Chapter 1
Summary

1.1 The current economic outlook

The Danish economy has a strong foundation, and the conditions are good for the economic upswing to continue in 2019 and 2020. The economy is expected to grow by 1.7 per cent in 2019 and 1.6 per cent in 2020, which is a slight dampening compared to the past four years, where GDP has expanded by an average of 2 per cent per year.

In particular, a strong labour market underpins the upswing. When employment increases and fewer receive benefits, it generates higher income, and provides basis for increased consumption. In addition, Danish exports have so far shown resilience despite signs of weakness in the international economy.

Since 2013 the momentum in the labour market has been strong. Employment has risen to a record high, while unemployment has dropped to around 100,000 persons. The positive labour market trends are expected to continue towards 2020, but at a gradually slower pace, among other things because it is becoming harder for companies to recruit new workers.

The economic forecast for Denmark economy is currently subject to a particularly high level of uncertainty. The foundation is strong, but risks have increased during 2019 and are mainly tilted to the downside. Two conditions in particular can reduce economic growth and job creation. The first is a no-deal Brexit. The second is the ongoing US-China trade conflict, which may escalate further. Both can have a significant negative impact during the forecast period, especially if it affects global sentiment.

Figure 1.1

The Danish economy is robust   Positive labour market developments   Risks have increased and can affect the global economic sentiment

Good conditions for continued growth

The Danish economy is currently in a long lasting economic upswing. The recovery started in 2013, but from a low level, and not until 2018 did the output gap move into positive territory.

The economic boom is expected to continue during the forecast period, but the picture has generally become murkier since the second half of 2018. This should be seen in light of the fact that the Danish economy has reached a stage in the business cycle, where the growth rate naturally slows down. At the same time, tailwinds from the global economy have subsided, which puts a damper on the outlook for exports.

The conditions for continued economic gains in Denmark therefore largely stem from domestic demand, that is, private consumption and investment as well as public demand, and in particular from a strong labour market. Incomes have risen as a result of increased labour market participation as well as higher real wages, i.e. wages have grown faster than the general consumer price inflation. However, households have been cautious during the current upswing and have only increased consumption in pace with income gains. This is unusual compared to previous upswings, where consumption typically has increased more than income, and to some extent has been financed by loans.

Employment is estimated to increase by a further 65,000 persons in total and reach a level of more than 3 million employed in 2020. At the same time, real wages are expected to grow at a rate slightly above the historical average. This provides favourable conditions for continued increases in private consumption, which is estimated to grow by approximately 2 per cent in both 2019 and 2020. The growth rate is solid, but remains relative subdued compared to the current business cycle stance, and especially compared to the overheating phase in the previous decade, *cf. figure 1.2*.

Figure 1.2

Solid growth in private consumption, but no spending spree
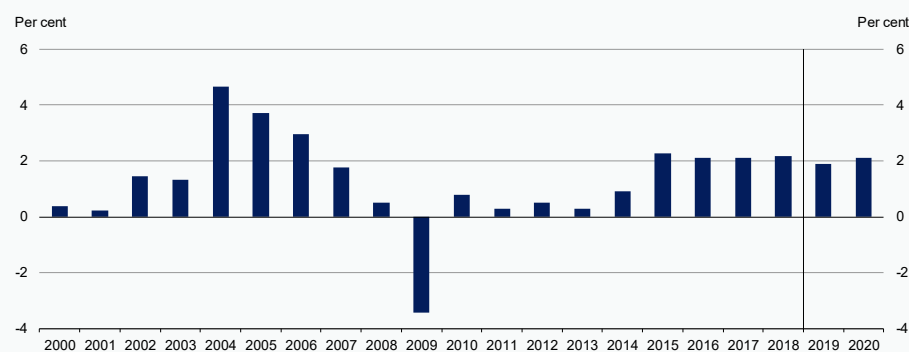
Source: Statistics Denmark and own calculations.

On the other hand, global growth has become more subdued over the past year, and particularly since late 2018. The lower growth momentum is reflected, among other things, in a decline in world trade. In Germany, industrial production has decreased, which has slowed growth in the German economy, and indicators for second quarter of 2019 point downwards.

At the same time, global risks have increased. These include the duration of the slowdown in Germany and a possible escalation of the US-China trade conflict, which will affect European companies through their participation in global value chains. In addition to that are the potential negative consequences of a no-deal Brexit.

Since the beginning of 2018, international organisations such as the IMF and the OECD have gradually lowered their growth forecasts for the global economy in 2019, and they increasingly emphasize the greater uncertainty. Since the spring, the estimate for global growth has been at around 3¼ per cent across organisations, *cf. figure 1.3.*

Figure 1.3

International organisations have lowered their growth forecasts

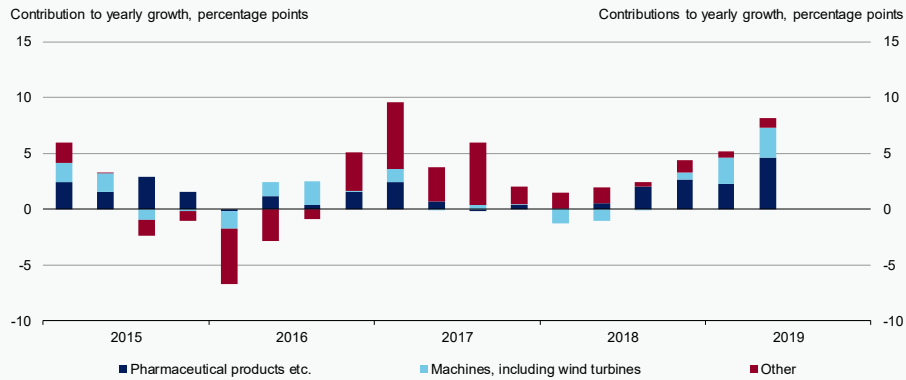Estimates for global GDP growth in 2019, per cent
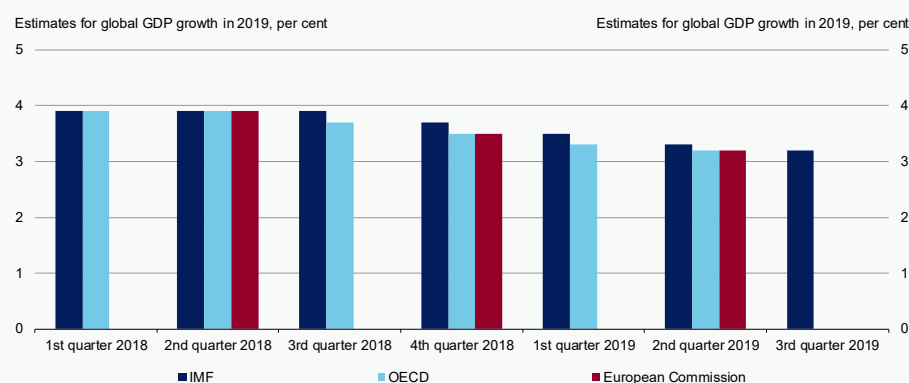
Note: The European Commission does not forecast global GDP growth rates in their interim forecasts.
Source: IMF, OECD and the European Commission.

Despite signs of weakness in the international economy, Danish exports have been robust and are thus a significant driver of GDP growth in Denmark this year. This is due to increasing goods exports, and in particular exports of pharmaceutical products and wind turbines, *cf. figure 1.4.*

Exports of pharmaceutical products have gradually gained a more prominent role in Danish exports in recent years. As a result, exports have become less sensitive to developments in the global economy.

Figure 1.4

Pharmaceutical products and machines drive export growth in 2019

Contribution to yearly growth, percentage points   Contributions to yearly growth, percentage points

■ Pharmaceutical products etc.   ■ Machines, including wind turbines   ■ Other

Note: The figure shows growth contributions to year-on-year growth in goods exports calculated on the basis of the foreign trade statistics. *Pharmaceutical products etc.* is *chemicals and related products in total* in the foreign trade statistics, while *machines, including wind turbines* is *machinery, excl. transport equipment*.
Source: Statistics Denmark and own calculations.

In recent years, companies have increased investments as spare capacity has declined. Investments are expected to continue to grow, supported by low interest rates. Uncertainty from abroad can, however, affect the investment decisions of Danish companies and thereby dampen activity.

A no-deal Brexit will be a major shock to the European economy and could have significant consequences for the Danish economy. The forecast in the *Economic Survey* is, in line with other organisations, based on unchanged policies, and a no-deal Brexit is thus not taken into account in the central scenario. Box 1.1 describes possible consequences of a no-deal Brexit.

Box 1.1

A no-deal Brexit will have consequences for the Danish economy

The United Kingdom is set to leave the EU by 31 October 2019. This can either happen with a withdrawal agreement with the remaining 27 EU countries or without an agreement – the so-called no-deal Brexit, where the UK abruptly leaves the EU without a transitional arrangement and without cooperation and trade agreements with the EU. The forecast in the *Economic Survey* is, in line with standard practice, based on current policies, but below are described some of the channels through which a no-deal Brexit could affect the Danish economy.

A no-deal Brexit will have significant consequences, not only for the UK, but also for important trading partners, such as Ireland, Denmark and the Netherlands. The potential magnitude of the shock makes it particularly difficult to quantify the effects. Furthermore, Brexit will happen alongside other factors affecting the global economy in the short term, including the current slowdown in a number of large European economies.

Denmark is one of the countries that could be hit relatively hard by a no-deal Brexit. This is partly due to the considerable amount of trade between the countries. Britain is fourth largest export market of Denmark – surpassed only by Germany, Sweden and the United States, and the immediate impact on the Danish economy will mainly be through lower exports, including due to higher tariffs and other restrictions on exports.

However, the effect on different industries varies significantly, partly because of differences in how much particular industries export to the UK and in how much trade barriers rise across types of goods. The UK is an important market for Danish food exports. Almost 9 per cent of the total food exports are sold to the UK, and the shares of e.g. meat and dairy products are even larger. Also, food plays an important role in Danish exports – along with medicines and machinery. For wind turbines the UK accounts for more than 20 per cent of total exports, but the share of medical and pharmaceutical products is small, cf. *figure a*.

In addition to direct trade, there is also significant indirect trade with the United Kingdom, which will also be affected by Brexit. For example, the service industries provide a number of services to industrial production and thus indirectly to industrial exports. Altogether, there are around 60,000 persons employed in connection with direct and indirect exports to the UK, corresponding to approximately 2 per cent of the total employment in Denmark, *cf. Economic Survey, December 2018*.

How much trade barriers may increase varies across different types of goods. Some goods have low tariff rates and many international standards, resulting in lower consequences of Brexit. This applies to e.g. machinery. Other goods have high tariff rates and much common EU regulation. This is the cases for e.g. food. For example, the current tariff rates for UK imports from non-EU countries are just over 7 per cent for food and beverages and approximately 6 per cent for fish, while the tariff rate for machinery is just over 2 per cent.

Figure a
Danish exports of goods to the United Kingdom (average 2016-2018)
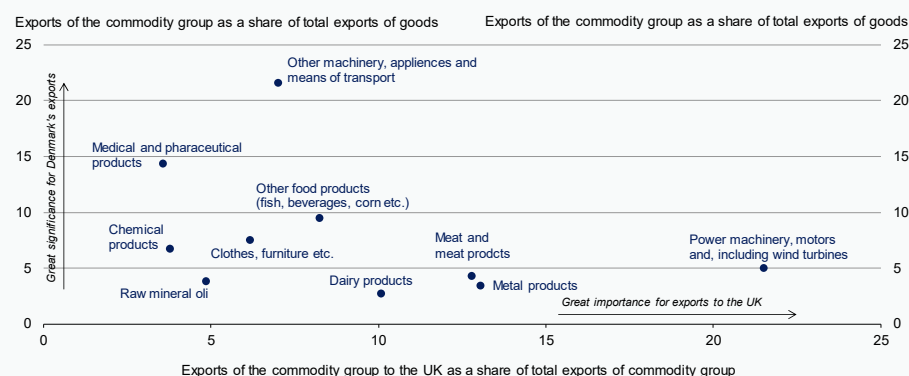
Box 1.1 (continued)

A no-deal Brexit will have consequences for the Danish economy

Several analyses have been carried out on the effects of Brexit, including by the OECD and IMF. Most studies focus on the medium and long term, and thus on structural effects, where there has been a realignment of labour and reallocation of capital between sectors. The analyses find that a no-deal Brexit can reduce Danish GDP by around 1.0-1.3 per cent over a 5-10 year period.

Estimating short term effects is somewhat more uncertain. Firstly, there is a great deal of uncertainty about whether the practical conditions in the United Kingdom (e.g. border control and customs clearance, administrative systems, legislation etc.) are ready for an abrupt withdrawal on 31 October. Secondly, it is difficult to isolate the effects of Brexit because it interacts with a number of other cyclical factors, for example, a no-deal outcome can trigger a mood-shift in the European and global economy, which could amplify the effects.

Consequences for Danish growth and employment can be assessed by translating estimates of a no-deal Brexit effect on GDP in the UK to an effect on Danish exports. For example, the OECD has estimated that UK GDP may be about 2 per cent lower over the next two years at a no-deal Brexit compared to a situation with a withdrawal agreement and a transitional period. The OECD points out that the impact will be higher if the necessary border infrastructure is not in place, if indirect effects via global value chains are taken into account and if Brexit causes a shift in mood in the financial markets.

If GDP in the UK falls by 2 per cent and the entire negative effect occurs in 2020, and assuming an import elasticity of 2 (i.e. when GDP falls by 1 per cent, imports will fall by 2 per cent), this will reduce UK imports by 4 per cent. Under a technical assumption of a decline in Danish exports to the UK of 4 per cent and no other derived effects, Danish export growth will be reduced by around ¼ percentage point in 2020 compared to the estimate in the Economic Survey. In isolation, this will reduce Danish GDP growth by approximately 0.1 percentage points in 2020, while private employment will be lowered by approximately 3,000 persons.

Bank of England has presented a number of scenarios where a no-deal Brexit could lower the level of UK GDP by 4¾ to 7¾ per cent by the end of 2023. However, the effect occurs immediately after the time of withdrawal. The maximum effect is obtained in a scenario where all trade agreements are discontinued, the border infrastructure cannot cope with the increased customs controls, increased financial uncertainty etc.

If UK GDP falls by 7¾ per cent in 2020, it will, in a similar illustrative calculation, reduce Danish export growth by approximately 1 percentage point in 2020 compared to the forecast, while GDP growth will decrease by around ½ percentage point and private employment by about 9,000 persons.

These examples are merely an illustration of possible outcomes. They do not represent an actual forecast or the full scope of the possible effects on the Danish economy. There are several reasons why the effects may be greater than those outlined. For example, indirect Danish exports have not been taken into account, e.g. Danish exports to Germany that are used as an input in German goods exported to the UK. In addition, the effects of lower demand in other European countries, which may impact the Danish economy, have not been taken into account.

In the longer term, Brexit has no lasting impact on employment, which is determined by structural conditions. However, GDP will be affected, partly because gains from trade are lost. In principle, there will also be no lasting effects on the balance of payments, as exchange rates adapt to changes in trade.

Note: The effects on the Danish economy are estimated in the ADAM-model and are thus based on the assumptions of the model.

Source: OECD, *Interim Economic Assessment*, March 2019, OECD, *The potential economic impact of Brexit on Denmark*, April 2019, IMF, *Euro Area policies: Selected Issues*, July 2018, Bank of England, *EU withdrawal scenarios and monetary and financial stability,* November 2018, Statistics Denmark's and own calculations.

When the upswing ends, what comes next?

The upswing is expected to continue in 2019-2020, but at a slightly slower pace than the previous four years where GDP has grown by approximately 2 per cent annually. This is in part due to the fact that the Danish economy has reached a stage in the business cycle, where capacity constraints are beginning to bind, and where it has become more difficult to attract new resources into production, especially labour.

The upswing has lasted a long time, and during a business cycle, a recovery and a subsequent boom will at some point be followed by a downturn. However, the developments prior to the turning point have great influence on whether the upswing will end with a hard or a soft landing.

The most desirable outcome is a soft landing, where growth rates gradually decline and capacity pressures in the economy gradually ease. In such a situation, the housing and labour markets will also slow, and households and businesses will gradually reduce growth in consumption and investment. Conversely, a hard landing can cause significant fluctuations where, for example, families and businesses are forced to make strong and steep adjustments.

The upswing in the 1990s ended with a soft landing, while the boom period in the mid-2000s had a historically rough landing. Leading up to previous hard landings, clear imbalances have often been built up, for example in the form of unsustainable household indebtedness, excessive increases in house prises or sharp rises in wages that have impaired the competitiveness of businesses. An example of a soft and a hard landing can be seen on the housing market, *cf. figure 1.5.*

Figure 1.5

Business cycles in real house prices
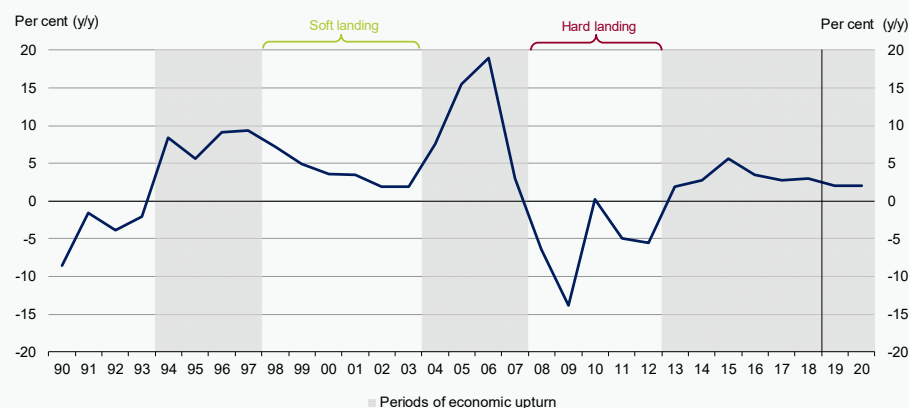
Note: Prices of single-family homes deflated by the consumer price index. Periods of economic upswings are defined as years in which negative output gaps close, or positive output gaps expand, and where the upswing lasts for more than one year.
Source: Statistics Denmark and own calculations.

In the late 1990s, house prices grew moderately, and the growth rate gradually diminished as economic activity turned. This is in contrast to the boom in the mid-2000s where house prices got out of sync with the underlying economic conditions and the growth rate of house prices also slowed before the overall economy turned.

In the current upswing, house prices have grown at a moderate pace seen in a historical perspective. That supports a stable outlook for the housing market, and in general there are no signs of other imbalances in the housing market, including unsustainable increases in indebtedness.

A similar trend is seen on the labour market. Here, the pace has been high in recent years and employment has risen by 240,000 persons since the turning point in 2013. The development, however, has been supported by a greater supply of labour, partly due to later retirement from the labour market, improved integration of refugees and immigrants into the labour market as well as a large inflow of foreign labour. Overall, this has helped to counteract the build-up of unsustainable capacity pressure in the labour market and the capacity pressure on the labour market remains relatively moderate compared to previous booms.

The pace of employment growth has slowed slightly during the past year, but not yet to an extent that indicates a real turning point in the labour market. It is expected that the labour market remains strong through 2020, *cf. figure 1.6*.

Figure 1.6

Employment has reach a record high
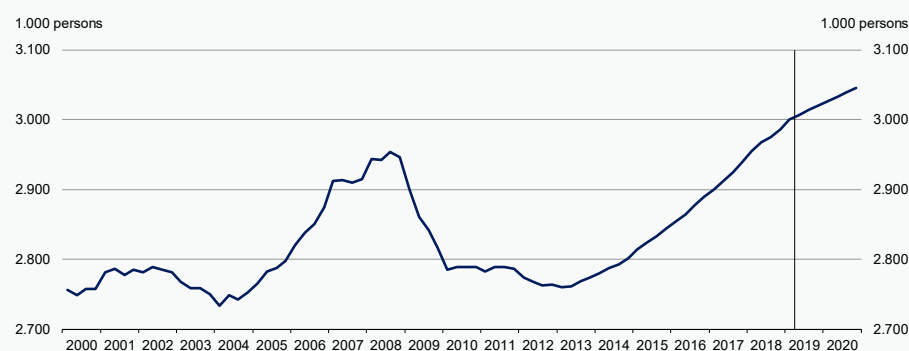
Source: Statistics Denmark and own calculations.

Thus, there are no signs of major imbalances having been built up during the ongoing upswing. Consequently, domestic conditions indicate that the recovery can continue and end in a soft landing. The slowdown in the global economy has so far been relatively moderate, and growth in the Danish economy will not immediately be derailed even in a slightly more negative international scenario.

Box 1.2 describes the data and assumptions behind the forecast and other changes since the December survey.

Box 1.2

Data underlying the forecast and changes since the December forecast

The forecast is based on national accounts data, which are available for the first quarter of 2019 along with a wide range of indicators for economic developments reaching into the second quarter.

The overall business cycle assessment is roughly unchanged compared to the *Economic Survey*, December 2018. However, the development on the labour market has been better than expected in 2019. Employment growth is now estimated at 39,000 persons in 2019, which is 6,000 more than estimated in December. By 2020, the estimated increase in employment is approximately unchanged at around 26,000 persons.

On the other hand, assumptions regarding the international outlook have been lowered since December, and the estimate for growth in trade-weighted international GDP has been revised down by 0.3 percentage points in both 2019 and 2020. The more subdued growth outlook abroad has led to lower interest rates and a downward revision of interest rate expectations. In addition, price inflation has also been slightly more subdued than previously expected.

The forecast was closed on August 5, 2019. Following the completion of the forecast, Statistics Denmark has published the GDP-indicator for the second quarter on August 14, 2019. According to the indicator, GDP rose by 0.8 per cent in the second quarter of 2019. The uncertainty surrounding the GDP indicator is greater than the usual +/- 0.5 percentage points on the GDP growth rate.

Increasing prosperity in a long-lasting business cycle upturn

The economic upturn has lasted for a long time, also resulting in overall prosperity reaching an all-time high.

Nevertheless, the upswing has been quite weak, in the sense that gains in prosperity – measured by GDP per capita – have been lower compared to previous periods of economic upturn. During the economic upturn in the 2000's, GDP per capita increased at an annual rate of around 2 per cent, while growth has only averaged around 1¼ per cent during the current upswing, *cf. figure 1.7*.

However, only looking at production growth, i.e. GDP, can lead to underestimating income gains. In addition to production, income from Danish investments abroad have also contributed to income growth. Furthermore, terms of trade gains – i.e. relatively higher export price increases, which make it possible to import a larger volume of imports for a given volume of exports – have also added to Danish income gains.

When investment income and terms of trade gains are taken into account, the current economic upturn looks somewhat better in comparison with previous episodes. This is also the case when comparing the strength of the upturn across countries. Hence, income growth in Denmark since 2008 is in line with that of the USA and slightly exceeds that of Sweden.

Figure 1.7

Moderate prosperity gains during the current upturn

Per cent   Per cent
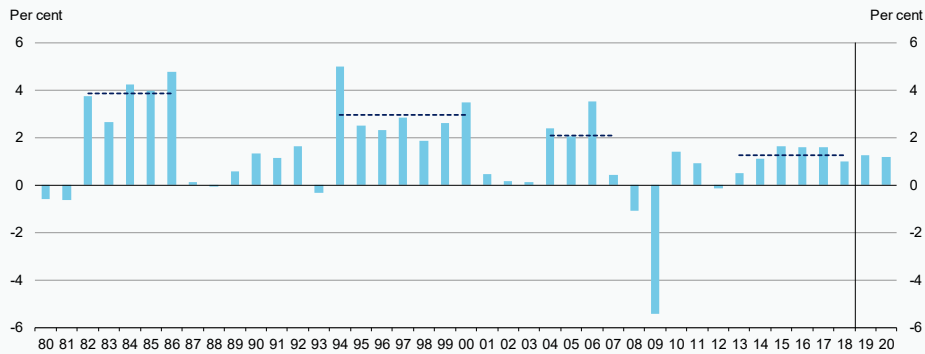
Note: GDP per capita in real terms. The dashed lines show average annual growth during economic upturns.
Source: Statistics Denmark.

Terms of trade gains stem from the structure of foreign trade and trends in prices of traded goods and services. Hence, it is not something that can be influenced by economic policy. In the future, it is not a given that Denmark will be able to maintain terms of trade gains in the same magnitude as historically. Increased productivity, on the other hand, is a more secure source of prosperity.

However, productivity growth has been weak, *cf. figure 1.8*. Due to weak productivity growth, GDP growth has largely been due to increasing employment in recent years.

Figure 1.8

Weak productivity growth is the main cause of more moderate levels of economic growth

Per cent   Per cent
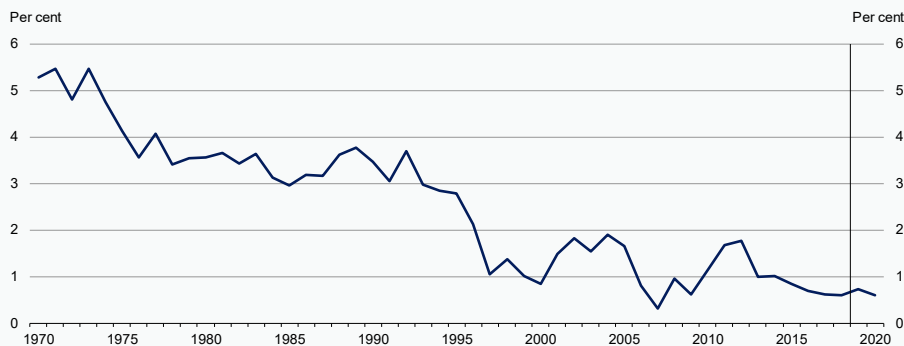
Note: Private Sector Gross Value Added per hour worked. Five-year moving average.
Source: Statistics Denmark and own calculations.

In the longer term, increasing productivity is essential for achieving prosperity gains,

given the limits on increasing the supply of labour. In the current phase in the business cycle an improvement in productivity would also help to dampen capacity constraints.

In essence, increasing productivity means improving the use of resources, i.e. production equipment and labour. Increased productivity enables a greater level of production given the same resources, thereby helping to meet larger demand without a corresponding increase in capacity utilization.

There does not seem to be a singular underlying cause behind the weak productivity trends in Denmark. Low investment levels during the crisis and weak competition in certain industries seem to have contributed. The gradual shift of production and employment towards the services sector, which has a lower level of firm dynamics, has also played a role, *cf. Economic Survey, December 2018, chapter 2*. Finally, the trend towards lower productivity growth is not a specific Danish phenomenon, but is seen across developed economies.

The different explanations behind weak productivity growth point towards the need for a broad-based effort to lift productivity. This can be e.g. education and upskilling of the labour force, improving incentives to invest, reducing red tape and administrative burdens as well as efforts to support innovation and improving the organization of production processes. Specialisation and knowledge diffusion through increased cross-border trade and investments can also contribute to higher productivity growth.

1.2 Fiscal policy and public finances

Due to the general election to the Danish Parliament in June 2019 and the subsequent change of government, a technical budget proposal for 2020 is submitted in August, *cf. box 1.3*. The budget proposal does not contain new political priorities and thus solely reflects a technical budgeting of public expenditures and revenues. The Government will present its political proposal for the budget bill for 2020 in connection with the opening of the Danish Parliament in October. In this survey, the assumptions regarding public finances are based on the technical budget proposal for 2020.

Box 1.3

The august survey is based on the technical proposed budget bill for 2020

At the end of August, following the general election the Danish Parliament in June and the subsequent government formation, a technical budget proposal for 2020 is submitted, *cf. chapter 8*. The technical budget proposal contains technical updates but does reflect new political priorities.

In connection with the opening of the Danish Parliament in October, the Government will present a full political budget proposal for 2020 that will reflect the economic policy and political priorities of the government. In continuation of this, the budget proposal will be resubmitted.

The divided process with first a technical and then later a political budget proposal corresponds to that of the budget proposal for 2016 following the general election for the Danish Parliament in June 2015.

Based on the technical budget proposal and the economic assessment of this survey, the structural budget balance is expected to be balanced in 2020, *cf. table 1.1 and chapter 8*.

The economic prospects include further growth in employment in the coming years, although at a slower pace. Employment is already at record-high levels and the unemployment rate is low. Employment growth is expected to exceed the increase in the workforce in 2019 and 2020, resulting in increased capacity pressure. The current economic upswing in combination with unusually low interest rates invites to a certain caution when planning fiscal policy.

Table 1.1

Key figures relating to fiscal policy

	2018	2019	2020
Structural budget balance, per cent of structural GDP	0.2	-0.1	0.0
Actual fiscal balance, per cent of GDP	0.6	1.9	0.4
EMU-debt, per cent of GDP	34.1	33.7	33.5
Growth in public consumption, per cent[1]	0.7	0.8	0.7
One-year fiscal effect, per cent of GDP[2]	-0.2	-0.1	0.0
Output gab, per cent[3]	0.1	0.8	1.0
Employment gab, per cent[3]	0.2	0.7	0.9

1)   The public consumption is calculated by the input method incl. deductions. The public consumption growth measured by respectively the input method and the output method assumed to be identical.
2)   Calculated measure of how fiscal and structural policy from one year to another affects the capacity pressure. The estimate includes the effects of one-off payments of voluntary early retirement pay in 2018 and property taxes in 2020.
3)   Calculated measure of how far production and employment are from their structural levels. When gaps are approx. zero it corresponds to a situation where there are no more available resources in the economy than in a normal situation. The cyclical correction in the calculation of the structural budget balance is based on the output gap excl. oil and gas extraction.
Source: Statistics Denmark and own calculations.

Alongside the August-survey, an updated medium-term projection to 2025 has been prepared, which forms the basis for the submitted draft law on expenditure ceilings for year 2023. The medium-term projection is technical in the sense that no new fiscal priorities until 2025 are included. The updated medium-term projection and the expenditure ceilings for 2023 are described in further detail in *Opdateret 2025-forløb, august 2019: Grundlag for udgiftslofter 2023 – Teknisk fremsættelse* og *Dokumentation for fastsættelse af udgiftslofter for 2023*, available in Danish only at www.fm.dk.

Public finances are sound

Fiscal policy is planned according to a medium-term aim of structural balance in 2025 (given normal business cycles). In line with the assessment in *The Danish Convergence*

Programme 2019, the budget balance is expected to show a structural deficit of 0.1 percent of GDP in 2019 and structural balance in 2020, *cf. figure 1.9.* In the past years, the margin to the deficit limit of ½ per cent of GDP in the Budget Law has been increased.

In isolation, the economic upswing contributes to an improvement of actual public finances as employment and tax revenues increase and expenses for income transfers decrease. The actual budget balance is expected to show a surplus of 1.9 percent of GDP in 2019 and 0.4 percent of GDP in 2020.

However, a significant share of the estimated surplus in 2019 is caused by temporary conditions, namely upward revised expected revenue from the pension yield tax (PAL), *cf. chapter 8.* In 2020, the assumed one-time repayment to homeowners, who paid too high property taxes, dampens the actual budget balance.

In 2018, the net public debt turned to a positive networth, and a continued positive net worth equivalent to approximately 3½ percent of GDP is projected for 2019 and 2020. The EMU-debt was approximately 34 percent of GDP in 2018 and is expected to exhibit a slowly decreasing trend in the coming years, *cf. figure 1.10.* The Danish debt (EMU-definition) is thus substantially below the debt limit of 60 per cent of GDP stated in the EU Stability and Growth Pact.

Figure 1.9	Figure 1.10
Development in the actual and structural balance	**Public debt**
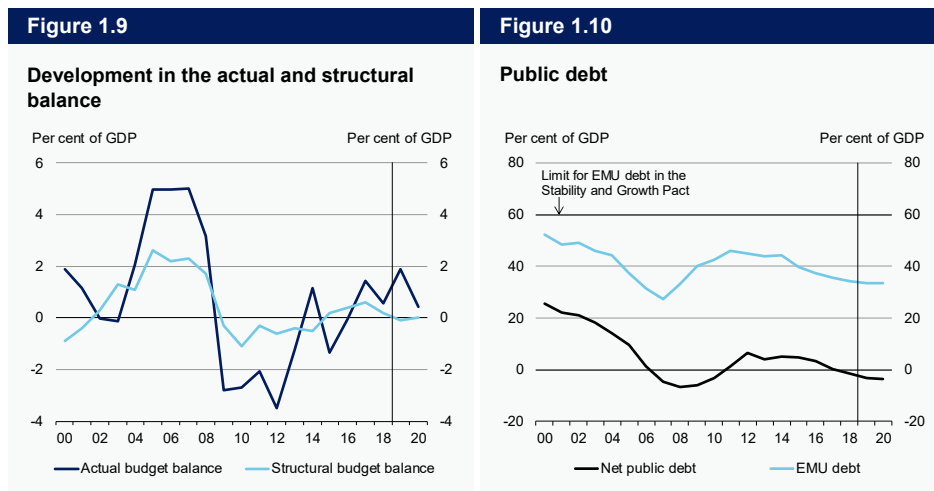
Source: Statistics Denmark and own calculations.

The continued upturn in Danish economy invites in isolation a contractionary fiscal- and structural policy as to counteract the increased capacity pressure *cf. figure 1.11.* This is consistent with a stabilization policy that works symmetrically through economic up- and downturns.

Compared to 2018, the fiscal- and structural policy is expected to dampen the capacity pressure, measured by the output gap, by approximately 0.1 percent of GDP in 2019 and 2020 combined (measured by the multi-annual fiscal effect, i.e. the effect of changes in

the fiscal- and structural policy relative to 2018), *cf. figure 1.12*. The contractionary effect is primarily due to implementation of reforms that have increased labor supply, including the increase of the retirement age from 65 years in 2018 to 66 years in 2020. Early retirement age is increased in the same period as well.

The one-time repayment concerning property taxes in 2020 contributes to an increase of the capacity pressure of approximately 0.1 percent of GDP in 2020. The one-time repayment thus counteracts the weak dampening effect of the presupposed fiscal- and structural policy towards 2020.

Figure 1.11	Figure 1.12
Stylized fiscal response with regards to the business cycle	**Multi-annual fiscal effect**
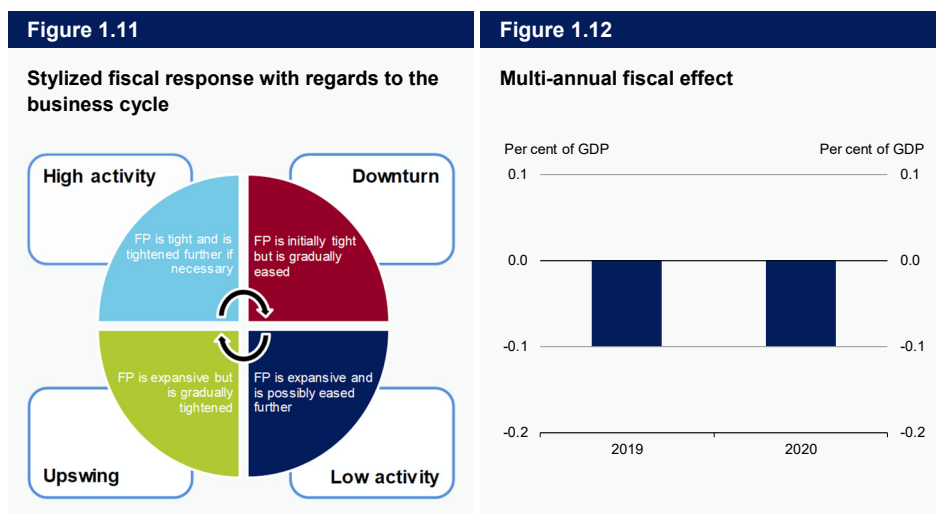
Note.:   Figure 1.12 illustrates the total multi-annual fiscal effect on capacity pressure (measured by the output gap) by changes in fiscal- and structural policies compared to 2018.
Source: Statistics Denmark and own calculations.

1.3 Annex table

Table 1.2

Key figures compared to *Economic Survey, December 2018*

	2018	2019		2020	
		Dec.	Aug.	Dec.	Aug.
Real change, per cent					
Private consumption	2.2	2.1	1.9	2.3	2.1
Total government demand	0.8	0.9	1.1	0.3	0.6
- of which government consumption[1]	0.9	0.5	0.8	0.4	0.7
- of which government investment	0.1	4.1	2.9	-0.4	-0.2
Housing investment	4.8	4.5	3.9	3.5	2.1
Business fixed investment	8.5	1.8	0.2	4.7	4.4
Total final domestic demand	2.8	1.8	1.3	2.2	2.1
Inventory investment (per cent contribution to GDP)	0.2	0.0	0.0	0.0	0.0
Total domestic demand	3.1	1.8	1.3	2.2	2.1
Exports	0.4	2.6	2.7	2.3	2.2
- of which manufacturing exports	3.8	3.5	5.5	3.4	3.0
Total demand	2.1	2.1	1.8	2.2	2.1
Imports	3.3	3.0	2.0	3.4	3.1
- of which imports of goods	3.7	2.2	1.8	2.8	2.8
GDP	1.5	1.7	1.7	1.6	1.6
Gross value added	1.4	1.6	1.7	1.4	1.4
- of which private non-farm sector	2.7	2.1	2.2	2.0	2.2
Change, 1,000 persons					
Labour force, total	45	28	35	24	24
Employment, total	52	33	39	27	26
- of which private sector	45	32	36	27	25
- of which public sector	7	1	3	0	1
Gross unemployment	-8	-5	-5	-4	-3
Cyclical developments, per cent					
Output gap	0.1	1.2	0.8	1.2	1.0
Employment gap	0.2	1.1	0.7	1.3	0.9
Unemployment gap	0.1	-0.3	0.0	-0.3	-0.1

1)   Real growth in public consumption for 2018 is measured by the output method incl. depreciations. For 2019 and 2020 public consumption growth is assumed to be identical whether it is measured by the input or output method.

Table 1.2 (continued)

Key figures compared to *Economic Survey, December 2018*

	2018	2019		2020	
		Dec.	Aug.	Dec.	Aug.
Change, per cent					
House prices (single family homes)	3.9	3.3	3.1	2.5	3.4
Consumer prices	0.8	1.5	1.0	1.8	1.4
Hourly earnings in the private sector[2]	2.3	2.8	2.5	3.0	2.8
Real disposable income, households	1.6	2.2	2.0	1.7	2.3
Productivity in the private non-farm sector	1.4	0.6	0.7	0.7	1.2
Per cent per year					
Interest rate, 1-year rate loan	-0.5	-0.3	-0.6	0.3	-0.7
Interest rate, 10-year government bond	0.5	0.6	-0.1	1.1	-0.3
Interest rate, 30-year mortgage credit bond	2.1	2.3	1.7	2.7	1.6
Public finances					
Actual public balance (Bn. DKK)	12.4	-1.9	44.0	-2.6	10.1
Actual public balance (per cent of GDP)	0.6	-0.1	1.9	-0.1	0.4
Actual public balance (per cent of GDP)	0.2	-0.1	-0.1	-0.1	0.0
Gross debt (per cent of GDP)	34.2	33.4	33.7	33.4	33.5
Labour market					
Labour force, total	3,077	3,097	3,111	3,121	3,135
Employment, total	2,971	3,002	3,010	3,028	3,036
Gross unemployment (yr. avg., 1,000 persons)	108	103	103	99	101
Gross unemployment (per cent of labour force)	3.5	3.3	3.3	3.2	3.2
External assumptions					
Trade-weighted international GDP-growth	2.4	2.2	1.8	2.1	1.9
Export market growth (manufactured goods)	3.7	3.9	2.9	3.4	3.1
Exchange rate (DKK per USD)	6.3	6.6	6.6	6.6	6.7
Oil price, dollars per barrel	71.1	64.6	64.7	67.9	64.5
Balance of payments					
Current account balance (DKK bn.)	127	128	141	122	136
Current account balance (per cent of GDP)	5.7	5.6	6.1	5.1	5.7

2)   Hourly earnings is based on the Confederation of Danish Employers' Structural Statistics.

Annex 1.1
Technical budgeting basis for 2020

As a result of the parliamentary elections on June 5, 2019, the Economic Survey, May 2019 was not published. Part of the budgeting basis for the annual finance bills is usually the forecast from the May Survey. A forecast was therefore prepared in May, which formed the basis for the budget for the technical budget bill for 2020, etc.

Selected key figures are shown in appendix table 1.1.

Appendix table 1.1			
Technical budgeting assumptions			
	2018	**2019**	**2020**
Production and income			
GDP, DKK bn.	2,218	2,287	2,366
Real change, GDP, per cent	1.4	1.7	1.6
GNI, DKK bn.	2,272	2,338	2,417
Labour market			
Employment, 1,000 persons	2,972	3,006	3,032
Unemployment, 1,000 full-time equivalent persons	108	102	98
Price and wages			
Hourly earnings in the private sector[1], per cent	2.3	2.7	3.0
Budgetary impact (public sector)[1], per cent	1.6	1.8	2.7
Wage adjustment rate[2], per cent	2.0	2.0	2.0
Consumer price index, per cent	0.8	1.2	1.5
Net price index, per cent	0.8	1.3	1.6

1) For the private sector, estimates of wage growth rates are according to the Structural Statistics from the Confederation of Danish Employers. The budgetary impact of public wage developments is based on the agreed wage increases, incl. estimates for the implementation of the regulatory scheme based on the estimate of the private wage growth, but excl. estimates of the residual increase. The wage growth for public and private employees cannot be compared.

2) In 2020, the estimate is based on the expected development in wages in 2018. For the remaining years, the known wage adjustment rate is stated.

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

In relation to the business cycle assessment in the *Economic Survey*, December 2018, the outlook is more or less unchanged. This applies, among other things, to the labour market, where estimates of employment growth are unchanged. However, the international outlook is somewhat worsened, which means that interest rate hikes are expected

to be postponed. At the same time, price developments have been slightly more subdued than previously expected.

The May forecast is based on national accounts data available until 4th quarter 2018, as well as a number of economic development indicators reaching into 2019. The international outlook is based on GDP estimates from the European Commission, while interest and oil price assumptions are based on information through May 3, 2019.

Chapter 2
Seven years of housing market expansion

The housing market is very important to the Danish economy. Housing is the largest asset for many households, while housing debt typically is the largest liability. Furthermore, housing costs take up the main share of household budgets. Thus, fluctuations in the housing market affect private consumption and housing investments through the impact on the financial situation of households. Housing market developments also have great impact on businesses, not least in the cyclically sensitive construction sector.

More than ten years have now passed since the financial crisis. Denmark was particularly hard hit by the crisis and experienced large drops in employment and production. This was partly due to several imbalances, especially the overheating of the housing market in the pre-crisis years, which sparked a number of years with declining house prices and investments.

The housing market cycle turned in 2012, and the housing market expansion has now lasted for more than seven years. This chapter takes stock of where this has brought the housing market, looking into developments at a national level, but also exploring regional differences, including the market for apartments. Finally, the chapter investigates the financial position of homeowners after almost a decade of rising house prices.

2.1 The housing market upturn has been moderate

The financial crisis and the ensuing downturn demonstrate the importance of avoiding significant imbalances – especially in the housing market. Housing market imbalances can e.g. develop if a period of rising house prices leads to self-sustaining expectations of continued increases in prices, which may encourage risky investments and speculative real estate purchases in the expectation of quick profits. Since real estate purchases and investments are, as a rule, financed through banks and mortgage credit institutions, a housing market boom and bust may have serious consequences for private consumption, construction activity and for financial stability.

At the national level, house prices have increased at a modest pace compared with previous periods of expansion. There are also no indications that prices of single-family houses – for the country as a whole – have reached an unsustainable level.

This section in the chapter focuses on houses (single-family houses), because they account for by far the largest share of owner-occupied housing (around 90 per cent), and therefore have the greatest economic significance. House prices have risen by around 30 per cent since 2012, which has brought nominal prices back at a level slightly above the previous peak reached in 2006-2007.

However, prices and wages have also gone up since 2012. Adjusted for the rise in con-
sumer prices, the increase in house prices has been more moderate, and prices are still
more than 10 per cent below the pre-crisis level, *cf. figure 2.1*.

Figure 2.1

Prices of single-family houses

Index (2000=100)   Index (2000=100)

—Current prices   —Constant prices
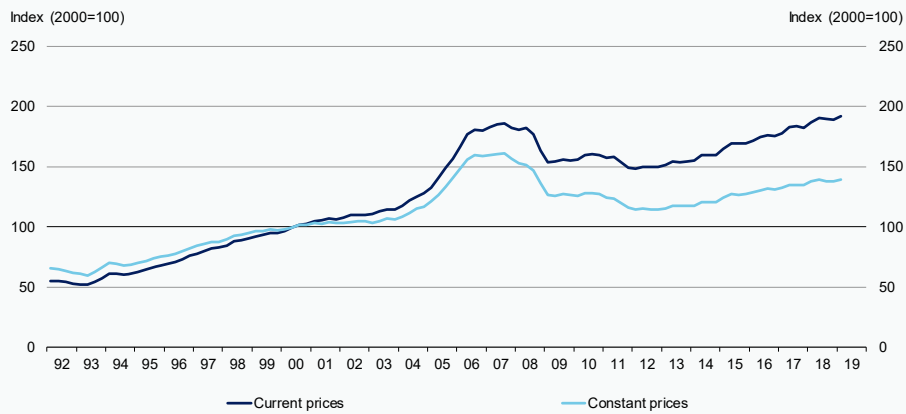
Note: Real house prices have been calculated using the net price index.
Source: Statistics Denmark and own calculations.

Compared with previous expansions, the increases over the past seven years have also
been moderate. In the period 2013-2018, the average annual increase was 3.3 per cent,
cf. figure 2.2.

Figure 2.2

Average annual increase in real house prices in periods of housing market expansion

Per cent   Per cent
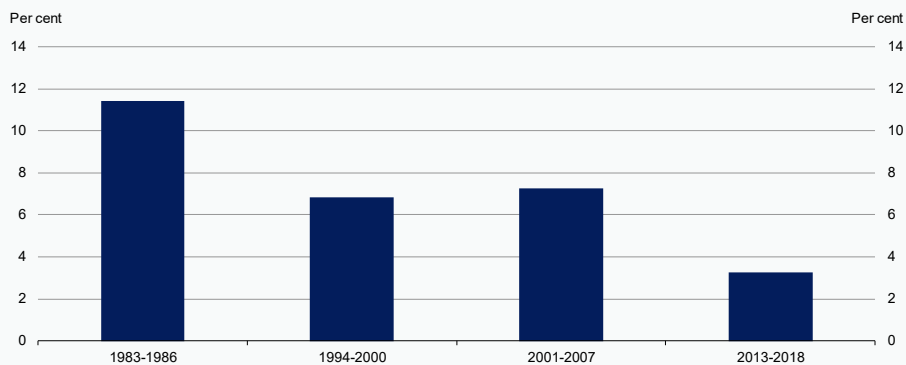

Note: Single-family houses. Real house prices have been calculated using the net price index.
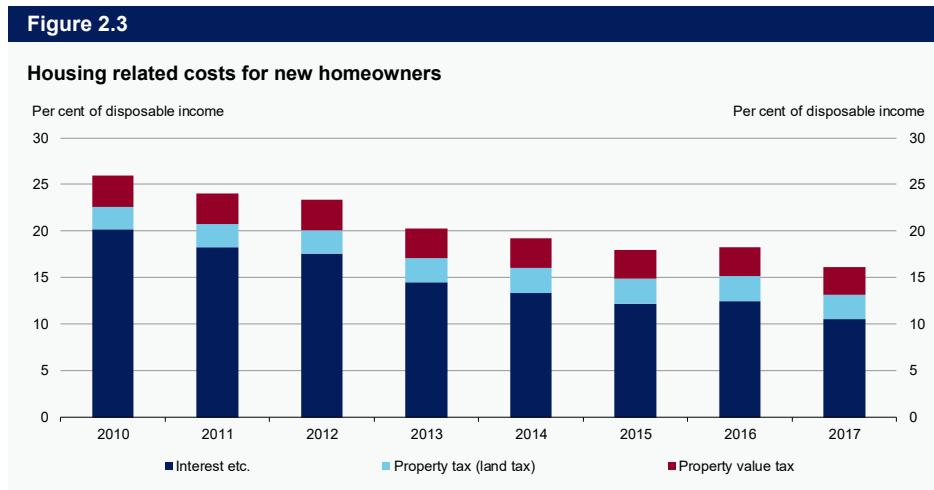Source: Statistics Denmark and own calculations.

By comparison, real house prices increased by 6-7 per cent annually during the expansions in the 1990's and 2000's. In the expansion during the 1980's the average annual real growth in house prices reached 11 per cent.

Several of these expansions were followed by several years of declining house prices. During the 1980's rising incomes and a significant decline in interest rates led to a housing market boom, which, however, was ensued by a long-lasting downturn, partly due to a tightening of the regulation of housing credit and a reduction in the tax deductibility of interest expenditures. In the mid-2000's there were clear signs of a housing market bubble, with annual real increases in the prices of single-family houses of 15 per cent in 2005 and 19 per cent in 2006.

Currently there are several reasons why the situation is different. House prices increases have been moderate, and not out of line with underlying driving forces. Since 2012, household incomes have risen in parallel with house prices, and interest rates have gone down.

The 30-year fixed mortgage rate averaged 3.7 per cent in 2012, whereas it was below 1.5 per cent in the summer of 2019. This has reduced the mortgage cost of financing housing purchases. In 2011, new homeowners spent on average 25 per cent of their disposable income on housing-related costs, by 2017, this share had fallen to approximately 15 per cent. The main force behind this drop is lower interest expenditures, while the share related to housing taxes was roughly unchanged, *cf. figure 2.3*.

Figure 2.3

Housing related costs for new homeowners

Note: Homeowners who have purchased their homes within the previous year. Disposable income excludes imputed rent. Interest rates etc. include mortgage contributions, but not amortisation payments.
Source: Statistics Denmark and own calculations.

Disposable incomes have also grown. Combined with lower interest costs this supports a sound development in house prices.

Economic models can be used to assess house price developments relative to underlying economic drivers. The models combine historic covariation between variables and economic theory to provide an estimate of the underlying level of house prices.

Calculations based on economic modelling are wholly dependent on the underlying assumptions. Thus, care is warranted in interpreting the results. Calculations using both the macroeconomic model ADAM and the house price model from the Central Bank of Denmark indicate that prices of single-family houses are somewhat below the level indicated by the underlying economic factors, *cf. box 2.1*.

These model-based assessments of underlying house prices are based *inter alia* on a historically high level of employment, which boosts household incomes, and the exceptionally low level of interest rates. If the level of interest rates were closer to the expected long-term level, underlying house prices would be correspondingly lower. It is risky to base housing purchases on very low interest rates. Accordingly, the regulation on mortgage financing has been tightened since the financial crisis, especially in order to ensure that homeowners are better able to withstand rising interest rates.

The model-based assessments do not take into account the new system of real estate taxation, which may affect house prices over the coming years. Overall, the effect on prices of single-family houses is judged to be slightly positive for the country as a whole. On the other hand, the new tax system will, seen in isolation, contribute to lower price increases for apartments due to higher tax payments (before the tax rebate).[1]

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[1] Kapitel 4, Boligforligets virkning på boligmarkedet, *Skatteøkonomisk Redegørelse 2018*, Skatteministeriet (only available in Danish), and Simon Juul Hviid and Sune Malthe-Thagaard, The impact of the housing taxation agreement on house prices, *Danmarks Nationalbank Analysis*, no. 6, March 2019.

Box 2.1

Calculating underlying house prices using economic modelling

Many different factors affect house prices. In order to compare the path of house prices with underlying drivers, one can turn to macroeconometric modelling. The ADAM model includes a measure of the underlying house price level given the state of the business cycle, level of interest etc. and in the absence of fluctuations in expectations (i.e. bubbles). In the model, house prices are determined by demand in the short term due to inelastic supply. A number of factors, including incomes, interest rates and housing taxes, affects housing demand. In the long run, housing supply adjusts to match the actual and desired level of housing, and house prices are determined by land values and building costs, including labour costs and material costs.

Currently, the model suggests that prices of single-family houses are somewhat lower than what developments in the level of incomes and interest rates would suggest, *cf. figure a*. In 2018, real house prices were approximately 20 per cent below the underlying real house price level suggested by the model. This is especially due to increasing real income, but also lower interest rates. By comparison, house prices were well above underlying determinants prior to the financial crisis.

Danmarks Nationalbank has also estimated a model for the price of single-family houses, which shows a similar picture, *cf. figure b*. The model encompasses several factors that may influence house price dynamics in the short term, e.g. the change in house prices in the previous quarter and changes in interest rates, while in the longer run the model describes house prices by household demand. The model suggests that real house prices are 13 per cent below the estimated level.

Such model-based calculations are based on several assumptions. Some assumptions rest on economic theory, while others are ad hoc and largely implemented in order to capture historical developments. As an example, the ADAM model includes a dummy in order to capture price growth in 2006. Without this adjustment, the difference between actual and underlying house prices would be larger. Moreover, the models show the average historical relationship between house prices and the determining factors but do not necessarily capture structural shifts in the economy, e.g. between house prices and interest rates. For example, the level of interest rates seems to have fallen in recent years, and this may be due to factors that can also impact house prices, e.g. lower potential economic growth. Hence, the models are subject to uncertainty and are not a precise description of reality. Therefore, when assessing housing market developments, model based calculations cannot be used in isolation.

Figure a
Real house price estimates – ADAM
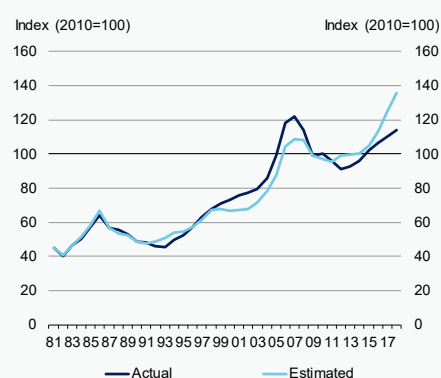
Figure b
Real house price estimates – Nationalbanken
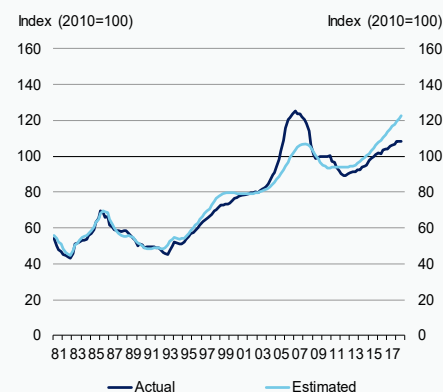
Note: In figure a, the underlying price level is assumed to equal the actual price level in the starting year.
Source: Statistics Denmark, Danmarks Nationalbank and own calculations.

2.2 Regional house price differences

Behind the general increase in house prices, there are significant differences, both regionally and for different types of housing (single-family houses, apartments etc.).

House prices have increased in all five regions in recent years. Over a longer period, house price increases are highest in the capital, but it is also in the capital where the fluctuations are most pronounced. In Region Zealand, too, house prices rose significantly up to the financial crisis, but in recent years the rate of increase has been more subdued than in the capital. The North Jutland Region stands out with more stable, but also more subdued house price development, cf. *figure 2.4*.

Figure 2.4

Regional prices of single-family houses

Index (2000=100)   Index (2000=100)

| Capital | Region Zealand | Region of Southern Denmark | Central Region Denmark | North Jutland Region |
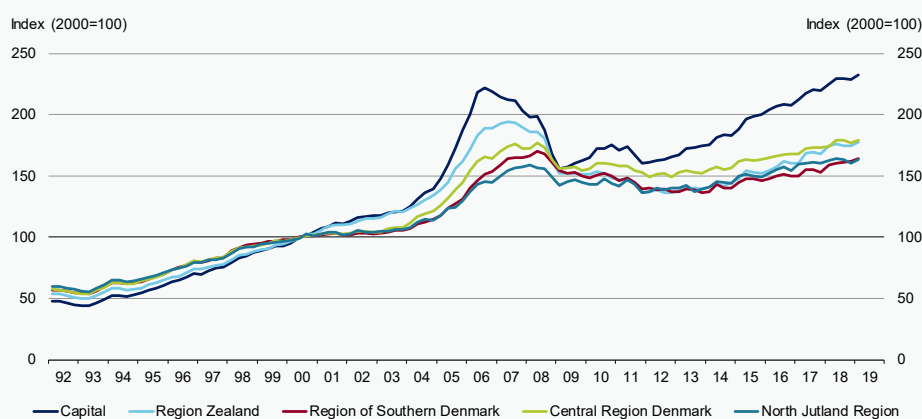
Note: Current prices.
Source: Statistics Denmark and own calculations.

However, there are also significant differences within the regions. In all regions, there are areas where price increases have been relatively high since 2009, and areas where price changes have been more subdued or even negative.

At the postal code level, house prices (both single-family houses and apartments) have generally risen in and around the larger cities, while developments in more sparsely populated areas have been weaker. In the Region of Southern Denmark, for example, prices have increased in or around Odense, Esbjerg and in the triangle area. Similarly, price developments in Zealand have also been stronger in or around the larger cities. In Central Region Denmark and North Jutland Region, the picture is the same, *cf. figure 2.5*.

Figure 2.5

Average annual growth in house prices from 2009 to 2017 by postal code

Legend:
- 3 to 7 per cent
- 1 to 3 per cent
- -1 to 1 per cent
- -2 to -1 per cent
- -5,6 to -2 per cent
- Too few properties in the postal code
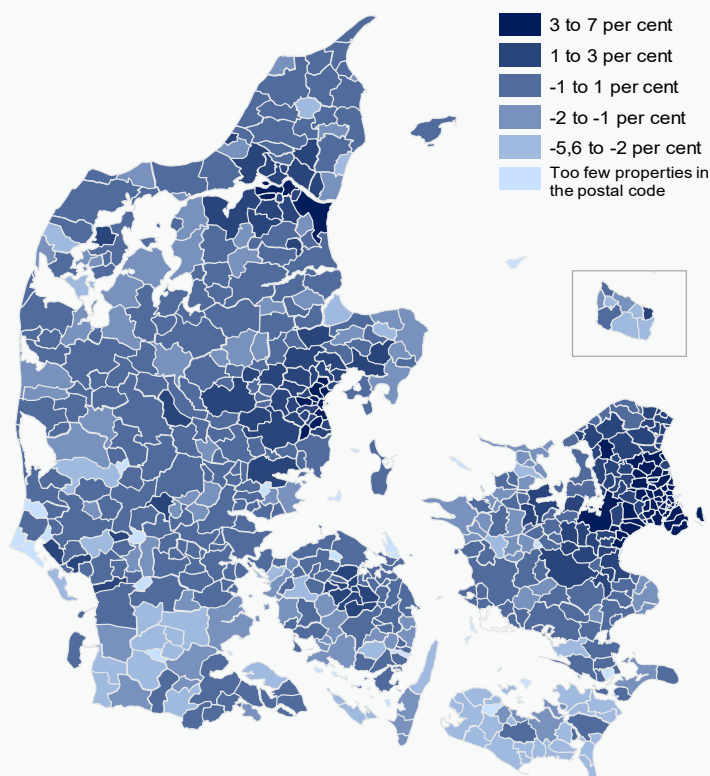
Note: Price development in current prices for single-family houses and apartments. The price development for each postal code is determined by first calculating the price development for the individual dwellings within the postal code area during the period (based on the market value as calculated by Statistics Denmark) and then calculating an unweighted average of the price development within the postal code area. In Copenhagen, several postcodes have been merged.

Source: Statistics Denmark and own calculations.

Many factors affect house price developments across postal code areas and specific factors will also apply locally. In general, however, there is clear evidence that the differences are due to, among other things, differences in income growth and population changes across postal codes.

Typically, a higher increase in disposable income will result in increased housing demand, which will lift prices. The evolution of house prices has been stronger in the postal codes where incomes have risen most, and have conversely been weaker in the postal codes where incomes have increased least, *cf. figure 2.6.*

Figure 2.6	Figure 2.7
House price growth and income growth by postal code	**House price growth and net relocations by postal code**
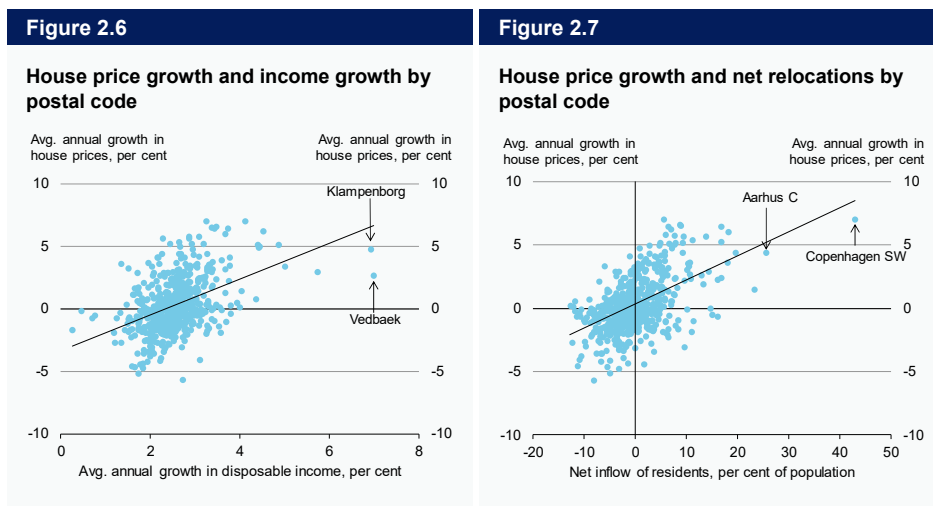
Note: See note to figure 2.5. Developments in disposable income (excluding rental value of own dwelling) are sen-
         sitive to changes in population composition in the postal code, and an increase in average income does not
         necessarily imply higher income for the individual family. Self-employed persons are not included. Disposa-
         ble income is excl. share income etc. Net relocations are calculated for adults, i.e. persons over 18 years.
         Both figures show the development from 2009 to 2017.
Source: Statistics Denmark and own calculations.

There is considerable variation across postal codes. In particular, there are some post-
codes where growth in house prices has been moderate, while growth in disposable in-
comes on average has been high. This is especially true for some postal codes north of
Copenhagen, such as Vedbæk and Klampenborg, where prices were above the national
average at the outset. At the same time, specific factors play a role in certain postal
codes, for example in Copenhagen SV, where many new residential buildings have been
constructed in recent years.

Population developments are another significant explanation of differences in housing
price developments across postal codes. Increasing demand for housing as a result of net
inflow of citizens has thus helped to raise prices especially in the larger cities, *cf. figure
2.7*. Conversely, net population outflow in other areas have contributed to dampening
price developments.

Additionally, another influencing factor may be the time it takes to commute to work,
which for many is situated in or around the larger cities. During the upswing, house
prices have risen more in areas that are closer to the larger cities, which may be a result
of some of the demand gradually shifting away from city centres, c*f. box 2.2*.

Box 2.2

House prices have risen the most in and around the larger cities

Both income and moving patterns affect house prices. However, many other forces are important, e.g. interest rate developments and more local conditions such as the distance to the nearest school or day care centre.

One reason why two postal codes with a roughly uniform development in relocations and incomes have had a different development in house prices may be the geographical location of the postal code.

In general, house prices will rise the most in areas where demand is greatest, which for a number of years has been the case in the larger cities. Subsequently, demand may shift to the surrounding areas, where dwellings have become relative cheaper compared to the city centres. Areas closer to the larger cities may therefore have had higher rate of house price growth in the period compared to a postal code, which is further away from the larger cities - even in a situation where the development in patterns of relocation and income changes has otherwise been approximately uniform in the two postal codes.

A calculation on house price development from 2009 to 2017 shows that for each additional kilometre distance between the postal code and the nearest city, the average annual growth in house prices within the postal code is reduced by 0.023 percentage points - given the development in income and patterns of relocation.

Thus on average, a postal code located 45 kilometres further away from the nearest city has had 1 percentage points lower annual house price growth compared to a postal code, which is 45 kilometres closer to the nearest city – even when the two postal codes have had a uniform development in income and relocation patterns.

Incomes and relocations also affect house prices. An extra annual rise in income of 1 percentage points on average leads to an annual increase in housing prices of 0.7 percentage points, while an increase in net inflow of citizens of 1 percentage point on average is associated with an annual increase in house prices of 0.1 percentage points.

The calculations are based on a regression model in which house price growth in a postal code depends on the average annual growth in disposable income, the net relocation to (from) the postal code relative to the population and a variable that measures the distance from the postal code to the nearest city.

In the calculations, a city is defined as one of the 50 postal codes with the largest population levels. However, some postal codes in the Copenhagen area are merged in order to facilitate comparison with the rest of the country. The measure of distance is calculated using commuting distances between residential and work addresses.

It is difficult to isolate the importance of relocation patterns on house prices. For example, an increase in net inflow will, all else being equal, lead to higher house price increases, but increases in house prices will, on the other hand, affect the patterns of relocation, as the outflow from an area typically increases as house prices rise. Thus, some of the original net inflow disappears, thereby reducing the effect on house prices somewhat in the end.

The estimated model shows a significant correlation between house price developments and the three variables. Also, the coefficients have the expected sign, as the house price development depend positively on income and net movement, but negatively on the distance to the nearest city:

$$house\ price_i = -1{,}02 + 0{,}70 \cdot income_i + 0{,}13 \cdot net\ relocation_i - 0{,}023 \cdot distance\ to\ city_i$$

According to the estimate, about 40 per cent of the variation in house price growth in the period 2009-2017 is explained by the three variables, which emphasize that there are also many other factors that have contributed to the development of house prices over time across postal codes.

Source: Statistics Denmark and own calculations.

2.3 Slowdown in the prices on apartments

The prices of apartments are generally more volatile than house prices. Apartment prices dropped sharply in the wake of the financial crisis and the drop was considerably larger than for the prices on single-family houses. However, prices of apartments also increased substantially in the years leading up to the crisis. Since 2012, prices on apartments have increased by about 60 per cent, compared to an increase of approximately 30 per cent in house prices.

However, there are indications that this development has stalled. Since the summer 2018, the market for apartments has shown signs of slowing down, *cf. figure 2.8*.

Figure 2.8

Prices on apartments and single-family homes
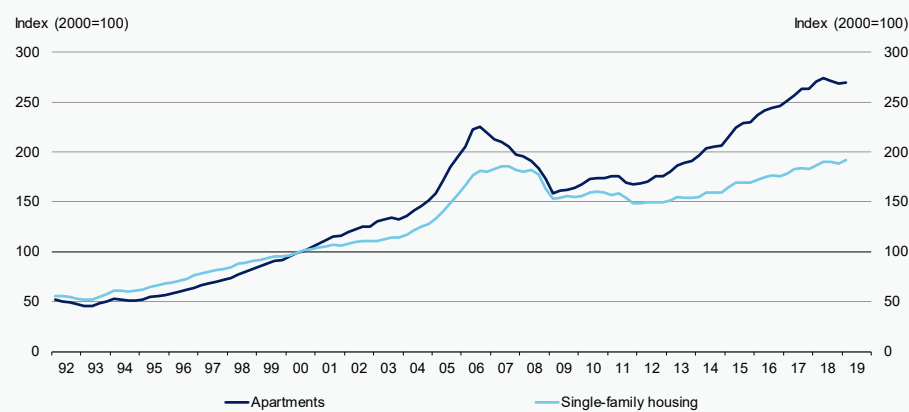
Note: Current prices.
Source: Statistics Denmark and own calculations.

The evolution of prices in Copenhagen has a substantial bearing on the overall apartment price developments. About 30 per cent of all apartments are located in the City of Copenhagen (the municipalities Copenhagen, Frederiksberg, Tårnby and Dragør) and an additional 14 per cent are located in the surrounding areas. Measured by value, apartments in the Copenhagen and surrounding areas represented about 62 per cent of the total value of apartments in Denmark in 2016.

Several factors indicate that prices of apartments in Copenhagen have reached a level that suggest lower rates of price increases in the coming years. This does not necessarily imply a drop in prices, but could also happen with a period of subdued price development.

One of the factors is the large increase in construction of new housing in Copenhagen. The number of completed multi story buildings has increased from around 600 units per quarter in 2015 to a very high level of more than 2.300 units per quarter in the first

half of 2019. Correspondingly in the first half 2019, construction of apartments in Copenhagen was more than 80 per cent above the previous peak in the first half of 2007, measured by the number of completed housing square meters.

New constructions contribute to a higher number of apartments for sale (both newly built apartments and apartments from the existing housing stock). The supply of apartments in Copenhagen has increased a fair amount in recent years (from a low level) and the selling time is now noticeably higher than it was a year ago, *cf. figure 2.9*.

Figure 2.9

Supply and selling time on apartments in Copenhagen
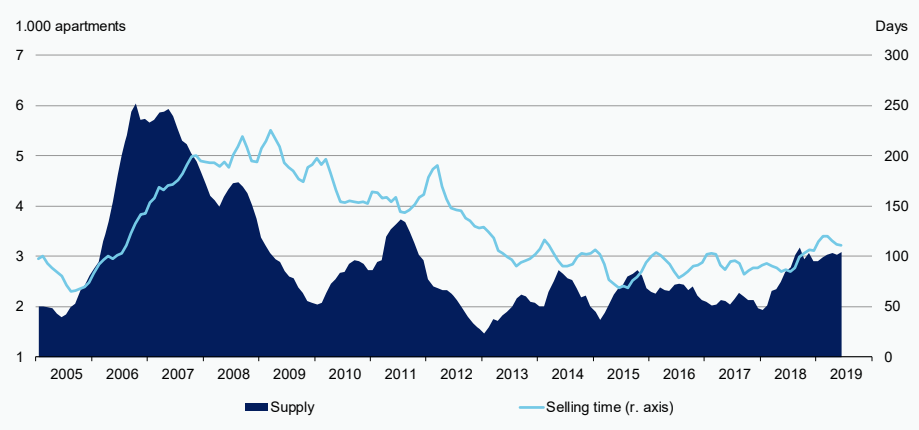
Note: Selling times are shown as a three months moving average. The City of Copenhagen is comprised of the
           municipalities Copenhagen, Frederiksberg, Tårnby and Dragør. Supply measures the number of apartments
           for sale end of month.
Source: Statistics Denmark and own calculations.

The increased supply moderates the price development on apartments in Copenhagen. In times where the supply of apartments increase, the selling times usually increase. Usually, the longer an apartment has been on the market, the higher the price discount given at the time of sale. Despite the increases in supply and selling times, the levels are still markedly lower than the very high levels around 2006-2008, where the market for apartments in Copenhagen was in a rapid decline.

Another contributing factor to the moderation in apartment prices in Copenhagen is the substantial increase in the ratio of prices on apartments in Copenhagen to prices of a single-family house in the region of Copenhagen. In 2000, one square meter of an apartment in the City of Copenhagen cost roughly the same as a square meter of a single-family house in the region of Copenhagen. Last year, the price on apartments in Copenhagen were 40 per cent higher, *cf. figure 2.10*.

Figure 2.10

Price on apartments in the City of Copenhagen relative to single-family homes in the region of Copenhagen
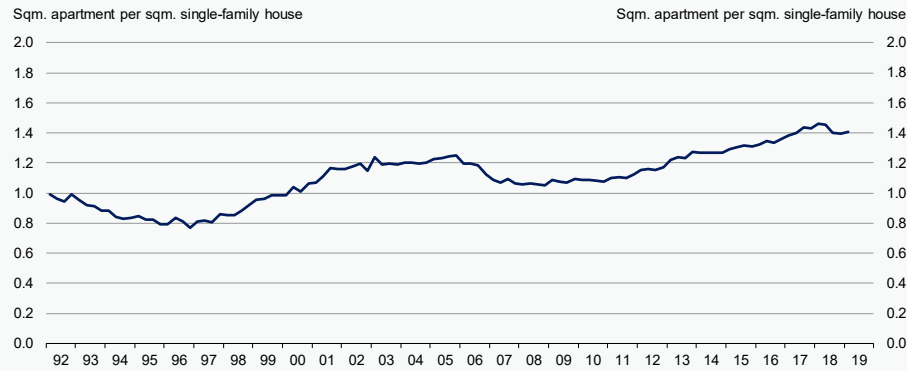
Source: Finance Denmark and own calculations.

This development has made it relatively cheaper to take up residence outside Copenhagen, a fact that is also reflected in the pattern of relocations in recent years.

Thus, the increasing prices on housing in Copenhagen have been followed by an increase in relocations out of Copenhagen since 2009, while the number of relocations into Copenhagen have been roughly constant in recent years, *cf. figure 2.11*. However, net relocations to Copenhagen are still positive.

Figure 2.11

Relocations to and from Copenhagen
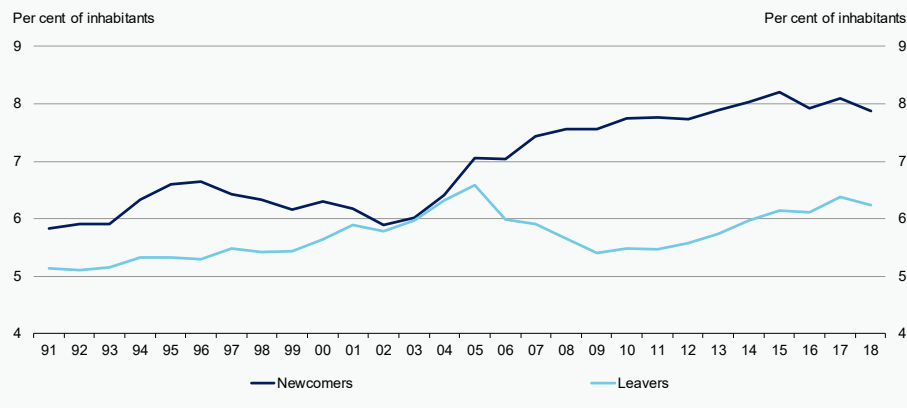
Note: The figure shows the City of Copenhagen and adults, that is persons above 18 years of age.
Source: Statistics Denmark and own calculations.

Almost 6.5 per cent of adult inhabitants in the City of Copenhagen moved out of the city in 2018. That is roughly the same extent as when the price relationship between the City and the region last peaked in 2004-2005. This indicates that the relatively high prices play a role in moving some of the housing demand out of the capital.

An additional factor, which, all other things being equal, contributes to moderating the price development on apartments in the coming years, is the new housing tax system, which entails a higher effective taxation of apartments.

A possible correction, which affects the apartment market alone, will only have limited effect on the economy as a whole.

This is due to the fact that the apartment market constitutes a small share of the total housing market. Apartments made up around 12 per cent of the housing market in 2017 in both number of units, value and outstanding mortgage debt, *cf. figure 2.12*.

Figure 2.12

Different measures of apartments' share of the housing market
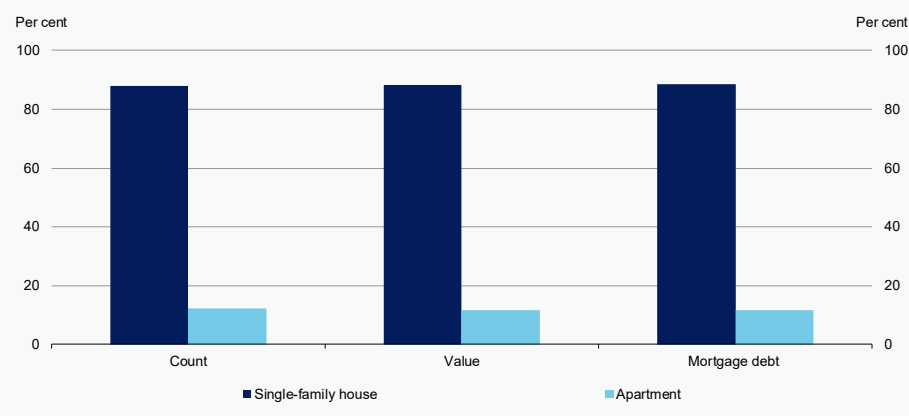
Note: The value of the housing is measured by the market value of houses as calculated by Statistics Denmark. The mortgage debt is measured by the cash value of the outstanding debt. Only permanent residences and privately owned housing is included. All calculations are related to early 2017.

Source: Statistics Denmark and own calculations.

2.4 What is the financial situation of homeowners?

Many years of housing market improvements have had a significant positive impact on the individual homeowner's economic situation. A significant number of homeowners took on large debts during the years prior to the financial crisis, which contributed to the build-up of imbalances and an unsustainably high level of consumption. Now, home-owners have had several years to adjust in the wake of the crisis, which, among other things, has resulted in a lower consumption ratio.

Overall, households have consolidated in the last 10 years. In 2009, mortgage debt amounted to approx. 135 per cent of households' gross income, while this had fallen to

about 120 per cent in 2017. This is close to the level in 2006 but remains relatively high in a historical perspective.

However, higher debt has also been accompanied by increased housing wealth. In 2017, housing wealth was just under 230 per cent of households' gross income, and in general the difference between debt and housing wealth has widened in recent years, *cf. figure 2.13*.

Figure 2.13

Housing debt and housing wealth
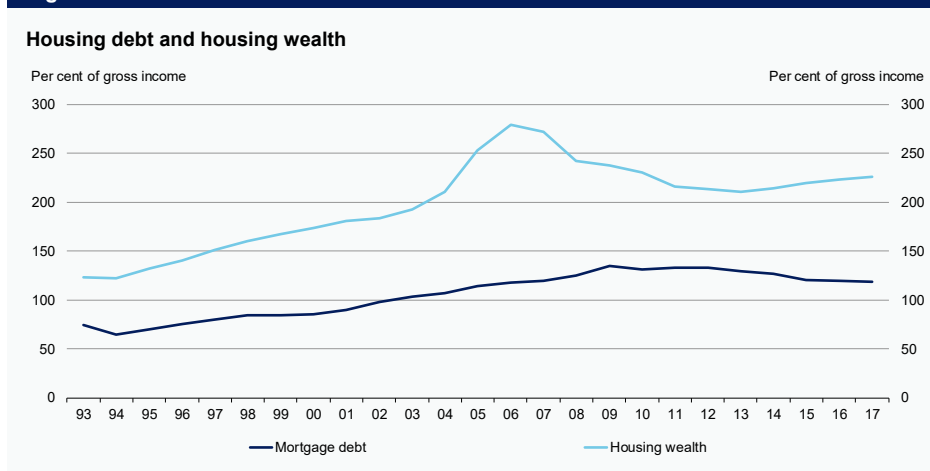
Note: Debt is the total mortgage debt.
Source: Statistics Denmark and own calculations.

By itself, the size of mortgage debts does not say anything about the financial robustness of the homeowner. For example, the risk associated with a high debt level may be smaller if the debt is matched by a correspondingly high level of wealth or high expected income over a lifetime. At the same time, a higher level of debt is also more affordable for households if the cost of servicing the loan is low, which is currently the case due to the low level of interest rates.

There are significant differences in indebtedness between households. Typically, households will be most indebted when they enter the housing market, with the debt ratio (debt to income) decreasing over time as the mortgage loan is repaid and a higher level of income is obtained. Furthermore, inflation erodes the value of the borrowed sum of money over time, which together with the increase in real wages make the loan relatively more affordable for the individual household.

Most households currently have low or moderate debt in relation to their total income. In 2017, around 10 per cent of homeowners had a debt larger than 400 per cent of their income. This corresponds to the level in 2007, *cf. figure 2.14*.

Figure 2.14

Distribution of debt ratios of homeowners
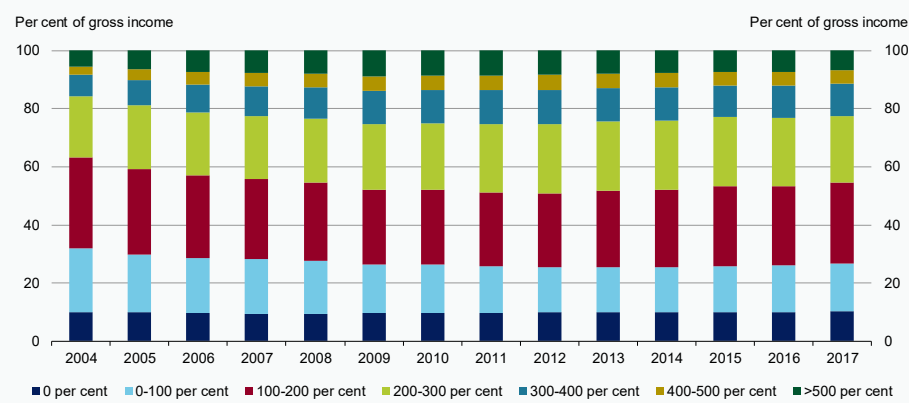
Note: The debt ratio is calculated as the total debt relative to gross income.
Source: Statistics Denmark and own calculations.

The distribution of the debt ratio for homeowners has been relatively stable over time. Towards 2009-2010, there was a tendency for higher debt ratios, and since then the share of homeowners with a high debt ratio has fallen slightly. This also means that the share of homeowners with a debt of over 500 per cent of income in 2017 was at the lowest level since 2005.

Furthermore, the vast majority of homeowners have positive net wealth, i.e. the value of total assets is greater than the value of liabilities. The greater the net wealth of a household, the more resilient is the households to sudden changes that affect their economic situation.

The share of homeowners with positive net wealth fluctuates naturally as the business cycles affect housing prices. Close to 90 per cent of homeowners had positive net wealth in 2006-2007 when house prices peaked. The share is currently increasing, but remains slightly lower at around 85 per cent, *cf. figure 2.15*. This must, however, be seen in light of a more sound footing as there are currently no signs of widespread house price bubbles.

Figure 2.15

Homeowners with negative and positive net financial wealth
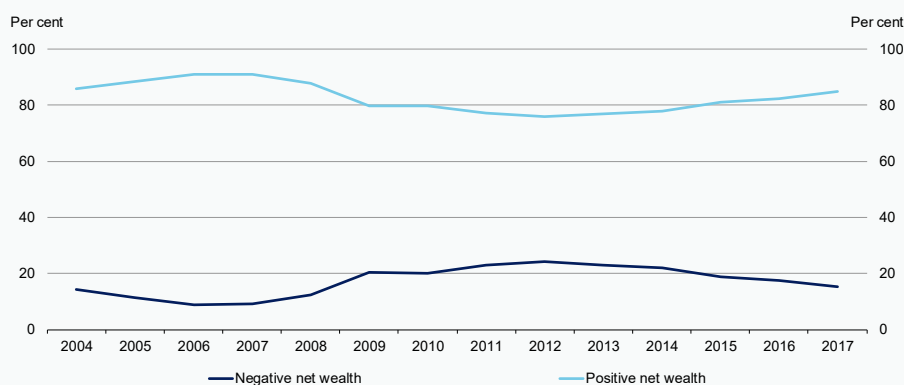
Note: Wealth excludes pension assets and does not encompass the value of motor vehicles, boats, cash, etc. The
          public valuation in the wealth is replaced with the market value as measured by Statistics Denmark. *Nega-
          tive net wealth* also comprises homeowners with zero net wealth.
Source: Statistics Denmark and own calculations.

The share of households with negative net wealth peaked in 2012, when prices of single-family houses bottomed out for the country as a whole. Since then, the share of home-owners with negative net wealth has fallen steadily, and in 2017 reached around 15 per cent. Throughout the period, however, there have been homeowners with negative net wealth – even during expansion periods.

It should be kept in mind that net wealth is not a comprehensive concept, as assets do not encompass, for example, labour market pensions and assets like vehicles, etc. Thus, in practice, the majority of homeowners will have higher net wealth than estimated by this measure.

At the same time, for the vast majority of homeowners with negative net wealth, the size of the negative wealth is relatively small. For the most part, negative net wealth was around DKK -200,000 to DKK 0 in 2017, while only approx. 1.5 per cent of all home-owners had negative net wealth of more than DKK 1 million, *cf. figure 2.16*.

Figure 2.16

The distribution of homeowners with negative net wealth in 2017
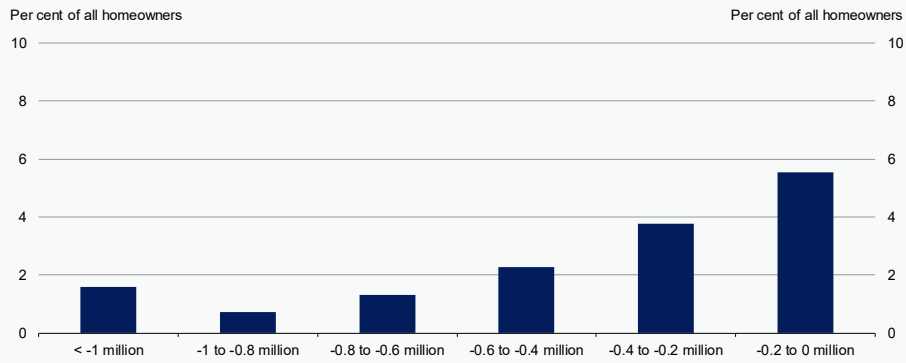
Note: See note to figure 2.15.
Source: Statistics Denmark and own calculations.

An illustrative calculation shows that the vast majority of homeowners continue to have positive net wealth in a hypothetical scenario, where house prices fall by 10 per cent across both single-family homes and apartments. This indicates that households are relatively robust to a fall in house prices.

In the scenario, the largest changes are for homeowners with a net wealth of around DKK -0.2 million, where the amount of homeowners increases by approx. 8,000 families. At the same time, the number of homeowners with negative wealth of more than DKK 1 million increases by approx. 9,000 families in the example, *cf. figure 2.17.*

Figure 2.17

Net wealth for homeowners before and after a hypothetical drop in house prices of 10 per cent in 2017
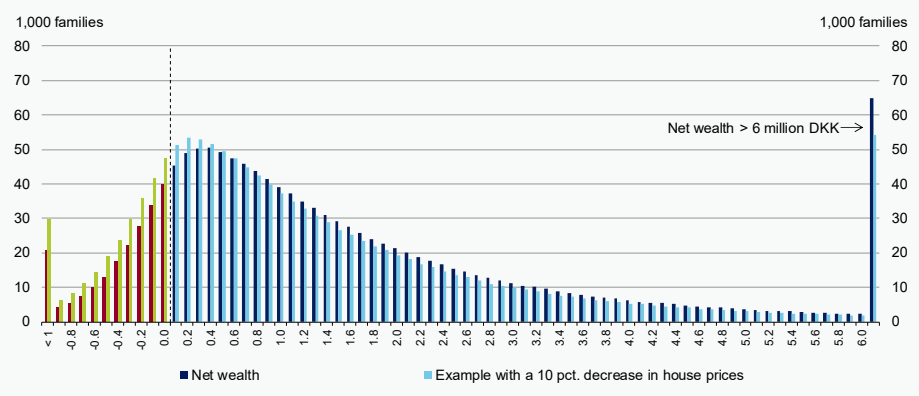
Note.:   See note to figure 2.15. Net wealth is measured in million DKK.
Source: Statistics Denmark and own calculations.

Before the 10 per cent reduction in house prices in the example, approx. 85 per cent of homeowners had positive net wealth while only 15 per cent had negative net wealth. With a 10 per cent fall in prices, the share with negative net wealth increases to 20 per cent, while 80 per cent of homeowners continue to have positive wealth (as mentioned excluding pension assets etc.).

The net wealth distribution is also reasonably robust to a fall in prices for apartment owners. An isolated price fall of 10 per cent for apartments results in approx. 5,000 families (equivalent to just over 3 per cent of apartment owners) going from positive to negative net wealth.

The development in homeowners' wealth is interesting not only in relation to assessing the resilience of the Danish homeowners but also for the economic outlook and the assessment of risks. If house prices fall, everything else being equal, private consumption will be adversely affected – partly due to a reduction in household borrowing opportunities due to a decline in housing wealth. A model calculation, however, indicates that a drop in house prices, as seen in the example above, will have a moderate effect on private consumption via the wealth effect in itself, *cf. box 2.3*.

Box 2.3

Reduced housing wealth has moderate consequences for private consumption

Model calculations can provide estimates of the effect of a house price decrease on private consumption. In this way, it can provide insights about the effects on the real economy of a house price decrease. The following example relies on a 10 per cent decrease in prices in one year for purely illustrative purposes.

In the ADAM model private consumption (excl. housing services) is determined by an error correction model. In the short term, private consumption is determined by the households' disposable income, while long-term consumption is determined by household wealth and long-term income. Households weigh income by 90 per cent and wealth by 10 per cent in the consumption decision. If actual consumption differs from the long-term (or desired) level of consumption, the households adjust gradually towards the desired level over time.

A model calculation, where house prices are assumed to decrease by 10 per cent for both single-family houses and apartments, leads to a reduction in the households' total housing wealth of approximately 340 bn. in 2019. This results in a negative spillover effect on private consumption, as the shock will drag down the households' long term (desired) level of consumption.

In the model, the households take one year before responding to the shock, such that consumption growth will start decreasing from 2020. The change in household wealth will initially, as well as later, have a limited effect on private consumption, both as a consequence of the gradual adjustment and the relatively low weight on household wealth in the long term consumption decision.

The illustrated effects are uncertain and should be interpreted with caution. Additionally, some aspects are not captured by the model calculations, e.g. if a high loan-to-value ratio for the single households in practice limits their possibilities of converting housing wealth to consumption. The total effect on house prices can also be more substantial if other, more fundamental, factors are responsible for the decrease in house prices. This could for example be the case if interest rates increase, the international economy slows down, or if the decrease in house prices is accompanied by lower expectations about the economic growth outlook.

Figure a

Estimated development in private consumption

Bn. DKK (2010-prices, chained values)   Bn. DKK (2010-prices, chained values)

■ Base scenario   ■ Following a decrease of 340 bn. DKK in 2019
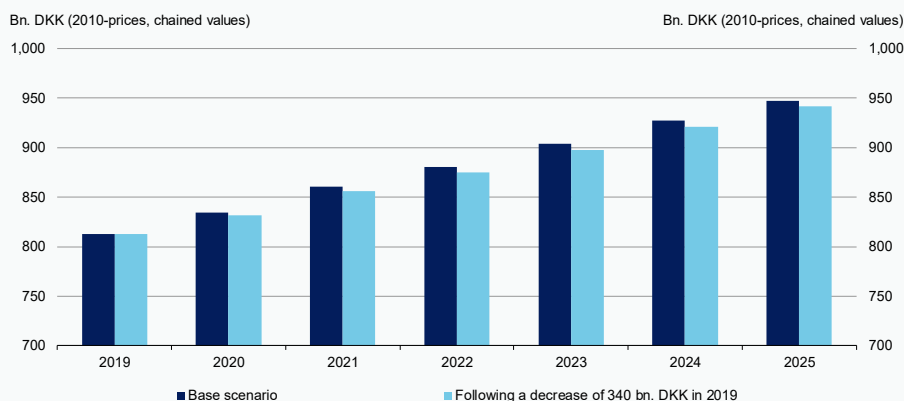
Note: The private consumption is shown excl. housing services. The base scenario is calculated on the basis of
          the ADAM model of Statistics Denmark from historical data and exogenous preconditions.
Source: Statistics Denmark and own calculations.

Annex tables

Table B.1

Demand, income and production

	2018	2019	2020	2018	2019	2020	2018	2019	2020
	DKK bn.			Volume, per cent			Prices, per cent		
Private consumption	1,048	1,079	1,117	2.2	1.9	2.1	0.9	1.0	1.4
Public consumption[1]	546	559	575	0.7	0.8	0.7	1.3	1.6	2.1
Public investments[2]	75	79	80	0.1	2.9	-0.2	3.2	1.8	1.8
Residential investment	108	114	118	4.8	3.9	2.1	0.0	1.6	1.5
Fixed business investment	314	319	337	8.5	0.2	4.4	1.4	1.4	1.1
Final domestic demand excl. stock building	2,096	2,151	2,231	2.8	1.3	2.1	1.1	1.3	1.6
Stock building[3]	17	16	16	0.2	0.0	0.0			
Total domestic demand	2,113	2,168	2,247	3.1	1.3	2.1	1.3	1.3	1.5
Exports of goods and services[5]	1,212	1,264	1,312	0.4	2.7	2.2	1.6	1.5	1.6
Total demand	3,324	3,432	3,559	2.1	1.8	2.1	1.4	1.4	1.6
Import of goods and services	1,101	1,138	1,191	3.3	2.0	3.1	3.2	1.3	1.4
GDP[5]	2,223	2,293	2,368	1.5	1.7	1.6	0.6	1.4	1.6
Taxes on products, net	297	299	309						
Gross value added	1,926	1,994	2,059	1.4	1.7	1.4	0.3	1.8	1.8
- Non-farm private sector[4]	1,322	1,371	1,416	2.7	2.2	2.2	0.7	1.5	1.1
Gross national income	2,276	2,347	2,421						

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.
1) The volume statement for public consumption is calculated by using the input method. In 2019-2020 growth in public consumption using the input method is assumed to equal growth using the output method.
2) Public investments are excluding general government net purchases of buildings, and therefore the figures will deviate from public investments in table B.6.
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.
Source: Statistics Denmark and own calculations.

Table B.2

Growth projections by country and Danish export market growth

	2016	2017	2018	2019	2020
Real growth rate, per cent					
Export market growth[1]	3.6	5.2	3.7	2.9	3.1
Trade-weighted GDP[2]	2.3	2.8	2.4	1.8	1.9
EU28	2.0	2.5	2.0	1.4	1.6
Euro Area	2.0	2.4	1.9	1.2	1.4
Germany	2.2	2.2	1.4	0.5	1.4
France	1.2	2.2	1.6	1.3	1.4
Italy	1.1	1.7	0.9	0.1	0.7
Spain	3.2	3.0	2.6	2.3	1.9
Netherlands	2.2	2.9	2.7	1.6	1.5
UK	1.8	1.8	1.4	1.3	1.3
Poland	3.1	4.8	5.1	4.4	3.6
Sweden	2.7	2.1	2.3	1.7	1.5
Norway	1.2	2.0	1.4	1.8	1.8
USA	1.6	2.2	2.9	2.4	1.9
Japan	0.6	1.9	0.8	0.8	0.6
India	7.9	6.2	7.4	7.1	7.3
China	6.7	6.9	6.6	6.2	6.0
Russia	-0.2	1.5	2.3	1.5	1.8
Brazil	-3.5	1.0	1.1	1.9	2.4

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.
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, *July 2019,* OECD, *Economic Forecast*, May 2019 and own calculations.

Table B.3

Interest rate projections for USA, euro area and Denmark and projections on oil price and exchange rates

Interest rate, per cent		2017	2018	2019	2020
USA	Federal Funds Target Rate	1.1	1.9	2.4	1.8
	3-month LIBOR	1.3	2.3	2.4	1.8
	10-year government bond	2.3	2.9	2.3	2.1
Euro area	Main Refinancing Operations Rate	0.0	0.0	0.0	0.0
	3-month EURIBOR	-0.3	-0.4	-0.4	-0.5
	10-year government bond (Germany)	0.4	0.4	-0.2	-0.3
Denmark	Certificates of deposit rate	-0.7	-0.7	-0.7	-0.8
	3-month CIBOR	-0.4	-0.3	-0.4	-0.5
	1-year adjustable mortgage rate	-0.6	-0.5	-0.6	-0.7
	10-year government bond	0.5	0.4	-0.1	-0.3
	30-year mortgage interest rate	2.3	2.1	1.7	1.6
	Average interest rate	0.7	0.7	0.5	0.4
Oil price and exchange rate					
	Dollar per barrel	54.3	71.1	64.7	64.5
	DKK per barrel	358.1	448.7	430.2	431.5
	DKK per 100 dollar	660.1	631.5	664.5	668.7
	DKK per 100 euro	743.9	745.3	746.6	746.6
	Effective Krone Rate Index (1980=100)	102.1	103.6	102.9	102.8

Note: The projections are based on data through July 31 2019. Annual averages are own calculations. Projections for the exchange rates are calculated by assuming that the exchange rate in the remaining projection period is equal to the average exchange rates over the previous ten days before the cut-off date. Projections for the oil price are calculated by using The International Energy Agency's report *World Economic Outlook,* November 2018 and futures prices.

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

Table B.4

Population and labour market

	2016	2017	2018	2019	2020
1,000 persons					
Total population	5,728	5,765	5,794	5,819	5,843
- Labour force	2,981	3,032	3,077	3,111	3,135
- Total employment	2,871	2,919	2,971	3,010	3,036
- Ordinary employment[1]	2,795	2,839	2,888	2,920	2,941
- Subsidised employment[2]	77	80	84	90	96
- Gross unemployment (incl. activation)[3]	113	116	108	103	101
- Net unemployment	91	92	87	86	84
- Outside the labour force	2,747	2,733	2,717	2,707	2,708
- Recipients of unemployment benefits and cash benefits in activation outside the labour force	127	110	103	99	100
- Disability pensioners outside the labour force	186	181	178	181	187
- Voluntary early retirement	70	61	49	46	48
- Persons under 15 years	961	961	959	956	954
- Pensioners outside the labour force	959	975	991	982	969
- Others outside the labour force	445	445	437	443	450

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

1) Calculated as the difference between employment as determined in the national accounts and subsidised employment, which is based on data from AMFORA. 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

Benefit recipients etc.

	2016	2017	2018	2019	2020
1,000 persons					
Unemployment benefits (excl. activation)[1]	71	70	69	65	65
Cash benefits (excl. activation)	103	95	87	84	86
Recipients of unemployment benefits and cash benefits in activation[2]	39	35	34	33	30
Holiday benefit	4	5	5	3	2
Anticipatory pension [3]	208	203	199	203	209
Resource assessment benefit	28	33	37	38	39
Early retirement	70	61	49	46	48
Flexi-job scheme benefit	5	4	3	3	3
Revalidation benefit[4]	6	5	4	3	3
Sickness benefit[5]	58	57	57	58	58
Maternity leave	49	48	49	51	51
Benefit for unemployed	14	15	15	15	15
Integration benefit[6]	22	22	17	18	17
Total	**678**	**653**	**627**	**621**	**627**
Student grant (SU)	330	332	329	329	327
Total, incl. SU	**1,008**	**985**	**955**	**950**	**954**
Pensioners	1,109	1,128	1,147	1,138	1,124
Total, incl. SU and pensioners	**2,117**	**2,113**	**2,103**	**2,088**	**2,078**
Subsidised employment[7]	77	80	84	90	96
Total, incl. SU, pensioners and subsidised employment	**2,193**	**2,192**	**2,186**	**2,178**	**2,173**

Note: Recipients of education assistance benefit, the special education benefit and other temporary benefits (kontantydelse) 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.
2) The data does not cover persons in subsidized employment and thereby differs from other register-based 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.
3) Anticipatory pension and old age pension include pensioners living abroad as well as pensioners, who are employed.
4) Excl. persons on revalidation with wage support.
5) The number of sickness benefit recipients does not reflect the total absence due to illness. It includes the part of the sickness absence, which is not covered by the employer. Specifically, this covers sickness absences longer than 30 days as well as sickness among the unemployed.
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.6

Gross investments

	2018	2016	2017	2018	2019	2020
	DKK bn.	Real growth rate, per cent				
Gross fixed capital formation	499	7.6	4.6	6.5	0.8	3.6
divided into type:						
- Construction investment	231	6.6	6.1	5.4	2.0	3.4
- Tangible and intangible investments	268	8.4	3.4	7.4	-0.3	3.8
divided into group:						
- Residential investments	108	6.8	12.9	4.8	3.9	2.1
- Public investments	77	6.5	-7.8	1.0	-1.2	2.4
- Total business investments	314	8.1	5.6	8.5	0.2	4.4
- Construction investment	77	7.6	2.8	7.3	6.4	4.8
- Tangible and intangible investments	237	8.4	6.5	8.9	-1.8	4.3

Source: Statistics Denmark and own calculations.

Table B.7

Balance of payments

	2016	2017	2018	2019	2020
DKK bn.					
Goods exports	703	747	769	813	837
Goods imports	595	641	681	700	727
Goods balance, total	108	106	89	114	110
Service export	423	441	442	450	475
Service import	389	393	421	439	464
Service balance, total	33	48	22	11	11
Balance of goods and services	142	155	110	125	121
- Per cent of GDP	6.7	7.1	5.0	5.5	5.1
Investment income from abroad, net	61	57	61	62	62
Wage income from abroad, net	-11	-12	-13	-13	-13
EU payments, net	-10	-10	-14	-16	-16
Other current transfers from abroad, net	-15	-16	-18	-19	-19
Net transfers from abroad, total	25	19	17	15	15
Current account, total	166	173	127	141	136
- Per cent of GDP	7.9	8.0	5.7	6.1	5.7
Net assets against other countries	1,146	1,208	1,403	1,534	1,671
- Per cent of GDP	54.6	55.5	63.1	66.9	70.6

Source: Statistics Denmark and own calculations.

Table B.8

Exports and imports

	2018	2016	2017	2018	2019	2020
	DKK bn.	**Real growth rate, per cent**				
Export						
Goods, total	769	1.9	6.0	2.6	4.5	2.0
- Agricultural goods etc.	119	-1.6	2.7	-1.5	2.8	1.5
- Industrial goods (excl. ships etc.)	574	5.1	6.6	3.8	5.5	3.0
- Other goods[1]	77	-13.2	6.5	0.5	-0.8	-5.2
Services, total	442	7.0	-0.4	-3.4	-0.3	2.5
- Sea transport	188	0.9	2.9	-6.8	-1.0	1.0
- Other services[2]	200	12.6	-4.0	-1.2	-0.2	3.6
Total[2]	1,212	3.9	3.6	0.4	2.7	2.2
Import						
Goods, total	681	0.3	6.1	3.7	1.8	2.8
- Agricultural goods etc.	83	1.1	2.4	3.3	2.8	1.0
- Industrial goods (excl. ships etc.)	434	4.4	5.7	2.0	3.3	3.0
- Other goods[2]	164	-12.1	9.9	9.2	-2.5	3.2
Services, total	421	10.7	-0.3	2.7	2.3	3.7
Total	1,101	4.2	3.6	3.3	2.0	3.1
Memo		**Nominal growth rate. per cent**				
Export of basic goods[3]	723	3.3	5.6	2.2	6.2	3.6

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

Annex tables

Table B.9

Export and import prices

	2016	2017	2018	2019	2020
	Growth rate, per cent				
Export prices					
Goods, total	-0.8	0.3	0.4	1.2	0.9
Services, total	-8.8	4.8	3.7	2.2	2.8
Total	-4.0	1.9	1.6	1.5	1.6
Import prices					
Goods, total	-3.4	1.5	2.5	0.9	1.1
Services, total	-6.5	1.2	4.2	1.9	1.9
Total	-4.7	1.4	3.2	1.3	1.4

Source: Statistics Denmark and own calculations.

Table B.10

Private consumption

	2018	2018	2019	2020
	DKK bn.	Real growth rate, per cent		
Total consumption	1,048	2.2	1.9	2.1
Retail trade goods	330	2.8	2.1	2.6
- Food, drinks and tobacco	152	1.9	1.9	2.1
- Other goods	178	3.5	2.2	3.0
Purchase of vehicles	42	9.7	0.0	3.0
Electricity, fuels and gas	52	-2.6	0.0	1.6
Gasoline and similar	27	1.0	1.5	1.1
Housing	231	0.8	1.6	1.6
Other services	377	2.2	2.5	2.0
Tourist expenditures	45	1.7	1.0	4.5
Tourist revenues	55	0.4	1.5	4.0

Source: Statistics Denmark and own calculations.

Table B.11

Net lending by sectors

	2016	2017	2018	2019	2020
DKK bn.					
Private sector, total	168	143	115	99	126
- Households	29	37	45	12	43
- Corporations	139	106	70	87	83
- Non-financial corporations	113	75	45	54	51
- Financial corporations	27	31	25	33	32
General government	-2	32	12	44	10
Total	166	174	127	143	136

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.7*.

Source: Statistics Denmark and own calculations.

Table B.12

Gross value added (GVA)

	2018	2017	2018	2019	2020
	Share, per cent	**Real growth rate, per cent**			
Total GVA	100	2.1	1.4	1.7	1.4
Public sector	21	0.2	1.0	0.3	0.2
Private sector	79	2.6	1.5	2.0	1.7
Private sector excl. mining and quarrying	78	2.7	1.7	2.1	2.0
Non-farm private sector[1]	69	2.6	2.7	2.2	2.2

1) Non-farm private sector consists of manufacturing, construction and private services excl. shipping.

Source: Statistics Denmark and own calculations.

Table B.13

Hourly productivity in selected industries

	Avg. 1995-2018	2017	2018	2019	2020
Real growth rate, per cent					
Total	1.0	1.0	0.6	0.6	0.7
Public sector	0.8	0.0	1.8	-0.1	0.1
Private sector	1.1	1.2	0.1	0.6	0.8
Private sector excl. mining and quarrying	1.3	1.2	0.3	0.7	1.0
Non-farm private sector[1]	1.1	1.0	1.4	0.7	1.2

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.
Source: Statistics Denmark and own calculations.

Table B.14

Contributions to growth in households' real disposable income[1]

	2016	2017	2018	2019	2020
Real growth rate, per cent					
Disposable income	4.5	2.1	1.6	2.0	2.3
Contribution, percentage points					
Compensation of employees[2]	2.8	2.3	3.0	2.6	2.2
Social benefits	0.1	0.0	0.0	0.4	0.1
Income taxes	1.3	-0.9	-1.1	-0.7	-0.3
Net interest income	0.1	0.2	0.0	0.1	0.1
Dividend etc.[3]	0.5	-0.2	0.3	0.2	-0.3
Pension contribution[4]	-0.7	-0.2	0.1	-1.1	0.2
Payment from pension schemes[4]	-0.5	-0.2	0.3	0.1	0.1
Others[5]	0.8	1.0	-0.9	0.4	0.1

1)   The households in the Economic Survey include the NPISH-sector.
2)   Covering only employees residing in Denmark.
3)   Incl. dividends from investment funds.
4)   Occupational pensions etc. (but not individual pension schemes in banks, etc.)
5)   Including self-employed.
Source: Statistics Denmark and own calculations.

Table B.15

Households' net lending[1]

	2016	2017	2018	2019	2020
DKK bn.					
Disposable gross income	1,039	1,074	1,101	1,134	1,177
Private consumption	984	1,017	1,048	1,079	1,117
Gross investment[2]	91	103	109	115	119
Net capital transfers[3]	4	3	10	4	12
Direct net lending	**-32**	**-44**	**-47**	**-56**	**-48**
Adjustment for the change in pension entitlements[4]	60	80	92	67	91
Net lending[5]	**29**	**37**	**45**	**12**	**43**
Per cent of disposable gross income					
Direct net lending	-3.1	-4.1	-4.3	-4.9	-4.1
Net lending	2.8	3.4	4.1	1.0	3.7

1) The households in the Economic Survey include the NPISH-sector.
2) Households' gross investments include investments in owner-occupied housing and investments in build-ings and materials by sole proprietors.
3) Net capital transfers in 2018 include repayment of contributions to early retirement.
4) Net payment to and return (excl. tax on pension yield) of household capital in life insurance companies and pension funds.
5) Household acquisition (net) of financial assets (incl. shares) in other sectors.
Source: Statistics Denmark and own calculations.

Table B.16

Household wealth[1]

	Level end of 2018	2016	2017	2018	2019	2020
	DKK bn.	Real growth rate, per cent				
Housing[2]	3,585	3.3	1.2	2.1	1.3	0.3
Cars	303	4.5	1.4	3.3	4.5	3.9
Financial wealth directly owned	-56					
- Mortgage debt etc.[3]	-1,929	1.5	1.1	0.6	2.8	2.4
- Equity etc.[4] and bonds	1,873	-1.7	12.0	-8.9	5.0	4.4
Total directly owned[5] net wealth	3,832	1.0	8.0	-1.2	2.3	1.4
Pension wealth[6]	2,324	6.7	1.5	-1.3	1.8	2.5
Total net wealth[5]	6,156	3.2	5.4	-1.2	2.1	1.8
- Financial net wealth	2,268					

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.

1)   Households in the Economic Survey include the NPISH-sector.

2)   Housing wealth includes land value and comprises all residences owned by households including rental property. The percentage increases include (as for other items) the growth of the housing wealth.

3)   Household net position vis-a-vis banks.

4)   Includes mutual fund shares and unlisted shares.

5)   Not a complete account. Among other things, the household share of firms' capital (in single-person companies, 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.17

Consumption and gross saving ratios

	2016	2017	2018	2019	2020
Per cent					
Households[1]					
Consumption ratio (national account)[2]	94.7	94.7	95.3	95.1	94.9
Savings ratio (national accounts)[2]	10.5	11.8	12.1	10.2	11.9
- Savings ratio adjusted for return on pension assets[3]	9.2	9.4	8.6	8.5	8.6
Total private sector (national accounts)					
Consumption ratio	64.9	65.4	65.8	66.4	65.5
Savings ratio	35.1	34.6	34.2	33.6	34.5

1) Households in the Economic Survey include the NPISH-sector.
2) According to the national accounts, the household consumption ratio is consumption expenditure relative to disposable income, while the savings ratio is gross savings relative to disposable income. As household gross savings include the return on pension assets, which is not included in disposable income, the sum of the consumption ratio and the savings ratio exceeds 100 per cent.
3) Savings adjusted for the return on pension assets (net of pension yield taxes), which is included in the national accounts definition of household savings (but not income), *cf. note 2.* Pension contributions, net of pension payments, are included in savings as well as in income.
Source: Statistics Denmark and own calculations.

Table B.18

Real estate market and construction

	2016	2017	2018	2019	2020
Increase (per cent) in the price of traded single-family houses[1]	4.0	4.0	3.9	3.1	3.4
Housing gross investment (real growth, per cent)	6.8	12.9	4.8	3.9	2.1

1) The increase is adjusted for developments in the volume of housing sales.
Source: Statistics Denmark and own calculations.

Table B.19

Labour wage ratio, wage increases and computational preconditions

	2016	2017	2018	2019	2020
Labour wage ratio, per cent					
Private sector	57.5	57.6	58.8	58.8	59.0
The entire economy	63.5	63.5	64.4	64.4	64.5
Wage increase, per cent					
Private sector					
- Hourly earnings (excl. nuisance bonus)	2.3	2.2	2.3	2.5	2.8
Public sector					
- Hourly earnings (excl. nuisance bonus)	1.9	2.1	1.5	-	-
- Budgetary impact	1.3	1.7	1.6	1.8	2.6
Wage adjustment rate, per cent[1]	1.4	2.0	2.0	2.0	2.0

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) and the regulation mechanism between the private and public sectors (privatlønsværnet), but ex cluding any residual increases. The hourly wage increases for the private and public sectors are not compa rable.
1)   The wage adjustment rate is stated as the known wage adjustment rate.
Source: The Confederation of Danish Employers, Statistics Denmark, and own calculations.

Table B.20

Price trends and explanatory factors

	2016	2017	2018	2019	2020
Change, per cent					
Net price index	0.5	1.2	0.9	1.2	1.5
Tariffs and housing benefits, contribution	-0.2	-0.1	-0.1	-0.2	-0.1
Consumer price index	0.3	1.1	0.8	1.0	1.4
HICP	0.0	1.1	0.7	1.0	1.5

Note: The contribution from tariffs and housing benefits is computed as the difference between the consumer price inflation and the net price inflation (to one decimal place). Changes in the prices of taxed goods such as energy can therefore influence the contribution from taxes, even though the tax level remains un-changed.
Source: Statistics Denmark and own calculations.

Table B.21

Public finances

	2016	2017	2018	2019	2020
DKK bn.					
Public consumption	524.2	535.6	546.2	559.3	575.2
Income transfers[1]	348.4	353.2	356.0	364.1	370.0
Investments	77.1	73.0	75.4	79.1	80.4
Interest expenditures	28.1	23.3	23.9	22.4	21.1
Subsidies	38.2	38.7	38.3	38.9	38.3
Other expenditures[2]	67.3	68.3	80.7	72.9	79.4
Total expenditure[3]	**1,083.2**	**1,092.2**	**1,120.5**	**1,136.7**	**1,164.4**
Personal income taxes, etc.[4]	440.3	454.2	466.3	480.2	490.2
Labour market contributions	90.3	94.1	98.2	102.2	105.5
Pension yield taxation	34.0	32.3	12.6	47.8	20.0
Corporate taxes	60.4	71.9	65.2	62.9	62.1
VAT	199.0	207.8	216.9	222.7	231.3
Other duties	144.2	143.4	146.7	145.3	147.5
Other taxes[5]	5.6	5.5	5.6	4.3	3.3
Interest revenues	17.3	19.3	26.7	21.0	20.8
Other revenues[6]	93.6	98.5	98.0	97.6	97.3
Tariffs etc. to the EU	-3.1	-3.2	-3.2	-3.3	-3.4
Total revenue[7]	**1,081.7**	**1,123.8**	**1,132.9**	**1,180.7**	**1,174.4**
General government budget balance	**-1.5**	**31.6**	**12.4**	**44.0**	**10.1**
Net interest expenditure	10.8	4.0	-2.8	1.4	0.3
General government primary balance[8]	9.3	35.6	9.6	45.5	10.4

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

Table B.22

Taxes and tax burden

	2016	2017	2018	2019	2020
DKK bn.					
Indirect taxes	**340.2**	**348.0**	**360.4**	**364.7**	**375.4**
- VAT	199.0	207.8	216.9	222.7	231.3
- Registration tax	19.4	20.0	20.6	21.9	22.7
- Excise duties	74.2	72.5	72.1	68.3	68.6
- Energy (incl. PSO)	45.3	43.1	42.5	38.4	38.7
- Environmental	4.0	3.7	3.8	3.7	3.5
- Tobacco and spirits etc.	11.1	11.5	11.0	10.9	10.9
- Others	13.8	14.1	14.9	15.4	15.5
- Property taxes	28.4	28.5	29.6	31.0	31.7
- Motor vehicle tax paid by businesses	3.6	3.8	3.6	3.6	3.6
- Other indirect taxes	15.5	15.6	17.6	17.1	17.4
Direct taxes	**625.2**	**652.6**	**641.9**	**691.5**	**675.6**
- Withholding taxes[1]	419.8	433.5	445.5	459.6	470.3
- State tax	144.5	150.4	157.3	164.8	169.6
- Bottom-bracket tax	97.2	111.3	127.4	144.2	149.2
- Top-bracket tax	17.0	17.3	17.6	18.0	17.7
- Health contributions	27.9	19.2	9.7	0.0	0.0
- Limited tax liability	2.4	2.5	2.6	2.6	2.7
- Total municipal tax	229.1	236.8	239.6	248.3	255.2
- Property value tax	13.9	14.2	14.5	14.6	14.7
- Other withholding taxes[2]	32.4	32.2	34.1	31.8	30.7
- Pension yield tax	34.0	32.3	12.6	47.8	20.0
- Corporate tax	60.4	71.9	65.2	62.9	62.1
- Other personal taxes	8.4	8.2	8.2	8.1	7.9
- Media license	4.4	4.4	4.5	3.5	2.4
- Motor vehicle tax paid by households	7.9	8.2	7.8	7.5	7.5
- Labour market contributions	90.3	94.1	98.2	102.2	105.5
Social security contributions[3]	1.2	1.1	1.1	0.9	0.9
Capital taxes	4.2	4.4	4.8	5.0	4.5
Customs and import duties (collected by the EU)	3.1	3.2	3.2	3.3	3.4
Total taxes	**973.9**	**1,009.2**	**1,011.4**	**1,065.4**	**1,059.8**
GDP	2,100.2	2,178.1	2,223.1	2,293.2	2,367.8
Total taxes, share of GDP	**46.4**	**46.3**	**45.5**	**46.5**	**44.8**

1) For 2016-2018, the distribution of withholding taxes to the state and municipalities is from Statistics Den mark. For 2019-2020, an estimate is used based on the Ministry of Finance's tax base forecast.
2) Includes equity income tax, tax on estates of deceased persons and revenue from the Danish business scheme etc.
3) Includes mandatory pension payments for civil servants in public enterprises etc.
Source: Statistics Denmark and own calculations.

Table B.23

Development in the tax base for municipalities

	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
	DKK bn.					Per cent				
December 2015	928.0	953.3	-	-	-	4.4	2.7	-	-	-
May 2016	927.7	951.2	-	-	-	3.9	2.5	-	-	-
August 2016	934.3	958.4	-	-	-	4.4	2.6	-	-	-
December 2016	930.2	957.1	989.3	-	-	4.0	2.9	3.4	-	-
May 2017	928.7	954.3	988.0	-	-	3.8	2.8	3.5	-	-
August 2017	927.2	955.4	982.8	-	-	3.6	3.0	2.9	-	-
December 2017	926.9	961.4	990.9	1,010.5	-	3.6	3.7	3.1	2.0	-
May 2018	926.8	955.3	981.2	1,005.3	-	3.6	3.1	2.7	2.5	-
August 2018	926.8	959.2	979.9	1,008.0	-	3.6	3.5	2.2	2.9	-
December 2018	926.8	960.5	979.2	1,013.2	1,045.9	3.6	3.6	1.9	3.5	3.2
August 2019	926.8	960.6	966.7	1,005.7	1,033.8	3.6	3.6	0.6	4.0	2.8

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.

Source: Statistics Denmark and own calculations.

Table B.24

Income transfers

	2016	2017	2018	2019	2020
DKK bn.					
Unemployment benefits (excl. activation)	14.1	14.6	14.0	13.3	13.4
Cash benefits[1] (excl. activation)	23.3	23.5	24.0	26.3	27.4
Vacation allowance	0.8	0.8	0.8	0.7	0.3
Anticipatory pensions[2]	40.5	40.2	40.2	41.1	42.7
Resource rehabilitation allowance	4.9	5.9	6.5	6.8	7.1
Early retirement benefit	12.8	11.6	9.0	8.6	9.2
Rehabilitation benefit	1.3	1.1	0.9	0.8	0.7
Sickness benefit	11.1	11.3	11.4	11.6	11.8
Maternity pay	10.5	10.7	10.9	11.5	11.5
Rent benefit	14.3	14.6	14.8	15.1	15.3
Child and youth benefit	14.6	14.7	14.6	14.7	14.8
Other transfers[3]	24.3	23.3	22.0	21.4	21.6
Student grants (SU)	20.3	20.6	20.7	21.1	21.3
Public pension scheme[4]	127.7	132.0	136.6	140.9	142.2
Other pension schemes[5]	27.9	28.5	29.6	30.3	30.7
Total[6]	**348.4**	**353.2**	**356.0**	**364.1**	**370.0**
Total, excl. public and other pensions	192.8	192.7	189.7	192.9	197.2
Total, excl. education grants, public pensions and other pensions	172.5	172.1	169.0	171.8	175.9

1) Taxable and non-taxable benefits incl. the integration benefit.
2) Incl. early retirement benefits to retired citizens in foreign countries.
3) Activation benefits, dependent child allowance, subsidy for childcare, unemployment benefits, special education benefit, green check and pay scheme for holders of flexi-jobs etc.
4) Incl. differentiated allowances and heating allowance for pensioners. Incl. pension schemes for citizens in foreign countries.
5) Civil servants in public enterprises and part-time early retirement scheme etc.
6) Income transfers exclude other regular transfers to households such as mileage allowance and index supplement.
Source: Statistics Denmark and own calculations.

Table B.25

Key figures estimated at different times

	May 2017	Aug. 2017	Dec. 2017	May 2018	Aug. 2018	Dec. 2018	Aug. 2019
2017							
GDP (Real growth rate, per cent)	1.7	2.0	2.0	2.2	2.3	2.3	2.3
Unemployment (1.000 persons)	85	87	92	91	91	91	92
Gross unemployment (1.000 persons)	117	116	116	116	116	116	116
Consumer prices (Change, per cent)	1.3	1.1	1.2	1.1	1.1	1.1	1.1
Balance of payments (DKK bn.) [2]	172	174	175	167	168	173	173
Actual budget balance (DKK bn.)	-33	-30	-1	21	24	26	32
GDP in EU28 (Real growth rate, per cent)	1.9	1.9	2.3	2.4	2.4	2.4	2.5
2018							
GDP (Real growth rate, per cent) [1]	1.7	1.8	1.9	1.9	1.8	1.7	1.5
Unemployment (1.000 persons)	84	86	88	89	87	87	87
Gross unemployment (1.000 persons)	114	113	112	109	108	108	108
Consumer prices (Change, per cent)	1.6	1.5	1.5	1.0	1.1	0.9	0.8
Balance of payments (DKK bn.) [2]	175	175	170	162	137	129	127
Actual budget balance (DKK bn.)	-15	-27	-18	-12	0	4	12
GDP in EU28 (Real growth rate, per cent)	1.9	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
Unemployment (1.000 persons)	-	-	87	89	84	84	86
Gross unemployment (1.000 persons)	-	-	107	106	103	103	103
Consumer prices (Change, per cent)	-	-	1.7	1.6	1.6	1.5	1.0
Balance of payments (DKK bn.) [2]	-	-	164	160	139	128	141
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
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.) [2]	-	-	-	-	-	122	136
Actual budget balance (DKK bn.)	-	-	-	-	-	-3.0	10
GDP in EU28 (Real growth rate, per cent)	-	-	-	-	-	1.8	1.6

1)   The GDP forecast in 2018 is in May 2018, August 2018 and December 2018 adjusted on a discretionary basis for a large one-off payment in the 1st quarter of 2017 for use of Danish-owned intellectual property rights, *cf. Economic Survey, May 2018.*
2)   Indicates the current account balance.
Source: Statistics Denmark, The European Commission, AMECO database and own calculations.