -1.7 per cent and +2.5 per cent, *cf. box 1.1*.

¹ See chapter 2 for an analysis of economic growth and emission of greenhouse gasses.

Box 1.1

OECD illustrations of uncertainty surrounding growth towards 2021

Growth estimates are associated with uncertainty, which, among other things, is based on data revisions, changes in underlying conditions and actual forecast errors.

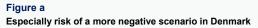
Assessments of forecast accuracy show that there is a particular tendency to underestimate growth when the economy is strong and to overestimate growth when economic development is slow. This was, for example, the case in 2009, when the strength of the setback was underestimated significantly. However, there are no indications of systematic forecasting errors in the sense that the growth estimates in the *Economic Survey* are systematically too high or too low, *cf. section 2.2 of Economic Survey, May 2018*.

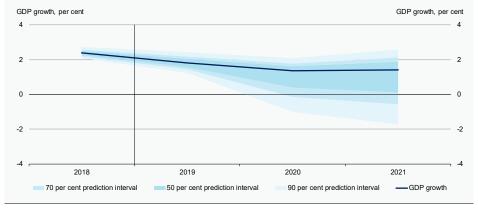
To illustrate the forecast uncertainty, the OECD has devised a new method that calculates an interval around the central forecasts within which growth with some statistical certainty will lie. The interval is calculated on the basis of historical forecast errors and an estimated probability of a major setback. This probability is calculated on the basis of factors such as house price developments, the slope of the interest rate curve and credit conditions that can be used as indicators to predict major turnarounds in the economy.

If the risks of a major setback is taken into account, the interval around the central growth forecast will be skewed to the downside. This reflects that a scenario with lower growth is more likely than a scenario with higher growth.

The OECD forecasts that Danish GDP with grow by 1.4 per cent in both 2020 and 2021, and their forecast is thus in line with this survey. The OECD model of setbacks also assesses that domestic risks are balanced, while international conditions implies a risks of a more negative development. This is illustrated by the fact that growth forecasts are between -1.7 per cent and +2.5 per cent in a 90 per cent prediction interval, *cf. figure a*.

GDP growth of 2.5 per cent in 2021 corresponds to an additional employment of almost 22,000 persons, while negative growth of 1.8 per cent results in 60,000 fewer in employment compared to the baseline scenario and a deterioration of the fiscal balance by DKK 25 bn. 2 The structural public balance will, as a starting point, be roughly unaffected by changes in the business cycle.





The method is further described in Turner, D., T. Chalaux and H. Morgavi (2018), Fan charts around GDP projections based on probit models of downturn risk, OECD Economics Department Working Papers, No. 1521, OECD.

Source: OECD Economic Outlook, November 2019.

The calculation has been made with ADAM under the assumption that weaker growth abroad reduces GDP growth in line with the alternative scenarios.

Box 1.2

Assumptions underlying the forecast and changes since the last Economic Survey

The forecast is based on national accounts data available until Q3 2019 as well as a range of indicators of economic development that reach into O4.

The forecast incorporates downward adjustments to the forecasts for global developments. This is reflected, among other things, in lower growth in Danish exports, slower growth in employment and incomes and consequently also lower growth in private consumption. Since import growth estimates have also been adjusted downwards, this has only led to minor adjustments in estimates for GDP growth.

For 2021, which is a new forecast year, it is assumed that the Danish economy will move towards normal capacity utilization. Thus, GDP growth is expected to slow further and the positive output gap to narrow.

Since the *Economic Survey*, *August 2019*, Statistics Denmark has published revised national accounts for the period 2016-2018, which show greater economic progress than previously calculated, corresponding to an increase in the level of GDP (in current prices) of just below DKK 23 bn. in 2018.

The revision is part of the usual practice at Statistics Denmark, where new information is incorporated in the past three years, which are preliminary national accounts years. The revisions reflect, among other things, new data on Danish companies' activities abroad. Furthermore, a changed periodisation of a patent payment in 2017 has an impact on the calculation of GDP. The national accounts data for 2016 are now considered final.

The revised national accounts data do not in themselves have a major impact on the forecast for the coming years, as they do not significantly change the assessment of neither the potential nor the capacity pressures in the economy. This is because the other indicators, which in practice play a greater role in assessing capacity pressures, including employment, unemployment, wage increases, inflation and companies' reported capacity utilization and labour shortages, have not changed significantly.

In connection with the presentation of the governments political Budget Bill for 2020 on 2 October 2019, the forecast in *Economic Survey, August 2019*, was updated with the impact of government's economic policy priorities on public finances under the assumption that overall growth and employment prospects remained unchanged since August, so that there were only differences in the composition of demand as a result of higher public consumption in 2020 and a different distribution of employment in the private and public sectors. In this survey, the comparison of estimates is shown in relation to the latest estimates from October, *cf. Opdateret 2025-forlob: Grundlag for udgiftslofter 2023 (October 2019).*

1.2 The fiscal policy and the public finances

Healthy public finances and good economic structures – including low public debt and prospect for continuing progress in the structural employment – contribute to favourable conditions for the Danish economy and an ongoing fiscal space, including space for prioritizations of public welfare.

On 2 December 2019, The Government reached an agreement on the 2020 budget bill with Radikale Venstre, Socialistisk Folkeparti, Enhedslisten and Alternativet. The approved budget bill for 2020 features prioritizations of public welfare and a better framework for green investments, etc., cf. box 1.3. The prioritizations for 2020 are financed within the scope of the expenditure ceilings for state, municipalities, and regions in 2020 and by new financing initiatives, including higher excise duties within health and environment, rollbacks of tax cuts regarding inheritance taxes and taxes on employerpaid phones, computers, and internet, etc. Additionally, the fiscal space is brought forward from 2024 to 2020 and there are financing contributions from the framework of public investment that were included in the Government's budget proposal for 2020.

| Table 1.1 | | | |
|---|------|------|--------|
| Key figures relating to fiscal policy | | | |
| | 2019 | 2020 | 20214) |
| Structural budget balance, per cent of structural GDP | 0.1 | -0.1 | 0.3 |
| Actual budget balance, per cent of GDP | 2.5 | -0.2 | -0:2 |
| EMU-debt, per cent of GDP | 33.5 | 33.8 | 33.4 |
| Growth in public consumption, per cent ¹⁾ | 0.7 | 1.3 | 0.4 |
| One-year fiscal effect, per cent of GDP ²⁾ | -0.1 | 0.1 | 0.0 |
| Output gap, per cent ³⁾ | 0.7 | 0.7 | 0.5 |
| Employment gap, per cent ³⁾ | 0.7 | 0.6 | 0.3 |

- Public consumption is calculated by the input method incl. deductions. The estimated growth in public con 1) sumption measured by the input method and the output method respectively is technically assumed to be the same. The preconditions for 2021 are technical as the fiscal policy for 2021 is yet to be determined.
- 2) Calculated measure of how fiscal and structural policy from one year to another affects the capacity pres sure for Danish economy (measured by the output gap). The measure includes the assumed effect of onetime refunds of property taxes in 2020 and 2021.
- 3) Calculated measure of how far output and employment are from their structural levels. When the gaps are approximately zero, the economy has no more available resources than under normal cyclical conditions. The cyclical correction in the calculation of the structural budget balance is based on the output gap excl. oil and gas extraction
- The estimates for 2021 are based on technical assumptions for the fiscal policy in 2021.

Source: Statistics Denmark and own calculations.

The fiscal policy for 2020 is set by the budget bill and the municipal and regional budgets for 2020. In line with the assessment following the presentation of the budget proposal for 2020, the structural budget balance is estimated to be approximately balanced at -0.1 per cent of GDP in 2020.

Based on the approved budget bill and the preliminary budgets for municipalities and regions among others, the growth in public consumption is estimated to be 1.3 per cent in 2020, *cf. table 1.1*. The estimate is in line with the assessment in October based on the budget proposal for 2020 and the budget agreements with municipalities and regions amongst others.

Box 1.3

Agreement on the budget bill for 2020

- Improved psychiatry DKK 510 million per year will be allocated to increase the capacity and improve the staffing levels in the psychiatry from 2020 and onwards. Additionally, DKK 90 million per year will be allocated to secure more forensic psychiatric bed spaces among other.
- Minimum staff-to-children ratio In 2025, a minimum staff-to-children ratio will be fully implemented by law. The goal is to ensure a maximum of 3 children per adult in nurseries and 6 children per adult in kindergartens.
- A stronger green transition Prioritization of more initiatives to ensure a better environment,
 more nature and less emissions of greenhouse gases in Denmark. For example, "Denmark's Green Future Foundation" with a total of DKK 25 billion to help national and global green transition. The green
 regulation is tightened by increasing selected taxes and excise duties. The agreement is expected to
 reduce the emission of greenhouse gases in 2030 by at least 0.5 million ton CO2-equivalents on a national level.
- The public school Funds of DKK 275 million in 2020 increasing to approximately 800 million in 2023 are set aside to improve the public school. Additionally, DKK 193 million is allocated to finance an improvement of the quality of the supporting education from 2020 and onwards.
- Removal of the limitation on dual education and spending cuts The limitation on dual education is removed from 1 July 2020 meaning it is again possible to apply for admission to a new higher education degree programme at the same or a lower level than the one you have already completed. At the same time, the planned spending cuts on rate 1-educations on the universities is cancelled (most humanities, social science, mercantile and theological educations).
- Annulment of re-prioritization contribution on culture With the agreement on the budget bill the yearly re-prioritization contribution on culture is annulled from 2020 and onwards. This imply the contribution is annulled for theatres, museums, orchestras, higher educations of art, the Danish National Archives, the Royal Danish library, institutes, centres, etc.
- Social dumping and international recruitment The effort against social dumping is further
 increased, and assistance on recruiting faster and less bureaucratic internationally is provided to Danish companies to provide the needed qualified labour.
- Financing Compared to the budget proposal, the agreement is financed by reserves etc., savings on
 the state's use of consultants and selected adjustments of taxes and excise duties, including green taxation and adjustments that limit tax speculation or remove special arrangements.

The estimates for 2021 are based on technical assumptions for the fiscal policy in 2021 taking the current expenditure ceilings for the years after 2020 into consideration. The prospect of an improvement of the structural budget balance from -0.1 per cent of GDP

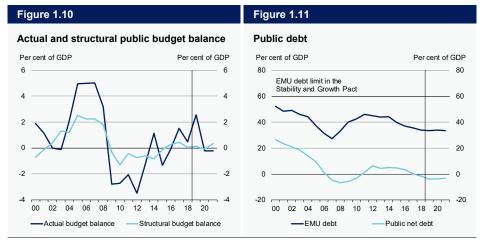
in 2020 to 0.3 per cent of GDP in 2021 in the assessment reflects, among other things, the increasing structural employment following the increase of the retirement age, *cf. figure 1.10*. The relatively low technically assumed real growth in public consumption in 2021 reflects the impact on the fiscal space in 2021 following the property tax settlement in 2017 and the former Government's increase in the frame for public investments in 2021-2025. The actual fiscal policy for 2021 is specified during 2020 with the budget bill and the budget agreements with the municipalities and regions for 2021.

Actual public budget balance and debt

The current business cycle situation contributes in isolation positively to the actual public budget balance, which is also affected by other temporary movements that pull in different directions.

A significant surplus on the actual public budget balance of 2.5 per cent of GDP is expected for 2019. The estimated surplus is largely affected by the extraordinary high income from the pension yield tax of a total 2.6 per cent of GDP, which is 1.5 per cent of GDP higher than the structural level. The income from the pension yield tax is expected to be reduced markedly in the following years. In 2020 and 2021, the actual public budget balance is expected to be approximately balanced.

In 2018, the public net debt was turned into a net worth, which is currently estimated to be about 3-4 per cent of GDP in 2019-2021, *cf. figure 1.11*. The EMU debt for the same years is estimated to be about 33-34 per cent of GDP. The gross government debt in Denmark is thus markedly lower than the EU Stability and Growth Pact limit of 60 per cent of GDP.



Source: Statistics Denmark and own calculations

Fiscal policy, monetary policy, and the business cycle situation

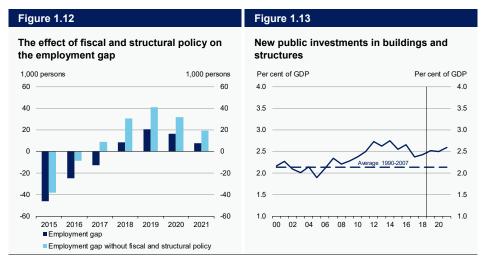
Overall, public finances are healthy and the economic prospects positive. It is expected that the Danish economy will continue to grow, but at a slower pace. Unemployment continues to be low, and both the estimated output and employment gap are positive in 2020 and 2021. The positive gaps mean there will likely continue to be less available resources in the production process in the coming years compared to a situation where the business cycle is at a normal state.

Fiscal and structural policy is estimated to increase employment and capacity pressure slightly with a fiscal effect of 0.1 per cent for 2020. Overall, and including the falling interest rates since mid-2019, the capacity pressure is estimated to gradually decline making the Danish economy converge towards a neutral business cycle situation.

The low level of unemployment and the positive output gap together with the very low interest rate level are all calling for careful planning of the fiscal policy. With the technical assumptions regarding 2021, the fiscal and structural policy have an expectedly neutral effect on the capacity pressure.

Seen over a slightly longer period, the fiscal and structural policy contributes to counter the capacity pressure from the Danish business cycle progress. The dampening effect comes, among other reasons, from the passed reforms that increase the supply of labour, in particular the adopted increases in the statutory early retirement and retirement ages. Compared to the situation in 2014, the fiscal and structural policy have had an estimated negative impact on the employment gap of about 15,000 persons in 2020, *cf. figure 1.12*. Without the fiscal and structural policy, the labour shortage would be more severe. Seen in the medium run, the fiscal and structural policies thus contribute to a more settled pace in the economic upturn.

The evaluation of the business cycle prospects and the development in the output gap should be examined in the light of the expansionary monetary policy conducted by the European Central Bank with the aim of supporting the European economy after some years of slowing growth. Danmarks Nationalbank has acted upon the expansions by lowering interest rates as well, which considered in isolation makes it less expensive to take out a loan for new investments or housing improvements.



Note: Figure 1.13 indicates the public investments in buildings and structures excluded purchases and sales of existing buildings and other investment goods.

Source: Statistics Denmark and own calculations.

Low interest rates in general makes it attractive to conduct new investments both in the private and the public sector. In relation to the fiscal policy it is noticeable that public investments in Denmark is at a high level, *cf. figure 1.13*, in regard to the current business cycle situation, where signs of continuing labour shortage still appear in large parts of the construction sector.

The current situation of the business cycle and expansionary monetary policy are both calling for careful planning when conducting the fiscal policy. In general, economic booms should be used to build a solid position for public finances. This ensures, among other things, that there is room for manoeuvre in case of an economic set-back. The room for manoeuvre is generally supported by healthy public finances that contribute to low interest rates, which together with low levels of public debt means that the interest payments today are lower than previously. Low interest expenses contribute to other fiscal priorities within a given position of the public finances, *cf. box 1.4.*

Box 1.4

Lower public interest expenditures has in isolation given room for other priorities

Since 2013, where the structural net interest expenditures and yields topped after the financial crisis on about 0.5 per cent of GDP, the interest expenditures in the public sector have fallen continuously, *cf. figure a*. Continuing debt reductions and a falling interest rate level support the decreasing structural interest expenditures. The structural net interest expenditures are estimated to be 0.0 per cent of GDP in 2020.

The fall in interest expenditures imply, all other things equal, that for a given structural budget balance, there has been room for prioritizing other elements in the fiscal policy. In 2013, the structural amount of public net interest payments was about DKK 12 billion (2020-level). In 2020, it is expected that the amount is about DKK ½ billion.

This is also evident from the smaller difference between the structural budget balance and the primary structural budget balance, which is the structural position of the public finances excluding income from interest and interest expenditures, cf. $figure\ b$. The smaller difference means, that the fiscal policy goal of structural balance in 2020 has been reached with less fiscal and structural recovery policy compared to a situation where the net interest payments were not reduced. The estimated structural interest savings on that account is 0.5 per cent of GDP in 2020 compared to 2013, which is about DKK $11\frac{1}{2}$ billion.

Figure a Structural public net interest expenditures and yields

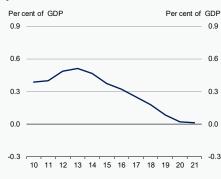
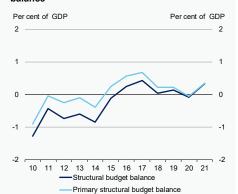


Figure b
Structural and primary structural public budget balance



Structural balance in normal times or a surplus in good times on the public finances contributes to secure options of fiscal policy action within the Budget Law if the business cycle experiences a backlash. Healthy public finances thus contribute positively to macroeconomic stability and possibilities for fiscal policy action.

Note: The shown structural public net interest expenses and yields are based on the definition in the calculation of the structural budget balance, where the structural level is calculated using a seven-year moving average of the actual levels. In figure a, a positive number indicates a net expense for the public finances.

Source: Statistics Denmark and own calculations.

1.3 Annex table

| Table 1.2 Key figures from the December assessment and comparison with estimates from October | | | | | ober |
|--|------|------|------|------|------|
| | 20 |)19 | 2020 | | 2021 |
| | Oct. | Dec. | Oct. | Dec. | Dec. |
| Real change, per cent | | | | | |
| Private consumption | 1.9 | 1.6 | 2.0 | 1.9 | 1.7 |
| Total government demand | 1.0 | 0.8 | 1.2 | 1.2 | 8.0 |
| of which government consumption | 0.8 | 0.7 | 1.3 | 1.3 | 0.4 |
| of which government investment | 2.9 | 1.5 | 0.4 | 0.6 | 4.2 |
| Housing investment | 3.9 | 5.0 | 2.1 | 0.7 | 1.0 |
| Business fixed investment | 0.2 | -3.3 | 4.4 | 3.8 | 2.8 |
| Total domestic demand | 1.3 | 0.7 | 2.2 | 2.0 | 1.5 |
| Inventory investment (per cent contribution to GDP) | 0.0 | -0.1 | -0.1 | 0.0 | 0.0 |
| Total final domestic demand | 1.3 | 0.5 | 2.1 | 2.0 | 1.5 |
| Exports | 2.7 | 3.4 | 2.2 | 1.5 | 2.2 |
| of which manufacturing exports | 5.5 | 10.4 | 3.0 | 2.1 | 3.0 |
| Total demand | 1.8 | 1.6 | 2.1 | 1.8 | 1.7 |
| Imports | 2.0 | 0.8 | 3.1 | 2.5 | 2.4 |
| of which imports of goods | 1.8 | 2.2 | 2.8 | 3.3 | 2.5 |
| GDP | 1.7 | 2.0 | 1.6 | 1.5 | 1.4 |
| Gross value added | 1.7 | 2.1 | 1.4 | 1.3 | 1.3 |
| of which private non-farm sector | 2.2 | 2.8 | 2.1 | 1.6 | 1.8 |
| Change, 1,000 persons | | | | | |
| Labour force, total | 35 | 29 | 24 | 20 | 10 |
| Employment, total | 39 | 33 | 26 | 19 | 7 |
| - of which private sector | 36 | 29 | 21 | 14 | 7 |
| - of which public sector | 3 | 4 | 5 | 5 | 0 |
| Gross unemployment | -5 | -4 | -3 | 1 | 3 |
| Cyclical developments, per cent | | | | | |
| Output gap | 0.7 | 0.7 | 1.0 | 0.7 | 0.5 |
| Employment gap | 0.7 | 0.7 | 0.9 | 0.6 | 0.3 |
| Unemployment gap | 0.0 | -0.2 | -0.1 | -0.2 | -0.1 |

Note: Forecasts are compared to Opdateret 2025-forløb: Grundlag for udgiftslofter (October 2019).

| Key figures from the December assessme | ent and cor | nparison v | vith estima | tes from C | October |
|---|-------------|------------|-------------|------------|---------|
| | 2019 | | 2020 | | 2021 |
| | Oct. | Dec. | Oct. | Dec. | Dec |
| Change, per cent | | | | | |
| House prices (single family homes) | 3.1 | 2.7 | 3.4 | 3.2 | 3.0 |
| Consumer prices | 1.0 | 0.8 | 1.4 | 1.2 | 1.6 |
| Hourly earnings in the private sector ¹⁾ | 2.5 | 2.5 | 2.8 | 2.6 | 2.7 |
| Real disposable income, households | 2.0 | 1.9 | 2.3 | 3.5 | 1.4 |
| Productivity in the private non-farm sector | 0.7 | 1.4 | 1.3 | 1.1 | 1.4 |
| Per cent per year | | | | | |
| Interest rate, 1-year rate loan | -0.6 | -0.6 | -0.7 | -0.6 | -0.5 |
| Interest rate, 10-year government bond | -0.1 | -0.2 | -0.3 | -0.3 | -0.2 |
| Interest rate, 30-year mortgage credit bond | 1.7 | 1.6 | 1.6 | 1.3 | 1.4 |
| Public finances | | | | | |
| Actual public balance (DKK bn.) | 44.4 | 58.8 | 9.4 | -5.6 | -5.1 |
| Actual public balance (per cent of GDP) | 1.9 | 2.5 | 0.4 | -0.2 | -0.2 |
| Structural public balance (per cent of GDP) | -0.1 | 0.1 | -0.1 | -0.1 | 0.3 |
| Gross debt (per cent of GDP) | 33.7 | 33.5 | 33.5 | 33.8 | 33.4 |
| Labour market | | | | | |
| Labour force, total (1,000 persons) | 3,111 | 3,098 | 3,135 | 3,118 | 3,128 |
| Employment, total (1,000 persons) | 3,010 | 2,996 | 3,036 | 3,015 | 3,023 |
| Gross unemployment (yr. avg., 1,000 persons) | 103 | 104 | 101 | 105 | 108 |
| Gross unemployment (per cent of labour force) | 3.3 | 3.4 | 3.2 | 3.4 | 3.4 |
| External assumptions | | | | | |
| Trade-weighted international GDP-growth | 1.8 | 1.7 | 1.9 | 1.7 | 1.7 |
| Export market growth (manufactured goods) | 2.9 | 2.0 | 3.1 | 1.6 | 2.3 |
| Exchange rate (DKK per USD) | 6.6 | 6.7 | 6.7 | 6.8 | 6.8 |
| Oil price, dollars per barrel | 64.7 | 63.9 | 64.5 | 61.9 | 64.0 |
| Balance of payments | | | | | |
| Current account balance (DKK bn.) | 141 | 178 | 136 | 171 | 168 |
| Current account balance (per cent of GDP) | 6.1 | 7.7 | 5.7 | 7.2 | 6.9 |

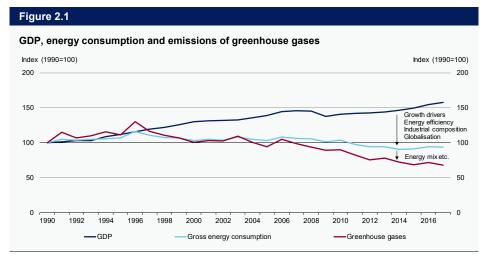
Hourly earnings is based on the Confederation of Danish Employers' Structural Statistics.
 Note: Forecasts are compared to Opdateret 2025-forløb: Grundlag for udgiftslofter (October 2019).

Chapter 2

Economic growth and the climate footprint

Economic activity has an impact on energy consumption and, consequently, also the emission of greenhouse gases. However, there is not a 1-to-1 correspondence, and in recent decades there has been a significant decoupling between economic activity and the extent of greenhouse gas emissions. Thus, the Danish economy has grown by approximately 60 per cent since 1990, while the emission of greenhouse gases in the same period has been reduced by 32 per cent.

The decoupling reflects both that economic growth has occurred without increased energy consumption (the upper arrow in the figure below), and also that energy production now is associated with lower emissions (the lower arrow), *cf. figure 2.1*.



Note: The emission of greenhouse gases is determined in accordance with the UNFCCC-standard, excl. land use, land-use change and forestry (LULUCF). See appendix 2.1 for a more detailed description of how greenhouse gas emissions etc. are calculated.

Source: Statistics Denmark

Several factors explain why there is no close correlation between economic growth and energy consumption. Seen over a long time span economic growth has mainly been driven by higher productivity. Productivity growth can come from a variety of sources, which in many cases are not conditional on increased energy consumption. For example, there may be a rising level of education, technological advances through research and development, stronger framework conditions, gains from trade and increased competition.

Efficiency gains in the utilities sector is another factor behind the decoupling of economic growth and energy consumption. Companies and households have also become better at utilizing energy efficiently or have saved energy consumption. Furthermore, there has been a shift in the sectoral composition towards less energy intensive industries, for example a number of service industries.

The reason why energy can today be provided with fewer greenhouse gas emissions is clearer. The main explanation is the ongoing transition from the use of fossil fuels to greater use of biomass, wind and other renewable energy sources. This transition has been supported by technological developments as well as climate and energy policies, *cf. box 2.1.*

The decoupling of economic growth and greenhouse gas emissions over the past 30 years is expected to continue over the coming years. This is due to the fact that economic growth continues to be driven by factors that do not rely on increased energy consumption, and the planned renewable energy expansion and technological developments will also reduce emissions.

Although there is a prospect of continued decoupling between growth and greenhouse gas emissions, the ambitious climate and energy targets will require new measures that can affect growth. Denmark's goal is to be climate neutral by 2050, and by 2030 emissions should be reduced by 70 per cent relative to the 1990 level. Achieving this goal will require a reduction of emissions in areas that have so far only made minor contributions to the green transition, including agriculture and transport. Furthermore, an ever-increasing use of renewable energy and continued energy efficiency improvements have the potential to reduce emissions.

Towards 2030 the *Energy agreement* from 2018 will contribute to a reduction in emissions, among other things as a result of continued expansion of offshore wind. In addition, green solutions are expected to become more profitable in the coming decade. Such technology leaps are hard to predict, but can happen quickly. For example, offshore wind farms are far more competitive than before. The pace of technological development – in Denmark and abroad – is therefore of great importance in terms of achieving the goal.

Meeting the targets will also require new regulation to push the green transition. The climate and energy area can be regulated by means of taxes, subsidies and regulatory requirements. New regulation may be associated with socio-economic costs, which in isolation can affect the growth of the overall economy. It is therefore important that cost-effective and technology-neutral solutions are used so that growth and job creation are inhibited as little as possible. It should also be explored if there are tools that can contribute to economic gains. This may be the case, for example, if the instruments contribute to more uniform regulation across sectors, or if it is possible to reap positive side effects, for example in relation to noise, air pollution, congestion and the aquatic environment.

Box 2.1

Danish energy and climate policies since the early 1990's

Energy and climate policies have played an important role in decoupling economic activity and greenhouse gas emissions. A number of broad political agreements over several decades have aimed at furthering the transition from fossil fuels to renewable energy, cf. below. The tools have been (among other things): *Promotion of renewable energy sources*: Grants for electricity generation from wind turbines etc.

Green taxes and fees: Energy taxes, transport taxes and CO_2 taxes

Quota regulation in the EU: CO_2 quotas that set a ceiling for emissions in the quota sector within the EU. Schemes aimed at energy efficiency improvements: Grants for co-generation of electricity and heat. Agreement on energy efficiency improvements and subsidy schemes in business. Grants and requirements in connection with energy renovation of housing, etc.

 $Capture\ of\ CO_2\ in\ soils\ and\ forests:$ Including withdrawing land from use in agriculture and reforestation.

Selected political agreements

| Agreement | Examples of key elements |
|---|--|
| Agreement on increased use of co-generation, natural gas and other environmentally friendly fuels as well as on the electricity expansion in the 1990s (1990) | Among other things, the promotion of co-generation of electricity and heat to ensure optimal utilization of heat from power generation. |
| Agreement on increased biomass use in energy supply and for industrial purposes (1993) | Among other things, use of biomass in major power plant units. |
| Tax reform (1994) | Increased application of green taxes to energy, traffic and water. |
| 1998 tax adjustment (1998) | Increase in green taxes on heating oil, natural gas, coal, electricity and gasoline. |
| Electricity reform (1999) | Framework for a liberalized electricity market through new price regulation. |
| Agreement on natural gas supply and reductions in energy use (2001) | Implementation of the EU directive on natural gas, among other things. |
| Agreement on wind energy and decentralized co-generation, etc. (2004) | Public procurement of offshore wind. |
| Agreement on future energy saving efforts (2005) | Frameworks for increased cost-effective and market-oriented savings efforts, including target management for grid and distribution companies and annual energy savings commitments |
| Energy policy agreement for the period 2008-2011 | Reduction of Denmark's dependence on fossil fuels and increased share of renewable energies. |
| Energy policy agreement for the period 2012-2020 | Increased energy efficiency and green transition. |
| Agreements on photovoltaic systems and household wind turbines (2012-2013) | New model of support for solar power and other small RE units. |
| Agreement on a green transition pool of funds (2013) | Among other things, for the development of new green technologies. |
| Agreement on climate targets and Denmark's Climate Act, Climate Council and national climate objectives (2014) | Denmark gets its first national climate policy fixed by law. |
| Agreement on regulation of the district heating sector (2016) | Incentive-based financial regulation of the district heating sector. |
| Agreement to abolish the public service obligation tax (2016) | Support for renewable energy is financed through the Budget Act. |
| The Energy Agreement (2018) | Denmark's international positions of strength are further expanded with a focus on renewable energy, energy efficiency improvements, research and energy regulation. |
| Climate Act (2019)) | The Climate Act is binding and ensures that Denmark works to reduce its emissions by 70 per cent by 2030 compared to 1990 and achieves climate neutrality by 2050. |

Source: Danish Energy Agency, Ministry of Taxation and Ministry of Climate, Energy and Utilities.

The green transition can also open up new business opportunities. Denmark has a position of strength in the green area, and being an energy-technological pioneer can provide new opportunities for growth and exports as well as attract foreign investment. This may be the case, for example, if Danish companies gain greater experience in the utilisation and commercialisation of green technology.

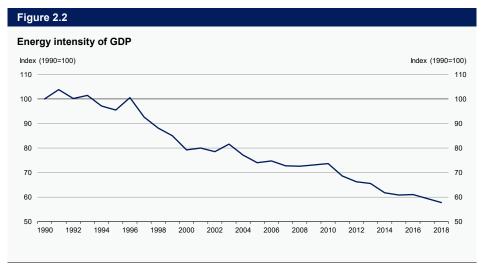
The public sector can, among other things, support this development through the resources devoted to research in green technology, by removing identified barriers, through grants for demonstration projects, through access to venture capital and export credits, and through the providing a well-qualified workforce, which typically find employment in companies that, among other things, produce green technology. As part of the Budget Bill for 2020, Denmark's Green Future Fund has been established, with an agreed total capacity of DKK 25 billion. The fund will, among other things, contribute to the development and dissemination of new technologies and the promotion of global exports of green technology.

Business efforts will be crucial in reaching the climate goals. In order to foster cooperation between the public and private sector a number of climate partnerships have been established and tasked with developing suggestions on how businesses can contribute.

This chapter looks more closely at the historical decoupling between economic activity, energy consumption and greenhouse gas emissions associated with Danish production.

2.1 Decoupling of economic growth and energy consumption

Energy is used in the production of companies and is also part of household consumption of heating and transport. In this way, economic activity is associated with energy consumption, which can either be attributed to companies or households. Over time, however, GDP has grown faster than energy consumption, and in the last 25 years there has even been an absolute decoupling where energy consumption has fallen slightly. This decoupling can be expressed as a decreasing trend in energy intensity, which measures the ratio of gross energy consumption and economic activity, *cf. figure 2.2*.



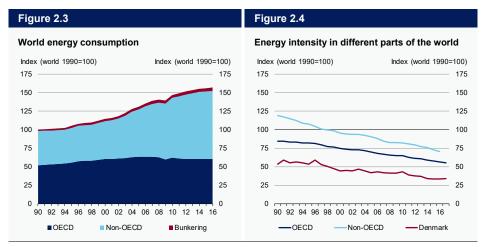
Note: Energy intensity is measured here as gross energy consumption relative to GDP at 2010 prices (chained values). Gross energy consumption is excl. bunkering, which is the fuel that is used by a country in connection with international transport by ships, aircrafts and vehicles.

Source: Statistics Denmark and own calculations

A lower energy intensity means that a higher level of activity in the overall economy can be achieved by the same level of energy consumption. The decoupling of the last 25 years between energy consumption and economic activity has not only occurred in Denmark, but is a global trend.

Total global energy consumption has increased by just over 55 per cent from 1990 to 2016. The increase is mainly due to an increase in energy consumption in the countries outside the OECD, *cf. figure 2.3*. However, economic growth has been considerably stronger. The energy intensity has thus decreased gradually. This applies both to OECD countries and countries outside the OECD, *cf. figure 2.4*.

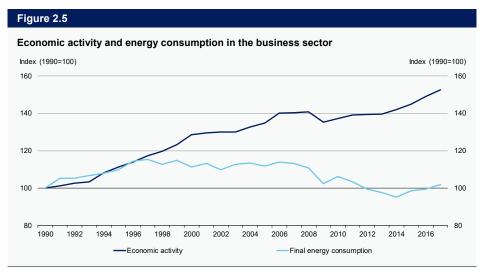
The global decline in energy intensity underpins the view that the decoupling between economic activity and energy consumption is a robust phenomenon. At the same time, it also shows that decoupling is to a large extent due to the fact that economic growth is mainly driven by higher productivity, which is not necessarily conditional on increased energy consumption.



Note: Energy intensity is measured here as gross energy consumption in relation to GDP at fixed prices, USD PPP adjusted. Bunkering is energy consumption in international shipping and aviation (refuelling abroad). Source: OECD, IEA and own calculations.

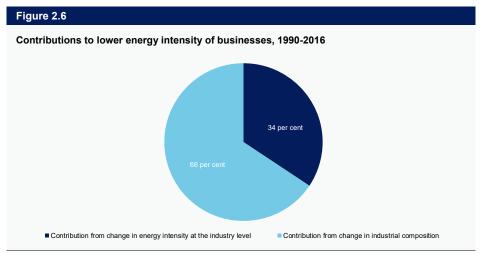
A significant part of the decoupling of energy consumption and economic activity is related to business activities. In order to determine the development in the energy intensity of different industries, a natural starting point is to use the final energy consumption, which is the consumption of primary energy sources such as oil, coal and renewable energy, as well as of converted energy sources such as electricity and heat. Final energy consumption is lower than gross energy consumption, which also includes losses in connection with the conversion of primary energy sources and in the distribution of energy, *cf. Appendix 2.2.*

Energy consumption of the business sector has remained largely unchanged since 1990. During the same period, economic activity of businesses increased by more than 50 per cent, corresponding to a reduction of business sector energy intensity of 33 per cent since 1990. This shows that there has been a significant disconnection between value added and energy consumption in Danish businesses over the past 25 years, *cf. figure* 2.5.



See appendix 2.2. Economic activity is gross value added in 2010 prices (chained values). Gross value added in the shipping industry has been left out, as the industry's energy consumption is mainly bunkering. Source: Statistics Denmark and own calculations.

The lower energy intensity is due to both reduced energy intensity in many industries and shifts of economic activity towards industries with lower energy intensity, cf. figure 2.6.



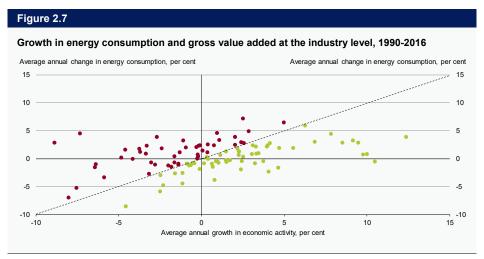
Note: The calculation is subject to great uncertainty. 107 industries are included. Several industries in the transport sector have been excluded due to bunkering, while the utilities sector has been excluded because energy consumption for the production of electricity, district heating and city gas is distributed among the consumers. Oil refineries are left out as gross value added fluctuates widely. Gross value added is chosen in the calculation of energy intensity to show the relationship between economic growth and energy consumption. The contributions can alternatively be calculated on the basis of production value, which still shows that both elements have contributed to lower energy intensity in business.

Source: Statistics Denmark and own calculations.

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For example, energy-intensive industries such as the concrete industry and the food and beverage industry make up a smaller part of the Danish economy today than in 1990. Conversely, the share of service industries in the total economy is higher compared to 25 years ago, including telecommunications and IT services.

The remaining part of the reduction in business energy intensity is due to the fact that energy intensity has been reduced at the industry level. Since 1990, energy intensity has been reduced in many industries (the green dots in the figure below). In some industries, there has been significant economic growth without an increase in energy consumption. In other industries, economic growth has been more moderate, but energy consumption has declined. There are also industries where gross value added has declined, but where energy consumption has declined even more, *cf. figure 2.7*.



Note: The figure is based on the 117 industries in the national accounts. Some industries have been left out, cf. figure 2.6.

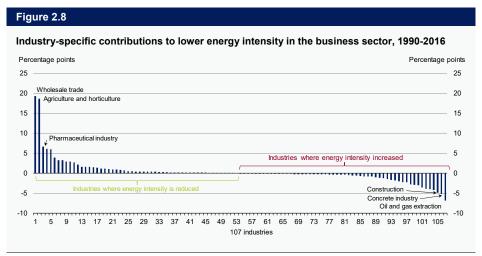
Source: Statistics Denmark and own calculations.

However, there are also some industries where energy intensity has increased (red dots). This does not necessarily reflect the fact that the production of the individual product has become less energy efficient, but may also reflect a shift towards products and processes with a higher energy content.

Although energy intensity has declined in many industries, the most important industry-specific contributions are concentrated in a limited number of industries. The industry-specific contribution is a combination of how much energy intensity (absolutely) has changed and the importance of the industry in the economy as a whole (measured by gross value added).

Wholesale trade, agriculture and horticulture and the pharmaceutical industry are the three industries that contribute the most to lower business sector energy intensity. Conversely, there are also industries where developments in energy intensity has pulled in

the opposite direction. The three industries with the largest negative contribution are the extraction of oil and gas, concrete industry and construction, *cf. figure 2.8*.



Note: The figure shows the contribution of change in energy intensity of the 34 per cent in figure 2.6, divided into 107 industries. cf. note to figure 2.6.

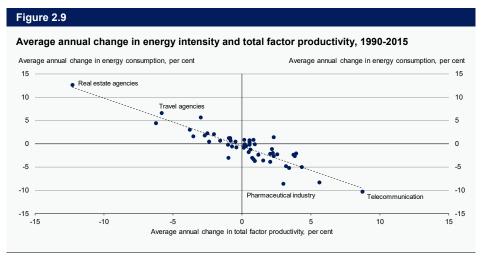
Source: Statistics Denmark and own calculations

The decoupling over the past 25 years between economic activity and energy consumption in Danish businesses is due to several factors.

First, energy efficiency has played a role in most industries. Over the past decades, a large number of new technical solutions have been developed that have enabled companies to reduce energy consumption. This applies, for example, to heat pumps and LED lighting. At the same time, the incentives of companies to use more energy-efficient solutions have been supported by energy and climate policies, including taxes and subsidy schemes.

Secondly, the development of energy intensity in the individual industries is closely linked to the productivity development. Industries that have experienced strong productivity growth over the past 25 years have typically also experienced a large reduction in energy intensity, *cf. figure 2.9*.

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Note: The change in total factor productivity is the remaining change in labour productivity when the impact of changes in capital intensity and level of education is taken into account. Total factor productivity is calculated for industries in the market economy.

Source: Statistics Denmark and own calculations.

Many factors increase the productivity of companies without having a direct correlation with energy efficiency improvements. For example, a higher level of education and stronger competition will typically increase productivity without necessarily affecting energy consumption. These conditions nevertheless de facto contribute to lower energy consumption in relation to production and are thus expressed in a lower energy intensity.

Different industries do not necessarily have the same scope for reducing energy intensity. Some industries have experienced high structural growth in productivity, and production processes are not closely linked to energy consumption. This has, for example, been the case in telecommunications. In others, new technologies have enabled significant energy efficiency improvements, for example in the horticultural industry, *cf. box 2.2.*

Box 2.2

Three examples of industries with declining energy intensity

Energy consumption represents a large part of production costs in the horticultural industry and is therefore a significant competitive parameter. From 2002 to 2017, energy consumption in greenhouses has almost halved. Most of the lower energy consumption is due to improvements in energy efficiency. Thus, total energy consumption relative to the total area of greenhouses has been reduced by 35 per cent in the period. In 2017, energy consumption per square meters is slightly higher than in 2014, which is probably due to the relatively few hours of sunshine in 2017, cf. figure a.

New technology and new products are closely linked to higher productivity and thus lower energy intensity. Occasionally, new technologies can be so ground-breaking that it complete changes an industry, leading to a significant rise in productivity. This has been the case for telecommunications. With the development of mobile telephony, telecommunications is a completely different industry today compared to 1990, when telephony was predominantly via landlines. At the same time, there has also been a sharp increase in the amount of data that can be exchanged at high speed. Technological development has thus contributed to significant productivity gains, and the price of telecommunications and data services has halved since 1990.

In the pharmaceutical industry, research and development is fundamental to the emergence of new and better products. The medical industry in Denmark, which has several globally leading companies in its field, uses approx. DKK 10 billion per year on research and development. This corresponds to just under a quarter of the total research and development expenditure in the Danish business community. The results are shown, among other things in the fact that intellectual property rights (patents, trademarks, etc.) make up the majority of the capital stock in the pharmaceutical industry, *cf. figure b*. The intellectual property rights help the pharmaceutical industry to protect investment in research and development and thus support increased value creation and productivity, without necessarily leading to an increase in energy consumption.

Since 1990, the intellectual property rights of the pharmaceutical industry have increased more than the other assets of the industry. It is not a unique phenomenon in the pharmaceutical industry, but a trend that has prevailed in many industries. Part of this trend can probably be attributed to a generally increased research and development effort in the Danish business sector, but probably also has to be seen in the light of the fact that companies are increasingly protecting their product development in order to harness their position in global competition. In addition, many large Danish companies are global. One possibility is that companies' research and development may mainly be located in Denmark, while the production of goods, which may be more energy intensive, is increasingly being placed abroad. This may both be part of the explanation for the changing composition of the capital stock and for the decline in energy intensity.



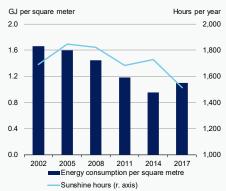
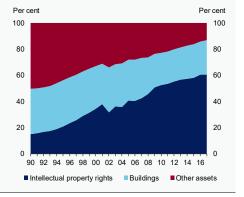


Figure b
Capital stock in the pharmaceutical industry

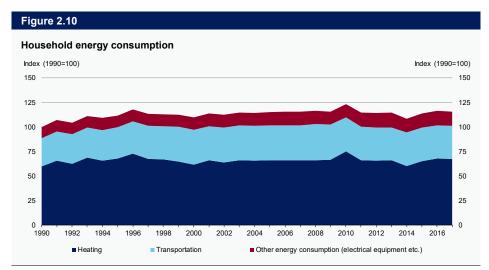


Source: Statistics Denmark, Danish Meteorological Institute and own calculations.

Globalisation may also be part of the explanation why energy intensity has declined in some industries. Today, most large Danish companies have subsidiaries in several other countries. Not only in order to be close to the export markets, but also to take advantage of the comparative advantages in different countries.

One possibility is that management, marketing and research and development activities are maintained in Denmark, while the more energy-intensive activities, including processing of raw materials, are increasingly being placed in other countries. This applies to a large extent to a number of industrial companies, including in the pharmaceutical industry, which have a significant income from production and sales that take place outside Danish territory.

Energy consumption lies not only in companies, but also in households. Household energy consumption has, in line with business energy consumption, remained largely unchanged over the last 20 years despite an increase in the number of households. The majority of energy consumption goes to heating and transportation, while a smaller part goes to electrical appliances etc., *cf. figure 2.10*.

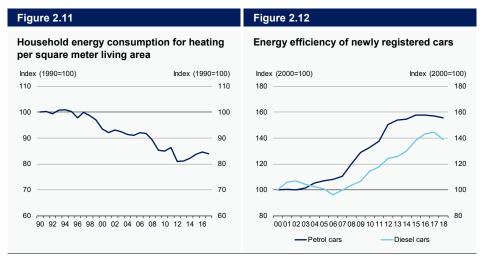


Note: The final energy consumption of households is calculated on the basis of the gross energy consumption of households according to Statistics Denmark's energy accounts. The loss of conversion is deducted from the gross energy consumption of households in connection with the production of households' consumption of electricity, district heating and city gas. *Transportation* includes the use of fossil fuels by households for transport (diesel, gasoline and gas).

Source: Statistics Denmark, Danish Energy Agency and own calculations.

Household energy consumption for heating has decreased when measured relative to the living space, *cf. figure 2.11*. The decline can be attributed, among other things, to the insulation of older homes, replacement of windows, replacement of old oil stoves with more efficient natural gas stoves and district heating installations, requirements in the building regulations for the energy consumption of new houses etc. Likewise, household

appliances have become more efficient. A similar trend is seen for cars that are now driving longer per litre of fuel than 20 years ago, *cf. figure 2.12*.



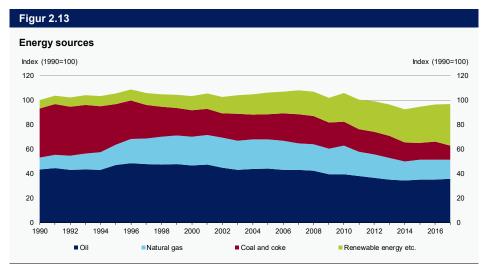
Source: Danish Energy Agency, Statistics Denmark and own calculations.

2.2 Decoupling between energy consumption and emissions

The development described above means that while there has been noticeable economic progress in Denmark since 1990 while energy consumption has been almost unchanged. It does, however, cover a significant change in the composition of energy sources, each of which has very different environmental and climate impacts.

Energy consumption is increasingly covered by renewable energy, which from a modest share in 1990, today accounts for just over a third, *cf. figure 2.13*.

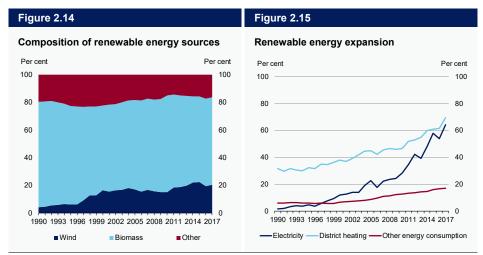
Renewable energy encompasses several energy sources, of which biomass is of most important both in terms of scope and change over time. Biomass consists mainly of wood, straw and biodegradable waste and constitutes 63 per cent of total renewable energy consumption. Incineration of biomass is considered to be $\rm CO_2$ neutral. Wind energy has also grown in importance and amounted to 20 per cent of renewable energy in 2017, *cf. figure 2.14*.



In the figure shows gross energy consumption by energy sources, adjusted for foreign trade in electricity and heat. Renewable energy consists of biomass, wind, heat pumps, biogas, solar energy, etc. The figure includes non-biodegradable waste, which accounts for just over 2 per cent of total energy consumption, in Renewable energy etc.

Source: Danish Energy Agency and own calculations.

The expansion of renewable energy has mainly taken place in the supply sector, that is, in the production of electricity and district heating, where about two thirds of gross energy consumption today is based on renewable energy sources, *cf. figure 2.15*.

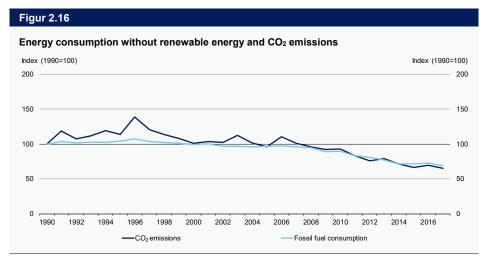


Note: Other in figure 2.14 includes biofuels, biogas, solar energy, heat pumps and non-biodegradable waste. Figure 2.15 shows the share of renewable energy sources incl. non-biodegradable waste in gross energy consumption in the production of electricity, the production of district heating and the remaining energy consumption respectively.

Source: Danish Energy Agency and own calculations.

There has also been an increase in the use of renewable energy sources in the remaining part of energy consumption, but 83 per cent is still based on fossil fuels, which mainly covers energy consumption for transport and industrial processes.

Renewable energy differs from fossil fuel burning by being CO_2 neutral, and the greater use of renewable energy has greatly contributed to the reduction in greenhouse gas emissions, which has fallen by around 35 per cent since 1990. This also follows from the fact that there is a very close correlation between the consumption of fossil fuels and the emission of CO_2 , *cf. figure 2.16*. The decoupling between energy consumption and the emission of CO_2 is thus a result of the introduction and greater use of renewable energy in the utilities sector.



Note: Fossil fuels include oil, natural gas, coal and coke as well as non-biodegradable waste. Source: Danish Energy Agency and own calculations.

 CO_2 accounts for the majority of greenhouse gas emissions, but there are also emissions that are not energy related. Emissions of nitrous oxide and methane, which account for about a quarter of total emissions, are particularly associated with agriculture. Emissions of nitrous oxide and methane have also been reduced, but not to the same extent as CO_2 , *cf.* box 2.3.

Box 2.3

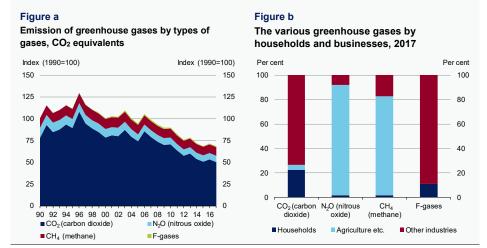
Denmark's emission of greenhouse gases

There are several different greenhouse gases. Of the total Danish emissions, CO_2 accounts for almost three quarters (73 per cent), while the remaining emissions mainly consist of nitrous oxide (11 per cent) and methane (14 per cent). Since 1990, greenhouse gas emissions have been reduced by 32 per cent, which is mainly due to a reduction in CO_2 emissions, *cf. figure a*.

 CO_2 emissions are mainly due to the use of fossil fuels such as oil, coal and natural gas. This applies to both the conversion of fossil fuels to electricity and district heating in the supply sector as well as the use of fossil fuels by businesses and households, for example in industrial production, for transport and for heating of homes. CO_2 emissions are thus related to both household and business activities.

Methane and nitrous oxide are more powerful greenhouse gases than CO₂. Therefore, the emission of the individual greenhouse gas is converted into a common unit of measurement (CO₂ equivalents) that takes into account the difference in strength. The emission of nitrous oxide and methane is mainly associated with agriculture, *cf. figure b*.

F-gases are used, among other things, as heat transmitters in air conditioning, heat pumps and cooling systems. Emissions have been halved since 2006, partly due to increased use of natural refrigerants.



Note: Total greenhouse gas emissions follow the UNFCCC statement excl. land use and forestry (LULUCF). See Appendix 2.1 for a more detailed description.

Source: Statistics Denmark, National Centre for Environment and Energy (DCE) and own calculations

2.3 Consumption based measures of emissions

In the usual energy- and emission accounts (which the previous section is based upon) energy consumption and emissions are measured based on a territorial principle, which means that it is the production within the borders of a country that determines the extent of a country's emission of greenhouse gases.

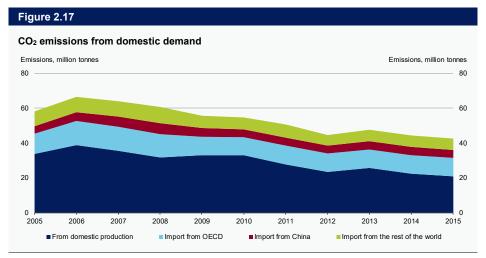
Firms trade across borders. This means that part of a country's production is consumed in other countries while households consume goods that are produced in other countries with an associated emission of greenhouse gases.

Note:

Over time the emissions contained in imports have risen in line with increasing trade volumes. The greater content of emissions in imports means that the environmental strain from consumption in most western countries is larger than the production in itself would to indicate.

A consumption based measure of emissions can only be achieved under a number of simplifying assumptions about trade flows and the average energy intensity in the producing industries across countries and as such is associated with significant uncertainty. Such measures are calculated, among others, by OECD.

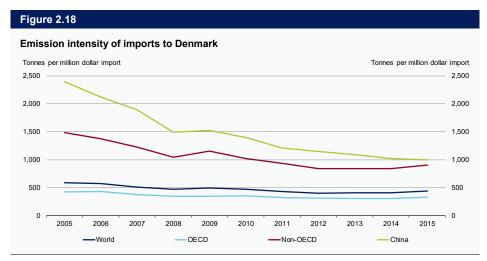
Production in Denmark gave rise to an emission of 60 million tonnes of CO_2 in 2006. When emissions contained in imports are added (28 million tonnes), and emissions contained in exports are subtracted (21 million tonnes), the consumption-based emission of CO_2 amounted to 67 million tonnes by the peak in 2006, *cf. figure 2.17*.



OECD measures demand based emissions using their Inter-Country Input-Output (ICIO) table and detailed emission data from IAE, cf. K. Wiebe, K. and N. Yamano (2016): Estimating CO₂ Emissions Embodied in Final Demand and Trade Using the OECD ICIO 2015: Methodology and Results, OECD Science, Technology and Industry Working Papers, No. 2016/05. Data makes it possible to calculate energy intensities in the producing industries across countries and tie emissions to different demand components. The figure shows CO₂ contained in domestic demand, i.e. private consumption, private investments, and public demand, and the emission from domestic production is excluding exports. The figure excludes emission of methane and laughing gas. The industry *transport and storage* is left out as it mainly covers international transport that is not usually included in emission accounts, *cf. box 2.4*.

Source: OECD Trade in Embodied CO₂ Database (TECO2) and own calculations.

Both consumption and production based emission have fallen by around a third since 2006, which is especially related to declining emissions from domestic production. On the other hand, emissions contained in imports have had a roughly unchanged magnitude. That is partly due to declining growth in international trade. At the same time a decline in energy intensity in imports from especially non-OECD countries contributes to reducing the emissions contained in imports, *cf. figure 2.18*.



Note: The emission intensity in imports shows the amount of CO₂ emissions tied to imports worth one million dollars from the area in question.

Source: OECD and own calculations.

Just as there are emissions contained in imports, there are also emissions contained exports. A part of Danish exports is shipping. Fuels used in international transports give rise to emissions but from a territorial viewpoint, the emission of carbon dioxide from international transport by Danish ships is not part of Denmark's international obligations to reduce emissions, *cf. box 2.4.*

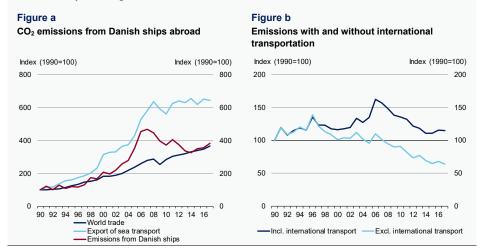
Box 2.4

CO₂ emissions related to international transportation

Denmark differs from other countries by having large exports of sea freight. The Danish exports of sea freight have shown a fairly strong increase alongside rising volumes of international trade and especially in the years after China joined the WTO in 2002, cf. figure a.

Fuel used for international transportation by Danish ships is a source of large CO_2 emissions. However, sea freight is special in the way that it is a type of exports that does not cross the Danish border and as such, no emission of CO_2 takes place on Danish territory. For the same reason this emission is not part of Denmark's international obligations to reduce emissions. The emission does, however, stem from Danish ships, and in some accounts the emission from ships (and also from airplanes and vehicles) is factored into the total emission – for example in *Energy, Transport and Environment Indicators* from Eurostat.

If the emission tied to international transport is factored into the emission equation, the Danish emission of greenhouse gases is considerably larger, *cf. figure b*. Viewed this way there has not been a decline in emissions since 1990, and especially in the years up until 2006 emissions from Danish ships rose. Also in the most recent years, emissions from Danish ships have been on the rise as a consequence of the recovery in the world economy and rising international trade.



Note: Figure b is based upon the emission accounts of Statistics Denmark.

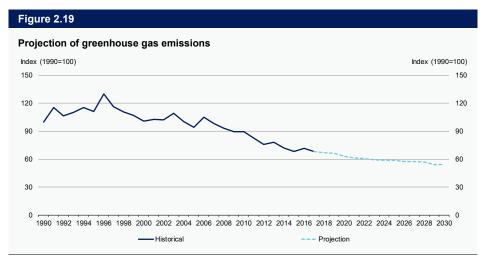
Source: The World Bank (World Development Indicators), Statistics Denmark and own calculations

2.4 Emission targets

Denmark has a number of national objectives and international commitments in the field of climate and energy. According to the agreement on a binding climate law, the target is a reduction of greenhouse gas emissions by 2030 of 70 per cent by compared to 1990, which is the UN base year for climate action.

Until 2017, there has been a reduction of 32 per cent. In the absence of new measures, according to the Danish Energy Agency's basic projection, emissions are expected to decline further, corresponding to the reduction reaching around 46 per cent in 2030, *cf.*

figure 2.19. This projection takes into account the 2018 Energy Agreement, including three offshore wind farms, the last of which is expected to be operational by 2030.

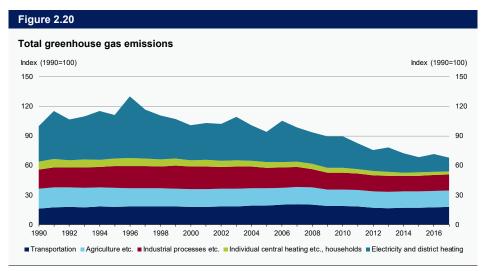


Note: The projection is the frozen policy projection from the Danish Energy Agency, which does not include reductions from land use and forestry (LULUCF).

Source: The Danish Energy Agency and own calculations.

The reduction to date is primarily due to the reduction of CO₂-emissions in connection with production of electricity and heat. Today, utility companies are responsible for about 20 per cent of total emissions, down from just under 40 per cent in 1990, *cf. figure 2.20*.

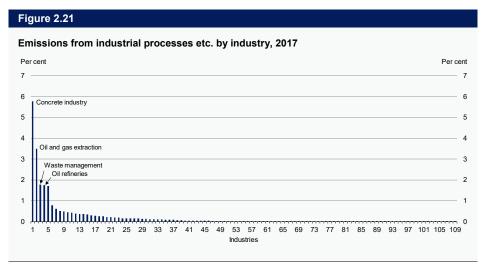
This is because electricity and heat production today is largely based on biomass and other renewable energy sources. There has also been a reduction in CO₂ emissions from other industries and other greenhouse gases primarily from agriculture, but the reductions have been significantly lower.



Note: Total greenhouse gas emissions follow the UNFCCC standard, excl. land use and forestry (LULUCF). See Appendix 2.1 for a more detailed description. *Transportation* includes the emissions from the use of fossil fuels (diesel, gasoline, gas, fuel oil and jet petroleum) by companies and households for transport excl. bunkering. See the note to figure 2.21 for the calculation of *industrial processes etc*.

Source: Statistics Denmark and own calculations.

Agriculture and horticulture account for about a quarter of emissions today. An almost equal share comes from industrial processes etc. These emissions are concentrated on relatively few industries, some of which are characterized by heat-intensive industrial processes, *cf. figure 2.21*.



Note: Emissions from industrial processes etc. is calculated here as the total emissions of companies, excl. emissions from the companies' use of fossil fuels for transport, the emissions from production of electricity, district heating and city gas for companies, and the emissions from agriculture.

Continued transition in the utility sector could reduce emissions further in the coming years, but that in itself will not be sufficient to meet the 70 per cent target. Further reductions must necessarily come from other areas, i.e. also from agriculture, transportation and other industries. The reduction opportunities are not necessarily as obvious in these areas or in the industries that emit the most. Most likely, this will require new types of initiatives and the development of new technologies to reduce emissions. Examples could be new electric-powered heat treatment machines and other solutions that contribute to increased electrification of the manufacturing sector.

It is not crucial that new technology is developed in Denmark, but new innovations will open up new business opportunities in the green area. This may be the case, for example, if Danish companies gain greater experience in utilising and commercialising green technology. What happens to the green positions of strength cannot be predicted, as it will be up to private companies in competition with foreign companies to create new green business successes. However, Denmark has a good starting point with a relatively large production and export of green goods and services, *cf. box 2.5.*

Measures and regulations that support the reduction target can distort the production process and reduce growth in the industries that emit the most. In isolation, this could also reduce overall economic growth. However, economic growth is also driven by other factors that are not directly linked to higher energy consumption and emissions, and which will also be important for future growth. This applies, among other things, to education and research and development. Efforts in these areas will contribute to growth.

Good general framework conditions, education, research efforts etc. can support the development. The Danish wind turbine industry is an example, where cooperation between the public and private sector with funding for research and development and support for wind energy for electricity generation has made Danish companies a front runner in the green area. Thus, Denmark has a good basis for benefiting from the green transition.

Among other things, it is important that the companies have access to employees with strong skills and that the Danish workforce and business structure remain flexible, so that resources are not locked into outdated technologies. Good framework conditions for private development and innovation will also contribute to promoting foreign investments in Denmark for the benefit of growth.

The contribution from companies will be crucial in achieving the climate goals, and in order to foster public-private cooperation, a number of climate partnerships have been established to propose ways in which companies can contribute to solving the climate challenges. The climate partnerships represent all branches of Danish companies and cover 13 industries: Land transport; services, IT and consulting; air transport; waste, water and circular economy; construction; life science and biotech; trade; manufacturing; financial industry; energy and supply; "The Blue Denmark"; energy-heavy industris and the food and agriculture sector.

Box 2.5

Exports of green goods and services

There are several methods for calculating green exports. According to the Green National Accounts, Danish companies exported DKK 81 bn. green goods and services in 2018. This estimate is based on sample reports and includes products that have a direct environmental or resource purpose (e.g. wastewater treatment and wind turbine production), and products that pollute less or save resources compared to other products with the same main purpose (e.g. appliances in the best energy class and low energy houses).

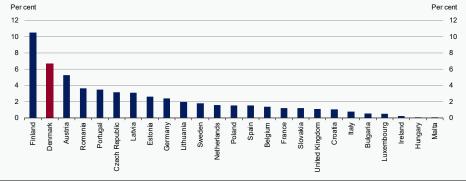
Danish exports of green goods and services account for around 6.5 per cent of total exports, which is a relatively large proportion compared to other EU countries, *cf. chart a.* Danish exports mainly relate to the environmental purpose of *producing renewable energy* (especially wind turbines), which accounted for the majority of exports in 2018 with DKK 50 bn. Goods and consultancy services with *reduced energy and heat consumption* (among other things heat insulation and energy efficient technology) were the second largest type of exports with DKK 11 bn. in exports. Exports related to *waste management and recycling* amounted to DKK 5 bn.

There are also other methods for calculating green exports. In an analysis from February 2019, the Ministry of Business and Industry emphasized that there is no official definition of a green company or product. In the analysis, a list of green products is drawn up based on the EU's combined nomenclature for commodity codes. Based on this list, Danish exports of green energy and environmental products are estimated at DKK 65 bn., equivalent to just under 10 per cent of total goods exports in 2017.

Other studies show that Denmark has a leading position in the export of energy technology, which can, among other things, help increase energy efficiency and establish renewable energy sources globally. Calculations made by the Confederation of Danish Industry, Danish Energy and the Danish Energy Agency show that Danish exports of energy technology amounted to 12 per cent of total goods exports in 2017.

The studies mentioned must be assumed to have some overlap and all point to a relatively large export of green gods and services.

Figure a Share of green exports, 2016



Note: The estimate is based on the delimitation in the green national accounts and follows the same principles across countries. 2016 is the last year in which information is available for all countries shown.

1) See Ministry of Business and Industry (2019): Grønne virksomheder – eksport, digitalisering og vækst.

2) Se Confederation of Danish Industry (2019): DI's 2030-plan: Sammen skaber vi vækst.

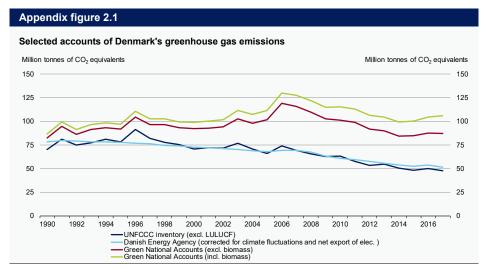
Source: Eurostat and own calculations.

Appendix 2.1

Accounts of greenhouse gas emissions

The environmental impact of energy consumption consists, among other things, of the emission of greenhouse gases, which for example arise from the combustion of fossil fuels. Emissions cannot be measured directly, but are assessed on the basis of emission factors that are determined and adjusted on the basis of new knowledge. The primary greenhouse gases are CO_2 (carbon dioxide), CH_4 (methane), N_2O (nitrous oxide) and F-gases from chemical processes. To calculate an overall climate effect, greenhouse gas emissions are converted to CO_2 equivalents.

There are several accounts of Denmark's emissions of CO₂ and other greenhouse gases, *cf. appendix figure 2.1*. The accounts differ by having a different definition of which emissions are included. In relation to international obligations, principles are set by the UN Climate Convention (UNFCCC). The UNFCCC account uses a territorial principle where emissions that occur within a country's borders are included, while emissions abroad via ships, aircrafts and vehicles are not included. Incineration of biomass is considered CO₂ neutral.



Source: Danish National Center for the Environment (DCE), Danish Energy Agency and Statistics Denmark.

The emission accounts from Statistics Denmark follow the international principles for green national accounts and include all emissions from economic activities that are included in the national accounts. The emission accounts therefore also contain CO₂ emissions from the burning of biomass and the fuel that is tanked by the country's companies

in connection with international transport by ships, aircrafts and vehicles (so-called bunkering). Calculated in this way, greenhouse gas emissions are roughly twice that of the UNFCCC account.

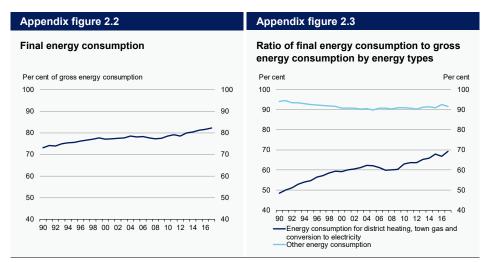
The Danish Energy Agency compiles an account in which the emissions are technically corrected for fuels related to foreign trade in electricity and climate fluctuations in relation to the average temperature during a normal year. The purpose of the corrected inventory is to get a picture of the underlying trends. In accordance with international accounting principles, emissions from bunkering and from burning of biomass are not included.

Appendix 2.2

Accounts of energy consumption

Gross energy consumption is the total consumption of primary energy sources such as oil, coal, wind and biomass, including the primary energy sources used to generate electricity and heat. The final energy consumption is the consumption of converted energy types (electricity, district heating and city gas) as well as the consumption of primary energy sources outside the supply sector.

Gross energy consumption is higher than final energy consumption, since there is, among other things, a conversion loss associated with converting primary energy sources to electricity and district heating. In 2017, final energy consumption was approx. 82 per cent of gross energy consumption, *cf. appendix figure 2.2.* The loss during conversion consists primarily of heat, which is why the conversion loss is partially offset by the co-production of electricity and heat. The co-production of electricity and heat has historically provided significant energy efficiency improvements in the supply sector.



Note: Energy consumption is adjusted for international trade in electricity and heating. Source: Danish Energy Agency and own calculations.

Since 1990, the difference between gross energy consumption and final energy consumption has narrowed, mainly due to a reduction in the supply sector (converted energy types), *cf. appendix figure 2.3*. In the first part of the period, this was linked to an increased co-production of electricity and heat. After that, the most important explanation is an increasing proportion of electricity production from wind. Unlike fossil fuels and biomass, wind power does not give rise to a conversion loss.

Annex tables

| Table D.4 | | | | | | | | | |
|--|-------|---------|-------|-------|---------|------|-------|-----------|------|
| Table B.1 | | | | | | | | | |
| Demand, income and product | ion | | | | | | | | |
| | 2019 | 2020 | 2021 | 2019 | 2020 | 2021 | 2019 | 2020 | 2021 |
| | I | OKK bn. | | Volur | ne, per | cent | Price | es, per c | ent |
| Private consumption | 1,073 | 1,107 | 1,143 | 1.6 | 1.9 | 1.7 | 0.8 | 1.2 | 1.6 |
| Public consumption ¹⁾ | 559 | 577 | 591 | 0.7 | 1.3 | 0.4 | 1.5 | 2.0 | 1.9 |
| Public investments ²⁾ | 78 | 80 | 85 | 1.5 | 0.6 | 4.2 | 2.4 | 1.8 | 1.5 |
| Residential investment | 117 | 120 | 123 | 5.0 | 0.7 | 1.0 | 1.4 | 1.4 | 1.5 |
| Fixed business investment | 300 | 315 | 329 | -3.3 | 3.8 | 2.8 | 0.9 | 1.1 | 1.6 |
| Final domestic demand excl. stock building | 2,129 | 2,203 | 2,273 | 0.7 | 2.0 | 1.5 | 1.1 | 1.4 | 1.7 |
| Stock building ³⁾ | 16 | 16 | 16 | -0.1 | 0.0 | 0.0 | | | |
| Total domestic demand | 2,145 | 2,219 | 2,289 | 0.5 | 2.0 | 1.5 | 1.1 | 1.4 | 1.7 |
| Exports of goods and services | 1,314 | 1,354 | 1,405 | 3.4 | 1.5 | 2.2 | 1.7 | 1.5 | 1.6 |
| Total demand | 3,459 | 3,573 | 3,694 | 1.6 | 1.8 | 1.7 | 1.3 | 1.4 | 1.6 |
| Imports of goods and services | 1,151 | 1,198 | 1,249 | 0.8 | 2.5 | 2.4 | 2.4 | 1.6 | 1.9 |
| GDP | 2,309 | 2,375 | 2,445 | 2.0 | 1.5 | 1.4 | 0.8 | 1.4 | 1.5 |
| Taxes on products, net | 299 | 306 | 315 | | | | | | |
| Gross value added | 2,010 | 2,069 | 2,130 | 2.1 | 1.3 | 1.3 | 1.1 | 1.6 | 1.6 |
| - Non-farm private sector ⁴⁾ | 1,384 | 1,424 | 1,471 | 2.8 | 1.6 | 1.8 | 0.2 | 1.3 | 1.5 |
| Gross national income | 2,362 | 2,428 | 2,497 | | | | | | |

Note: The division into volume and price components is made on the basis of a fixed price calculation in the previous year's prices. The figures state the annual percentage change.

Source: Statistics Denmark and own calculations.

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The volume statement for public consumption is calculated by using the input method. In 2019-2021 growth
in public consumption using the input method is assumed to equal growth using the output method.

Public investments are excluding general government net purchases of buildings, and therefore the figures will deviate from public investments in table B.8.

³⁾ The volume figures reflect changes in inventories compared to GDP.

⁴⁾ Non-farm private sector consists of manufacturing, construction and private services excl. sea transport.

Table B.2

| Growth projections by country and Danish export market growth | | | | | | | | | | |
|---|------|------|------|------|------|--|--|--|--|--|
| | 2017 | 2018 | 2019 | 2020 | 2021 | | | | | |
| Real growth rate, per cent | | | | | | | | | | |
| Export market growth ¹⁾ | 5.3 | 3.7 | 2.0 | 1.6 | 2.3 | | | | | |
| Trade-weighted GDP ²⁾ | 2.8 | 2.4 | 1.7 | 1.7 | 1.7 | | | | | |
| EU28 | 2.6 | 2.0 | 1.4 | 1.4 | 1.4 | | | | | |
| Euro Area | 2.7 | 1.9 | 1.2 | 1.1 | 1.2 | | | | | |
| Germany | 2.8 | 1.5 | 0.6 | 0.4 | 0.9 | | | | | |
| France | 2.4 | 1.7 | 1.3 | 1.2 | 1.2 | | | | | |
| Italy | 1.8 | 0.7 | 0.2 | 0.4 | 0.5 | | | | | |
| Spain | 2.9 | 2.4 | 2.0 | 1.6 | 1.6 | | | | | |
| Netherlands | 3.0 | 2.5 | 1.7 | 1.8 | 1.6 | | | | | |
| UK | 1.9 | 1.4 | 1.2 | 1.0 | 1.2 | | | | | |
| Poland | 4.9 | 5.1 | 4.3 | 3.8 | 3.0 | | | | | |
| Sweden | 2.7 | 2.4 | 1.4 | 1.2 | 1.2 | | | | | |
| Norway | 2.3 | 1.3 | 1.1 | 2.4 | 2.3 | | | | | |
| USA | 2.4 | 2.9 | 2.3 | 2.0 | 2.0 | | | | | |
| Japan | 1.9 | 0.8 | 1.0 | 0.6 | 0.7 | | | | | |
| India | 7.2 | 6.8 | 5.8 | 6.2 | 6.4 | | | | | |
| China | 6.8 | 6.6 | 6.2 | 5.7 | 5.5 | | | | | |
| Russia | 1.6 | 2.3 | 1.1 | 1.6 | 1.4 | | | | | |
| Brazil | 1.1 | 1.1 | 0.8 | 1.7 | 1.8 | | | | | |

¹⁾ Calculated as the weighted average of import growth of Denmark's 36 most important trade partners. The weights reflect the countries' share of Danish industry exports in 2018.

2019 and own calculations.

²⁾ Calculated as the weighted average of the GDP-growth of Denmark's 36 most important trade partners. The weights reflect the countries share of Danish export of goods and services in 2018.

Source: Statistics Denmark, The European Commission, November 2019, OECD, Economic Outlook, November

| Table B.3 | | | | | | |
|---------------|--|-----------|-----------|-------|-------|------|
| nterest rate | projections and projections on oil price | ce and ex | change ra | ates | | |
| nterest rate, | per cent | 2017 | 2018 | 2019 | 2020 | 202 |
| USA | Federal Funds Target Rate | 1.1 | 1.9 | 2.3 | 1.6 | 1. |
| | 3-month LIBOR | 1.3 | 2.3 | 2.3 | 1.7 | 1. |
| | 10-year government bond | 2.3 | 2.9 | 2.1 | 1.8 | 1. |
| Euro area | Main Refinancing Operations Rate | 0.0 | 0.0 | 0.0 | 0.0 | 0. |
| | 3-month EURIBOR | -0.3 | -0.3 | -0.4 | -0.4 | -0. |
| | 10-year government bond (Germany) | 0.4 | 0.5 | -0.2 | -0.3 | -0. |
| Denmark | Certificates of deposit rate | -0.7 | -0.7 | -0.7 | -0.8 | -0. |
| | 3-month CIBOR | -0.4 | -0.3 | -0.4 | -0.4 | -0. |
| | 1-year adjustable mortgage rate | -0.6 | -0.5 | -0.6 | -0.6 | -0. |
| | 10-year government bond | 0.5 | 0.5 | -0.2 | -0.3 | -0. |
| | 30-year mortgage interest rate | 2.3 | 2.1 | 1.6 | 1.3 | 1. |
| | Average interest rate | 0.7 | 0.7 | 0.5 | 0.3 | 0. |
| Oil price and | d exchange rate | | | | | |
| | Dollar per barrel | 54.3 | 71.1 | 63.9 | 61.9 | 64. |
| | DKK per barrel | 358.1 | 448.7 | 426.1 | 418.9 | 433. |
| | DKK per 100 dollar | 660.1 | 631.5 | 667.3 | 677.0 | 677. |
| | DKK per 100 euro | 743.9 | 745.3 | 746.6 | 747.2 | 747. |
| | Effective Krone Rate Index (1980=100) | 102.1 | 103.6 | 103.0 | 102.7 | 102. |
| | | | | | | |

Note: The projections are based on data through November 29 2019. 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. It should be noted that by the end of November 2019, the long-term bond yield from Finance Denmark was approx. 0.2 percentage points above the effective interest rate on the leading 30-year mortgage bonds with a nominal interest rate of 1 per cent. 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, November 2019, as well as futures prices.

Source: Macrobond, Nordea Markets, The International Energy Agency and own calculations.

| Population and labour market | | | | | |
|--|-------|-------|-------|-------|-------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| 1,000 persons | | | | | |
| Total population | 5,765 | 5,794 | 5,819 | 5,843 | 5,867 |
| - Labour force | 3,035 | 3,069 | 3,098 | 3,118 | 3,128 |
| - Total employment | 2,922 | 2,963 | 2,906 | 3,015 | 3,023 |
| - Ordinary employment ¹⁾ | 2,842 | 2,880 | 2,962 | 2,918 | 2,922 |
| - Subsidised employment ²⁾ | 80 | 84 | 91 | 97 | 101 |
| - Gross unemployment (incl. activation) $^{3)}$ | 116 | 108 | 104 | 105 | 108 |
| - Net unemployment | 92 | 87 | 86 | 88 | 90 |
| - Outside the labour force | 2,730 | 2,725 | 2,721 | 2,725 | 2,739 |
| - Recipients of unemployment benefits and cash benefits in activation outside the labour force | 110 | 103 | 99 | 99 | 98 |
| - Disability pensioners outside the labour force | 181 | 178 | 181 | 192 | 200 |
| - Voluntary early retirement | 61 | 49 | 45 | 48 | 50 |
| - Persons under 15 years | 961 | 959 | 956 | 954 | 951 |
| - Pensioners outside the labour force | 975 | 991 | 988 | 976 | 963 |
| - Others outside the labour force | 442 | 445 | 451 | 457 | 477 |

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

 $[\]hbox{\it Calculated as the difference between employment as determined in the national accounts and subsidised}$ 1) employment, which is based on data from AMFORA. As a consequence of 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 flexi-jobs and sheltered 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.

| Table B.5 | | | | | |
|------------------------|-------|-------|-------|-------|-------|
| Employment by industry | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| 1,000 persons | | | | | |
| Employment, total | 2,922 | 2,963 | 2,996 | 3,015 | 3,023 |
| - Service industries | 1,533 | 1,554 | 1,576 | 1,588 | 1,594 |
| - Construction | 182 | 189 | 193 | 194 | 195 |
| - Manufacturing | 302 | 305 | 308 | 309 | 310 |
| - Agriculture | 70 | 70 | 69 | 68 | 68 |
| - Public sector | 818 | 824 | 828 | 833 | 833 |

Note: The industry division is based on ADAM's industries, which are not completely identical to the division in the

national accounts.

Source: Statistics Denmark and own calculations.

| Table B.6 | | | | | |
|-----------------------------|------|------|------|------|------|
| Unemployment | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| 1,000 persons | | | | | |
| Gross unemployment | 116 | 108 | 104 | 105 | 108 |
| - per cent of workforce | 3.8 | 3.5 | 3.4 | 3.4 | 3.4 |
| Net unemployment | 92 | 87 | 86 | 88 | 90 |
| LFS unemployment (per cent) | 6.0 | 5.3 | 5.0 | 5.0 | 5.0 |

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.

| Table B.7 | | | | | |
|---|-------|-------|-------|-------|------|
| Benefit recipients etc. | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 202 |
| 1,000 persons | | | | | |
| Unemployment benefits (excl. activation) ¹⁾ | 70 | 69 | 69 | 71 | 7 |
| Cash benefits (excl. activation) | 95 | 87 | 83 | 85 | 8 |
| Recipients of unemployment benefits and cash benefits in activation ²⁾ | 35 | 34 | 33 | 30 | 3 |
| Holiday benefit | 5 | 5 | 3 | 2 | |
| Anticipatory pension ³⁾ | 203 | 199 | 203 | 214 | 22 |
| Resource assessment benefit | 33 | 37 | 38 | 37 | 3 |
| Early retirement | 61 | 49 | 45 | 48 | 5 |
| Flexi-job scheme benefit | 4 | 3 | 3 | 3 | |
| Revalidation benefit ⁴⁾ | 5 | 4 | 3 | 3 | |
| Sickness benefit ⁵⁾ | 57 | 57 | 59 | 59 | 5 |
| Maternity leave | 48 | 50 | 50 | 51 | 5 |
| Benefit for unemployed | 15 | 15 | 16 | 16 | 1 |
| Integration benefit ⁶⁾ | 22 | 17 | 15 | 14 | 1 |
| Total | 653 | 627 | 619 | 634 | 64 |
| Student grant (SU) | 332 | 329 | 322 | 317 | 31 |
| Total, incl. SU | 985 | 955 | 942 | 951 | 96 |
| Pensioners | 1,128 | 1,147 | 1,143 | 1,130 | 1,11 |
| Total, incl. SU and pensioners | 2,113 | 2,103 | 2,085 | 2,081 | 2,07 |
| Subsidised employment ⁷⁾ | 80 | 84 | 91 | 97 | 10 |
| Total, incl. SU, pensioners and subsidised employment | 2,192 | 2,186 | 2,176 | 2,178 | 2,17 |

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

- 1) From 2018 and onwards, a new method of projections for recipients of unemployment benefits is applied. The new method causes a minor upward revision to the forecasts.
- The data does not cover persons in subsidized employment and thereby differs from other register-based 2) data and table B.4. 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.
- Anticipatory pension and old age pension include pensioners living abroad as well as pensioners, who are 3) employed.
- 4) Excl. persons on revalidation with wage support.
- The number of sickness benefit recipients does not reflect the total absence due to illness. It includes the 5) 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.
- 6) Excl. recipients of integration benefits with wage subsidies.
- 7) Includes persons in employment with wage subsidies (including flexi-jobs and sheltered jobs).
 Source: Statistics Denmark, DREAM and own calculations.

Table B.8 **Gross investments** 2018 2017 2018 2019 2020 2021 DKK bn. Real growth rate, per cent Gross fixed capital formation 495 3.0 5.4 -1.3 3.0 2.4 divided into type: - Construction investment 231 5.0 4.6 4.8 2.6 2.1 - Tangible and intangible investments 263 3.4 2.7 1.2 6.2 -6.7 divided into group: - Residential investments 110 12.1 5.3 5.0 0.7 1.0 77 - Public investments -8.0 1.8 -2.5 3.4 3.2 - Total business investments 307 6.5 -3.3 3.8 2.8 3.2 - Construction investment 81 4.7 6.0 3.9 3.0 6.3 - Tangible and intangible investments 227 2.0 7.1 -6.6 2.7 3.8

| Balance of payments | | | | | |
|--|-------|-------|-------|-------|------|
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| DKK bn. | | | | | |
| Goods exports | 739 | 755 | 813 | 836 | 868 |
| Goods imports | 648 | 682 | 696 | 727 | 757 |
| Goods balance, total | 90 | 73 | 117 | 109 | 112 |
| Service export | 461 | 495 | 502 | 518 | 537 |
| Service import | 399 | 432 | 455 | 471 | 492 |
| Service balance, total | 62 | 63 | 47 | 47 | 45 |
| Balance of goods and services | 152 | 136 | 164 | 156 | 156 |
| - Per cent of GDP | 7.0 | 6.0 | 7.1 | 6.6 | 6.4 |
| Investment income from abroad, net | 55 | 67 | 62 | 61 | 60 |
| Wage income from abroad, net | -12 | -13 | -12 | -12 | -12 |
| EU payments, net | -10 | -14 | -16 | -15 | -16 |
| Other current transfers from abroad, net | -16 | -18 | -19 | -19 | -19 |
| Net transfers from abroad, total | 16 | 22 | 15 | 15 | 12 |
| Current account, total | 169 | 158 | 178 | 171 | 168 |
| - Per cent of GDP | 7.8 | 7.0 | 7.7 | 7.2 | 6.9 |
| Net assets against other countries | 1,118 | 1,346 | 1,513 | 1,686 | 1,85 |
| - Per cent of GDP | 51.4 | 60.0 | 65.5 | 71.0 | 75.9 |

| Exports and imports | | | | | | |
|---------------------------------------|---------|------|---------|----------------|---------|------|
| | 2018 | 2017 | 2018 | 2019 | 2020 | 2021 |
| | DKK bn. | | Real g | rowth rate, pe | r cent | |
| Export | | | | | | |
| Goods, total | 755 | 5.5 | 1.8 | 7.3 | 1.4 | 2.3 |
| - Agricultural goods etc. | 119 | 3.1 | -1.4 | 1.7 | 1.0 | 1.5 |
| - Industrial goods (excl. ships etc.) | 559 | 6.3 | 2.6 | 10.4 | 2.1 | 3.0 |
| - Other goods ¹⁾ | 77 | 2.5 | 1.2 | -7.1 | -4.6 | -3.0 |
| Services, total | 495 | 3.3 | 3.3 | -2.4 | 1.8 | 1.9 |
| - Sea transport | 200 | -1.1 | -1.1 | -0.5 | 0.0 | 1.0 |
| - Other services | 236 | 5.6 | 7.6 | -5.0 | 2.9 | 2.5 |
| Total | 1,250 | 4.6 | 2.4 | 3.4 | 1.5 | 2.2 |
| | | | | | | |
| Import | | | | | | |
| Goods, total | 682 | 6.3 | 2.6 | 2.2 | 3.3 | 2.5 |
| - Agricultural goods etc. | 84 | 3.1 | 3.1 | 2.7 | 2.2 | 2.2 |
| - Industrial goods (excl. ships etc.) | 432 | 7.1 | 1.2 | 5.6 | 3.2 | 3.1 |
| - Other goods ²⁾ | 167 | 5.7 | 6.6 | -6.7 | 4.4 | 0.9 |
| Services, total | 432 | 1.1 | 5.1 | -1.4 | 1.2 | 2.1 |
| Total | 1,114 | 4.3 | 3.6 | 0.8 | 2.5 | 2.4 |
| | | | | | | |
| Memo | | | Nominal | growth rate, p | er cent | |
| Export of basic goods ³⁾ | 708 | 5.3 | 1.3 | 9.0 | 3.6 | 4.2 |
| | | | | | | |
| | | | Cł | nange, per cen | t | |
| Export prices | | | | | | |
| Goods, total | | 0.2 | 0.4 | 0.3 | 1.5 | 1.5 |
| Services, total | | 4.4 | 4.0 | 3.9 | 1.4 | 1.7 |
| Total | | 1.8 | 1.8 | 1.7 | 1.5 | 1.6 |
| | | | | | | |
| Import prices | | | | | | |
| Goods, total | | 1.6 | 2.6 | -0.2 | 1.1 | 1.5 |
| Services, total | | 2.5 | 2.9 | 6.8 | 2.4 | 2.4 |
| Total | | 1.9 | 2.7 | 2.4 | 1.6 | 1.9 |

Raw materials, energy and ships etc.
 Raw materials, energy, cars and ships etc.
 Export of basic goods consists of export of goods excl. energy, ships and airplanes.
 Source: Statistics Denmark and own calculations.

| Гable B.11 | | | | | | |
|----------------------------|---------|------|-----------|-----------------|------|------|
| Private consumption | | | | | | |
| | 2018 | 2017 | 2018 | 2019 | 2020 | 2021 |
| | DKK bn. | | Real grov | wth rate, per c | ent | |
| Total consumption | 1,048 | 1.6 | 2.6 | 1.6 | 1.9 | 1.7 |
| Retail trade goods | 338 | 2.2 | 3.9 | 0.1 | 1.8 | 1.6 |
| - Food, drinks and tobacco | 154 | 1.3 | 2.2 | -0.5 | 1.8 | 1.5 |
| - Other goods | 184 | 3.0 | 5.3 | 0.6 | 1.8 | 1.7 |
| Purchase of vehicles | 42 | 3.8 | 8.8 | 4.0 | 3.0 | 0.5 |
| Electricity, fuels and gas | 51 | -2.2 | 1.0 | 0.0 | 1.6 | 0.0 |
| Gasoline and similar | 26 | -0.2 | 1.0 | 2.6 | 1.0 | 1.1 |
| Housing | 231 | 0.9 | 0.8 | 1.5 | 1.5 | 1.5 |
| Other services | 375 | 2.8 | 2.4 | 2.6 | 2.3 | 2.3 |
| Tourist expenditures | 44 | 4.4 | 1.4 | 4.0 | 4.0 | 3.4 |
| Tourist revenues | 59 | 9.3 | 1.8 | 1.4 | 3.9 | 3.2 |

Source: Statistics Denmark and own calculations.

| Table B.12 | | | | | |
|------------------------------|------|------|------|------|------|
| Net lending by sectors | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| DKK bn. | | | | | |
| Private sector, total | 137 | 147 | 122 | 177 | 174 |
| - Households | 42 | 46 | 11 | 76 | 73 |
| - Corporations | 95 | 102 | 111 | 101 | 101 |
| - Non-financial corporations | 60 | 62 | 61 | 52 | 51 |
| - Financial corporations | 35 | 40 | 51 | 49 | 50 |
| General government | 33 | 11 | 59 | -6 | -5 |
| Total | 170 | 158 | 181 | 172 | 169 |
| | | | | | |

Note: Net lending of general government corresponds to the general government budget balance. The total (except for typically small net capital transfers from abroad) corresponds to the current account balance, *cf. table B.9.*

Table B.13

Gross value added (GVA)

| | 2018 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---|-----------------|------|----------|--------------|--------|------|
| | Share, per cent | | Real gro | wth rate, pe | r cent | |
| Total GVA | 100 | 2.0 | 2.4 | 2.1 | 1.3 | 1.3 |
| Public sector | 20 | 0.6 | 0.4 | 0.4 | 8.0 | 0.0 |
| Private sector | 80 | 2.4 | 2.9 | 2.5 | 1.4 | 1.7 |
| Private sector excl. mining and quarrying | 78 | 2.5 | 3.1 | 2.6 | 1.6 | 1.7 |
| Non-farm private sector ¹⁾ | 69 | 2.4 | 4.0 | 2.8 | 1.6 | 1.8 |

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

Table B.14

Hourly productivity in selected industries

| Hourly productivity in sele | cted industries | | | | | |
|---|-----------------|------|------|------|------|------|
| | Avg. 1995-2018 | 2017 | 2018 | 2019 | 2020 | 2021 |
| Real growth rate, per cent | | | | | | |
| Total | 1.1 | 0.9 | 2.6 | 1.0 | 0.8 | 1.1 |
| Public sector | 0.7 | 0.4 | 0.2 | -0.2 | 0.2 | 0.0 |
| Private sector | 1.2 | 0.9 | 3.4 | 1.2 | 0.9 | 1.3 |
| Private sector excl. mining and quarrying | 1.4 | 1.0 | 3.6 | 1.4 | 1.1 | 1.3 |
| Non-farm private sector ¹⁾ | 1.3 | 0.7 | 4.6 | 1.4 | 1.1 | 1.4 |

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 excl. shipping.

Table B.15 Contributions to growth in households' real disposable income¹⁾ 2017 2018 2019 2020 2021 Real growth rate, per cent Disposable income 1.9 2.3 1.9 3.5 1.4 Contribution, percentage points Compensation of employees²⁾ 2.0 2.4 2.8 2.0 1.3 0.4 Social benefits 0.0 0.0 0.6 0.2 Income taxes -1.1 -0.7 -1.2 -0.1 -0.6 Net interest income 0.3 0.0 0.1 0.1 0.1 Dividend etc.3) -0.2 0.4 8.0 0.2 0.2 Pension contribution⁴⁾ -0.1 0.4 -1.4 0.5 -0.1 Payment from pension schemes⁴⁾ 0.0 0.0 0.1 0.2 0.2 Others⁵⁾ 1.0 -0.1 0.4 0.1 0.2

- The households in the Economic Survey include the NPISH-sector. $\label{eq:condition}$ 1)
- Covering only employees residing in Denmark. 2)
- 3) Incl. dividends from investment funds.
- Occupational pensions etc. (but not individual pension schemes in banks, etc.) 4)
 - Including self-employed.

| able B.16 | | | | | |
|---|-------|-------|-------|-------|-------|
| louseholds' net lending ¹⁾ | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| DKK bn. | | | | | |
| Disposable gross income | 1,067 | 1,101 | 1,131 | 1,185 | 1,220 |
| Private consumption | 1,012 | 1,048 | 1,073 | 1,107 | 1,143 |
| Gross investment ²⁾ | 104 | 112 | 117 | 120 | 123 |
| Net capital transfers ³⁾ | 4 | 10 | 3 | 10 | 10 |
| Direct net lending | -45 | -48 | -56 | -31 | -35 |
| Adjustment for the change in pension entitlements ⁴⁾ | 87 | 94 | 67 | 107 | 108 |
| Net lending ⁵⁾ | 42 | 46 | 11 | 76 | 73 |
| | | | | | |
| Per cent of disposable gross income | | | | | |
| Direct net lending | -4.2 | -4.3 | -4.9 | -2.6 | -2.9 |
| Net lending | 3.9 | 4.1 | 0.9 | 6.4 | 6.0 |

- The households in the Economic Survey include the NPISH-sector. Households' gross investments include investments in owner-occupied housing and investments in build-1) 2)
- Households' gross investments include investments in owner-occupied housing and investments in buildings and materials by sole proprietors.

 Net capital transfers in 2020 and 2021 include refunded property taxes to owner-occupied property owners.

 Net payment to and return (excl. tax on pension yield) of household capital in life insurance companies and pension funds.

 Household acquisition (net) of financial assets (incl. shares) in other sectors.

 Statistics Denmark and own calculations.

Table B.17

Household wealth1)

| | Level end of 2018 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------------------------------|-------------------|------|-----------|--------------|---------|------|
| | DKK bn. | | Real grov | vth rate, pe | r cent. | |
| Housing ²⁾ | 3,633 | 3.4 | 1.2 | 0.3 | 0.4 | -0.2 |
| Cars | 310 | 2.6 | 3.3 | 5.0 | 4.7 | 3.8 |
| Financial wealth directly owned | -34 | | | | | |
| - Mortgage debt etc.3) | -1,933 | 1.1 | 0.6 | 2.7 | 2.4 | 2.0 |
| - Equity etc. ⁴⁾ and bonds | 1,899 | 12.0 | -7.4 | 5.0 | 4.5 | 4.0 |

Note: The data is based on the financial accounts in the national accounts and presented at market value. In the constant price calculations, the private consumption deflator from the national accounts is used.

3,910

2,326

6,235

2,292

9.8

1.4

6.5

-1.0

-1.3

-1.1

1.6

1.6

1.6

2.1

2.9

2.4

1.3

2.6

1.8

- Households in the Economic Survey include the NPISH-sector.
- Housing wealth includes land value and comprises all residences owned by households including rental 2) property. The percentage increases include (as for other items) the growth of the housing wealth.
- 3) Household net position vis-a-vis banks.

Total directly owned⁵⁾ net wealth

Pension wealth⁶⁾

Total net wealth5)

- Financial net wealth

- Includes mutual fund shares and unlisted shares. 4)
- Not a complete account. Among other things, the household share of firms' capital (in single-person com-5) panies, excl. privately owned rental property, which is part of the housing wealth) is not included.
- 6) Collective as well as individual pension wealth (e.g. in banks). Adjusted for estimated deferred taxes. Source: Statistics Denmark, Danmarks Nationalbank, and own calculations.

| Table B.18 | | | | | |
|--|------|------|------|------|------|
| Real estate market and construction | | | | | |
| Per cent | 2017 | 2018 | 2019 | 2020 | 2021 |
| Increase in the price of traded single-family houses ¹⁾ | 4.0 | 3.9 | 2.7 | 3.2 | 3.0 |
| Housing gross investment (real growth) | 12.1 | 5.3 | 5.0 | 0.7 | 1.0 |

The increase is adjusted for developments in the volume of housing sales.

Table B.19 Labour wage ratio, wage increases and computational preconditions 2017 2018 2019 2020 2021 Labour wage ratio, per cent Private sector 57.3 57.2 57.4 57.5 57.5 The entire economy 63.2 63.2 63.3 63.4 63.3 Wage increase, per cent Private sector 2.2 2.3 2.5 2.6 2.7 - Hourly earnings (excl. nuisance bonus) Public sector - Hourly earnings (excl. nuisance bonus)¹⁾ 2.1 1.5 - Budgetary impact 1.7 1.6 1.8 2.5 2.0 Wage adjustment rate, per cent2) 2.0 2.0 2.0 2.0 2.2

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 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 (regulerings-ordningen) but excluding any residual increases. The hourly wage increases for the private and public sectors are not comparable.

- The estimated rate of increase in hourly earnings in the public sector in 2018 is affected by a technically relatively low wage increase in Q2 2018 compared to the agreed wage increases. This is because the wage increase agreed by April 1 2018 has been implemented retroactively in the wages for June 2018, while Statistics Denmark calculates Q2 wages on the basis of information about May.
- 2) The wage adjustment rate is stated is the announced wage adjustment rate.

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

| Table B.20 | | | | | j |
|--|------|------|------|------|------|
| Price trends and explanatory factors | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 2021 |
| Change, per cent | | | | | |
| Net price index | 1.2 | 0.9 | 0.9 | 1.4 | 1.8 |
| Tariffs and housing benefits, contribution | -0.1 | -0.1 | -0.1 | -0.2 | -0.2 |
| Consumer price index | 1.1 | 8.0 | 0.8 | 1.2 | 1.6 |
| HICP | 1.1 | 0.7 | 8.0 | 1.3 | 1.7 |

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.

| Public finances | | | | | |
|--|---------|---------|---------|---------|--------|
| | 2017 | 2018 | 2019 | 2020 | 202 |
| DKK bn. | | | | | |
| Public consumption | 535.6 | 546.8 | 558.8 | 577.5 | 590. |
| Income transfers ¹⁾ | 353.2 | 355.9 | 363.2 | 374.8 | 383. |
| Investments | 72.3 | 75.4 | 78.4 | 80.3 | 85. |
| Interest expenditures | 23.4 | 23.8 | 23.0 | 22.4 | 20. |
| Subsidies | 38.7 | 38.1 | 39.8 | 39.6 | 39. |
| Other expenditures ²⁾ | 69.4 | 81.0 | 72.4 | 79.6 | 84. |
| Total expenditure ³⁾ | 1,092.6 | 1,121.0 | 1,135.7 | 1,174.2 | 1,203. |
| Personal income taxes, etc. ⁴⁾ | 455.3 | 463.7 | 483.2 | 492.4 | 507. |
| Labour market contributions | 94.2 | 98.1 | 102.2 | 105.4 | 108. |
| Pension yield taxation | 32.2 | 13.8 | 59.4 | 14.5 | 16. |
| Corporate taxes | 71.9 | 65.2 | 64.2 | 62.4 | 63. |
| VAT | 208.0 | 217.0 | 221.2 | 228.7 | 235. |
| Other duties | 143.4 | 146.7 | 147.4 | 148.0 | 147. |
| Other taxes ⁵⁾ | 5.5 | 5.6 | 4.5 | 3.6 | 2. |
| Interest revenues | 19.3 | 26.3 | 20.6 | 21.7 | 20. |
| Other revenues ⁶⁾ | 98.9 | 98.5 | 95.0 | 95.3 | 92. |
| Tariffs etc. to the EU | -3.2 | -3.2 | -3.3 | -3.4 | 3. |
| Total revenue ⁷⁾ | 1,125.7 | 1,131.7 | 1,194.4 | 1,168.5 | 1,198. |
| General government budget balance | 33.1 | 10.7 | 58.8 | -5.6 | -5. |
| Net interest expenditure | 4.1 | -2.5 | 2.4 | 0.7 | 0. |
| General government primary balance ⁸⁾ | 37.2 | 8.2 | 61.2 | -4.9 | -4. |

- Income transfers exclude other regular transfers to households such as mileage allowance and index supplement
- plement.

 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.
- 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.

| Taxes and tax burden | | | | | |
|---|---------|---------|---------|---------|--------|
| | 2017 | 2018 | 2019 | 2020 | 202 |
| DKK bn. | | | | | |
| Indirect taxes | 348.3 | 360.6 | 365.3 | 373.3 | 379. |
| - VAT | 208.0 | 217.0 | 221.2 | 228.7 | 235. |
| - Registration tax | 20.0 | 20.6 | 21.6 | 21.8 | 22. |
| - Excise duties | 72.6 | 72.2 | 70.3 | 69.8 | 70. |
| - Energy (incl. PSO) | 43.2 | 42.6 | 39.2 | 38.8 | 37. |
| - Environmental | 3.7 | 3.8 | 3.7 | 3.8 | 4. |
| - Tobacco and spirits etc. | 11.5 | 11.0 | 11.9 | 11.6 | 12. |
| - Others | 14.1 | 14.9 | 15.5 | 15.7 | 16. |
| - Property taxes | 28.5 | 29.6 | 31.2 | 31.6 | 29. |
| - Motor vehicle tax paid by businesses | 3.5 | 3.6 | 3.6 | 3.6 | 3. |
| - Other indirect taxes | 15.7 | 17.6 | 17.4 | 17.7 | 18. |
| Direct taxes | 653.7 | 640.5 | 706.6 | 671.4 | 691. |
| - Withholding taxes ¹⁾ | 435.1 | 442.9 | 461.6 | 471.0 | 486. |
| - State tax | 150.6 | 156.4 | 164.7 | 169.7 | 175. |
| - Bottom-bracket tax | 111.3 | 126.9 | 143.8 | 148.8 | 154. |
| - Top-bracket tax | 17.5 | 17.4 | 18.3 | 18.3 | 18. |
| - Health contributions | 19.2 | 9.7 | 0.0 | 0.0 | 0. |
| - Limited tax liability | 2.6 | 2.4 | 2.6 | 2.7 | 2. |
| - Total municipal tax | 236.9 | 239.2 | 248.2 | 256.0 | 265. |
| - Property value tax | 14.2 | 14.5 | 14.6 | 14.9 | 14. |
| - Other withholding taxes ²⁾ | 33.4 | 32.8 | 34.1 | 30.4 | 31. |
| - Pension yield tax | 32.2 | 13.8 | 59.4 | 14.5 | 16. |
| - Corporate tax | 71.9 | 65.2 | 64.2 | 62.4 | 63. |
| - Other personal taxes | 8.2 | 8.2 | 8.2 | 8.2 | 7. |
| - Media license | 4.4 | 4.5 | 3.5 | 2.5 | 1. |
| - Motor vehicle tax paid by households | 7.7 | 7.8 | 7.6 | 7.5 | 7. |
| - Labour market contributions | 94.2 | 98.1 | 102.2 | 105.4 | 108. |
| Social security contributions ³⁾ | 1.1 | 1.1 | 1.1 | 1.1 | 1. |
| Capital taxes | 4.4 | 4.8 | 5.9 | 5.8 | 5. |
| Customs and import duties (collected by the EU) | 3.2 | 3.2 | 3.3 | 3.4 | 3. |
| Total taxes | 1,010.6 | 1,010.1 | 1,082.2 | 1,055.0 | 1,081. |
| GDP | 2,175.1 | 2,246.0 | 2,308.7 | 2,374.9 | 2,445. |

For 2017-2018, the distribution of withholding taxes to the state and municipalities is from Statistics Den mark. For 2019-2021, an estimate is used based on the Ministry of Finance's tax base forecast. Includes equity income tax, tax on estates of deceased persons and revenue from the Danish business 1)

²⁾ scheme etc.

Includes mandatory pension payments for civil servants in public enterprises etc.
 Source: Statistics Denmark and own calculations.

Table B.23 Development in the tax base for municipalities 2017 2018 2019 2020 2021 2017 2018 2019 2020 2021 DKK bn. Per cent December 2015 953.3 2.7 May 2016 951.2 2.5 August 2016 958.4 2.6 December 2016 957.1 989.3 2.9 3.4 May 2017 954.3 988.0 2.8 3.5 August 2017 955.4 982.8 3.0 2.9 December 2017 3.1 961.4 990.9 1,010.5 3.7 2.0 May 2018 955.3 981.2 1,005.3 3.1 2.7 2.5 August 2018 959.2 979.9 1,008.0 3.5 2.2 2.9 December 2018 960.5 979.2 1,013.2 1,045.9 3.6 1.9 3.5 3.2 August 2019 960.6 966.7 1,005.7 1,033.8 3.6 0.6 4.0 2.8 966.1 1,006.3 1,035.9 1,073.4 December 2019 960.6 3.6 0.6 4.2 2.9 3.6

Note: Rows show the time of the budgeting of the municipal tax base in billion kroner and growth rates. The columns show the tax base in the year concerned.

| Гable B.24 | | | | | |
|---|-------|-------|-------|-------|------|
| ncome transfers | | | | | |
| | 2017 | 2018 | 2019 | 2020 | 202 |
| DKK bn. | | | | | |
| Unemployment benefits (excl. activation) | 14.6 | 14.0 | 13.4 | 14.6 | 15. |
| Cash benefits ¹⁾ (excl. activation) | 23.5 | 24.0 | 25.9 | 27.9 | 29. |
| Vacation allowance | 8.0 | 0.8 | 0.7 | 0.3 | 0. |
| Anticipatory pensions ²⁾ | 40.2 | 40.2 | 41.2 | 44.2 | 46. |
| Resource rehabilitation allowance | 5.9 | 6.5 | 6.8 | 6.6 | 6. |
| Early retirement benefit | 11.6 | 9.0 | 8.6 | 8.9 | 9. |
| Rehabilitation benefit | 1.1 | 0.9 | 0.8 | 0.7 | 0. |
| Sickness benefit | 11.3 | 11.4 | 11.6 | 12.0 | 12. |
| Maternity pay | 10.7 | 10.9 | 11.5 | 11.5 | 11. |
| Rent benefit | 14.6 | 14.8 | 15.1 | 15.4 | 15. |
| Child and youth benefit | 14.7 | 14.6 | 14.7 | 14.8 | 14. |
| Other transfers ³⁾ | 23.3 | 21.9 | 20.8 | 22.7 | 23. |
| Student grants (SU) | 20.6 | 20.7 | 20.7 | 20.7 | 20. |
| Public pension scheme ⁴⁾ | 132.0 | 136.6 | 141.2 | 144.0 | 145. |
| Other pension schemes ⁵⁾ | 28.5 | 29.6 | 30.3 | 30.6 | 31. |
| Total ⁶⁾ | 353.2 | 355.9 | 363.2 | 374.8 | 383. |
| Total, excl. public and other pensions | 192.7 | 189.7 | 191.8 | 200.2 | 206. |
| Total, excl. education grants, public pensions and other pensions | 172.1 | 168.9 | 171.1 | 179.5 | 185. |

¹⁾

²⁾

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

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

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

Incl. differentiated allowances and heating allowance for pensioners. Incl. pension schemes for citizens in foreign countries. 3)

⁴⁾ foreign countries.

Civil servants in public enterprises and part-time early retirement scheme etc. Income transfers exclude other regular transfers to households such as mileage allowance and index supplement.

Source: Statistics Denmark and own calculations.

| Key figures estimated at different tir | 1103 | | | | | | |
|--|--------------|--------------|-------------|--------------|--------------|--------------|----------|
| | Aug. 2017 | Dec. 2017 | May 2018 | Aug. 2018 | Dec. 2018 | Aug. 2019 | De 20 |
| 2018 | | | | | | | |
| GDP (Real growth rate, per cent) | 1.8 | 1.9 | 1.9 | 1.8 | 1.7 | 1.5 | 2 |
| Net unemployment (1.000 persons) | 86 | 88 | 89 | 87 | 87 | 87 | |
| Gross unemployment (1.000 persons) | 113 | 112 | 109 | 108 | 108 | 108 | 1 |
| Consumer prices (Change, per cent) | 1.5 | 1.5 | 1.0 | 1.1 | 0.9 | 8.0 | (|
| Balance of payments (DKK bn.) 1) | 175 | 170 | 162 | 137 | 129 | 127 | 1 |
| Actual budget balance (DKK bn.) | -27 | -18 | -12 | 0 | 4 | 12 | |
| GDP in EU28 (Real growth rate, per cent) | 1.9 | 2.1 | 2.3 | 2.3 | 2.1 | 2.0 | ; |
| 2019 | | | | | | | |
| GDP (Real growth rate, per cent) | - | 1.7 | 1.7 | 1.8 | 1.7 | 1.7 | : |
| Net unemployment (1.000 persons) | - | 87 | 89 | 84 | 84 | 86 | |
| Gross unemployment (1.000 persons) | - | 107 | 106 | 103 | 103 | 103 | 1 |
| Consumer prices (Change, per cent) | - | 1.7 | 1.6 | 1.6 | 1.5 | 1.0 | |
| Balance of payments (DKK bn.) 1) | - | 164 | 160 | 139 | 128 | 141 | 1 |
| Actual budget balance (DKK bn.) | - | -15 | -14 | -8 | -2 | 44 | |
| GDP in EU28 (Real growth rate, per cent) | - | 1.9 | 2.0 | 2.0 | 1.9 | 1.4 | |
| 2020 | | | | | | | |
| GDP (Real growth rate, per cent) | - | - | - | - | 1.6 | 1.6 | |
| Net unemployment (1.000 persons) | - | - | - | - | 82 | 84 | |
| Gross unemployment (1.000 persons) | - | - | - | - | 99 | 101 | • |
| Consumer prices (Change, per cent) | - | - | - | - | 1.8 | 1.4 | |
| Balance of payments (DKK bn.) 1) | - | - | - | - | 122 | 136 | • |
| Actual budget balance (DKK bn.) | - | - | - | - | -3 | 10 | |
| GDP in EU28 (Real growth rate, per cent) | - | - | - | - | 1.8 | 1.6 | |
| 2021 | | | | | | | |
| GDP (Real growth rate, per cent) | - | - | - | - | - | - | |
| Net unemployment (1.000 persons) | - | - | - | - | - | - | |
| Gross unemployment (1.000 persons) | - | - | - | - | - | - | 1 |
| Consumer prices (Change, per cent) | - | - | - | - | - | - | |
| Balance of payments (DKK bn.) 1) | - | - | - | - | - | - | 1 |
| Actual budget balance (DKK bn.) | - | - | - | - | - | - | |
| GDP in EU28 (Real growth rate, per cent) | _ | _ | _ | | | | |

The current account balance.
 Source: Statistics Denmark, The European Commission, OECD and own calculations.