

DANMARKS NATIONALBANK

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Danish and international economy hit by pandemic

- The outbreak of coronavirus, the measures to contain the infection and the resulting behavioural changes lead to a temporary and very sharp reduction in economic activity, particularly in the first half of 2020. For 2020 as a whole, GDP growth is estimated to be between -3 and -10 per cent.
- The ability to deal with the economic consequences is improved by a favourable starting point for the Danish economy with a balanced boom, low public debt and high foreign assets.
- Danmarks Nationalbank supports the economic support measures adopted by the Danish Folketing so far. The relief packages can temporarily buoy up employment and businesses. This reduces the risk of a temporary decline in economic activity turning into a prolonged and severe downturn. Once the economic restrictions are phased out, more conventional fiscal stimulus will probably be required to underpin demand.

Scenarios for the Danish economy

Danmarks Nationalbank has postponed the publication of its semi-annual analysis, Outlook for the Danish economy, due to the impact of the coronavirus on significant parts of the activity in society.

It is not possible at this stage to estimate precisely what the impact of the pandemic on the economy will be using traditional macroeconomic models, among other things because these models are based on normal historical economic mechanisms. Instead, at the moment, economic developments are being driven by the outbreak of the virus, the containment measures and the resulting reaction of households and businesses.

In this analysis, Danmarks Nationalbank has therefore developed three scenarios which illustrate how hard Denmark may be hit and also what economic development may look like once the outbreak has been contained. These scenarios are subject to exceptionally high uncertainty. This applies both to the extent of the outbreak of the virus, the duration of the current measures in Denmark and in particular developments abroad.

The rapid global spread of the coronavirus has led authorities around the world to introduce measures to contain it and has caused changes in consumer behaviour. In a matter of weeks, the measures and the changed behaviour have led to a sharp slowdown in economic activity both globally and in Denmark. In China, where the outbreak started, there are signs that the spread of infection has come under control, and production and transport activity is slowly recovering. The same is true in several other countries in Asia. On the other hand, large parts of the European economy are being shut down, and the spread of infection is intensifying in the USA and several other countries.

Strong starting point for Danish economy before the corona outbreak

Before the outbreak of the coronavirus, Danish economy was characterised by a moderate boom without any significant domestic imbalances. Employment increased, but without significant pressure on the labour market and without loss of wage competitiveness.

Moreover, credit growth has been restrained. Households and businesses have spent their increasing incomes consolidating and had robust financial buffers before the outbreak. In addition, Denmark has a low level of public debt and high foreign assets. This means that there is a considerable buffer to withstand an economic downturn.

Many businesses and employees affected by the virus outbreak

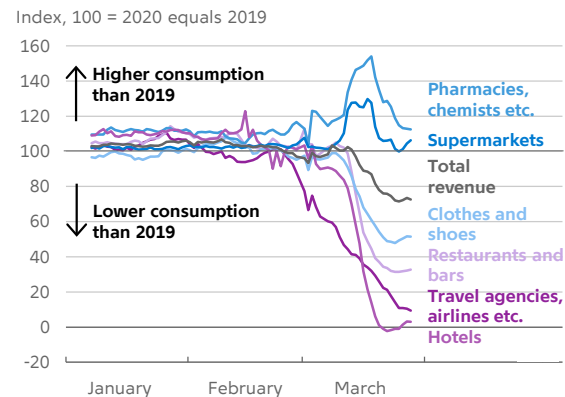
The outbreak means that both households and businesses have changed their behaviour. In addition, countries around the world, including Denmark, have introduced a number of measures to reduce the spread of infection in order to avoid a breakdown of the healthcare sector. In Denmark, the government introduced a series of temporary measures, for the time being in force until 13 April.

The measures and changed behaviour curb economic activity by limiting both supply and demand.

Restaurants, bars, shops, entertainment industries, airlines and travel agencies are directly affected by orders for temporary closure or travel restrictions. Businesses in other industries are indirectly affected. This applies, for example, to companies that provide input to directly affected industries. Production is further hampered both by disruptions in global

Payment card turnover down in many industries

Chart 1



Note: Payment card turnover covers Danish payment cards processed by Nets. Turnover is a seven-day moving average through 28 March 2020. Payment card turnover on 27 and 28 March have been adjusted for underreporting. The consumer goods categories are broadly defined and comprise related goods as well as services related to the goods. The switch from cash to card payment due to the risk of infection is likely to increase payment card turnover, especially in industries with a high cash share.

Source: Nets Denmark A/S and own calculations.

value chains, which reduce access to intermediate inputs produced abroad, and by a reduced labour supply due to quarantine, illness, closed schools and daycare etc. In addition, businesses have changed their workplace organisation, thereby hampering productivity.

Demand is also reduced. This is a direct consequence of encouraging citizens to stay at home in order to reduce the spread of infection, and also a result of consumers changing their behaviour. Danes may, for example, cut back on activities where they believe there is a risk of infection. Increased uncertainty may also lead consumers to postpone the purchase of durable goods. The decrease in consumption can be clearly seen in a significant decrease in payment card turnover across industries in Denmark, see Chart 1.

Danish exports are down due to a sharp fall in global demand. In addition, exports are also hampered by disruption in global value chains, just as it may be difficult getting the goods to the customers due to the challenges facing, in particular, air transport. A very significant reduction in total exports is therefore expected.

Steep drops in demand, liquidity challenges and increased uncertainty about the future may lead companies to postpone or abandon planned investments in new equipment or the expansion of production facilities.

Increased uncertainty about future earnings has further led to significant financial turmoil such as substantial falls in oil and share prices, rising risk premiums and high volatility in bond markets. The financial turmoil means that parts of global financial markets are malfunctioning with a resulting risk of financial instability. Central banks around the world have therefore reacted by e.g. including by increasing banks' access to liquidity, stepping up their purchases of both government and corporate bonds and setting up swap agreements that ensure access to currency.

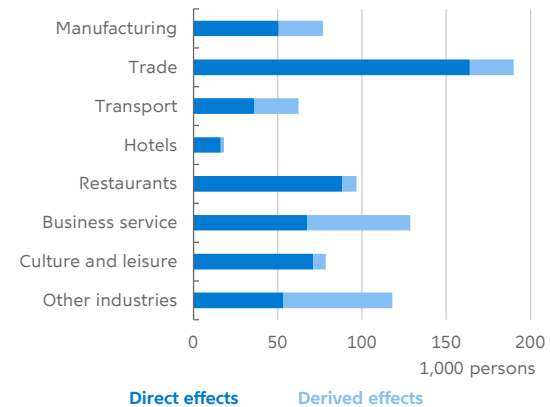
The sudden and significant slowdown in earnings can mean that businesses will have to lay off employees or close down altogether. Calculations show that more than one third of private jobs in Denmark may be affected either directly or indirectly, see Chart 2.

In order to prevent the temporary decline in economic activity from turning into a prolonged and severe downturn, the Danish Folketing has been very quick to adopt a number of relief packages. They aim to prevent the temporary closure of healthy businesses from leading to bankruptcy and a significant increase in unemployment. The relief packages contain two types of measures, liquidity-enhancing and cost-covering measures.

The liquidity of businesses is improved partly by deferring VAT and tax payments and partly through bank loans. State guarantee schemes have been introduced to make it easier for businesses to be approved for bank loans. In addition, Danish banks generally had a good capital position before the outbreak of the coronavirus. This reflects the fact that both the volume and the quality of capital have improved since the financial crisis. The considerable uncertainty about future economic developments means that the impact on the financial sector is also uncertain. Therefore, banks should act cautiously and retain last year's earnings. The release of the countercyclical capital buffer has put the banks at a greater distance from the capital requirements, and the other capital buffers allow for further impairment charges and losses. This strengthens their lending capacity. If the downturn is severe and prolonged,

More than a third of private jobs affected by the virus outbreak

Chart 2



Note: The number of affected jobs has been calculated using input-output calculations that allow inclusion of derived effects on activity in other industries from a shock to production or demand. Activity is estimated to drop by 80 per cent in a number of vulnerable service sectors, 45 per cent in retail and 5 per cent in other private sectors, while exports are estimated to be reduced by almost 25 per cent.

Source: Own calculations based on data from Statistics Denmark.

some banks will have problems and will require recovery and resolution.

Danmarks Nationalbank has implemented a number of measures to ensure banks' access to liquidity and maintain financial stability, see Box 1.

Access to liquidity particularly helps companies where consumer demand is deferred, which means that they may make up for some of the lost earnings later, such as with postponed purchases of durable goods.

Other companies, including restaurants, hotels and airlines, will not be able to make up for lost earnings later. In order to help these companies, a number of compensation schemes have been put in place to cover large parts of the costs of both wages and fixed costs, e.g. rent.

The measures and the flexibility in the Danish labour market mean that fewer of the affected employees will become unemployed. Many will stay on in their jobs owing to, among other things, wage compensation and agreements to take holiday and time off. More than 10,000 businesses have applied for wage compensation. However, it is inevitable that unemployment will rise. Since 11 March, the number of

Danmarks Nationalbank's coronavirus measures

Box 1

- Danmarks Nationalbank has set up an extraordinary lending facility which has been made available to the monetary policy counterparties. The facility provides banks with access to liquidity on favourable market conditions if the need arises. From 20 March, the monetary policy counterparties are allowed to take out one-week loans against collateral, and as of 27 March, they have also had access to obtaining three-month loans against collateral. With the possibility of obtaining a longer maturity of the loans in the extraordinary lending facility, the facility is also expected to support a well-functioning bond market. The interest rate on the extraordinary loans has been set at -0.35 per cent. The interest rate on the three-month facility is variable and follows the interest rate on extraordinary loans. The loans follow the monetary policy instruments with maturity on the last business day of the week. On 27 March, the monetary policy counterparties took out a total of kr. 82.4 billion in extraordinary one-week loans and kr. 4.1 billion in extraordinary three-month loans.
- On 19 and 20 March, Danmarks Nationalbank announced that it had set up a swap agreement with the Federal Reserve and reactivated a swap agreement with the European Central Bank. The agreements guarantee Danish financial institutions access to liquidity in dollars and euros. The swap agreement with the Federal Reserve

amounts to USD 30 billion and runs for at least six months. With the reactivation of the swap agreement with the European Central Bank, the maximum loan amount was increased from EUR 12 billion to EUR 24 billion. The agreement will run for as long as necessary. The result of the first dollar auction on 26 March 2020 was a total allotment of USD 2,825 million with a maturity of 81 days at a cut-off rate of 0.34 per cent and USD 25 million with a maturity of nine days at a cut-off rate of 0.32 per cent.

- Danmarks Nationalbank increased the certificates of deposits rate from -0.75 per cent to -0.60 per cent effective from 20 March 2020. The rate increase narrowed the monetary policy spread to the euro area from -0.25 percentage points to -0.10 percentage points. Monetary policy rates remain lower in Denmark than in the euro area. The interest rate adjustment was based on Danmarks Nationalbank's sale of currency.

In addition to these measures, Danmarks Nationalbank's central government debt administration has revised its target for the sale of domestic government bonds in 2020 from kr. 75 billion to kr. 125 billion, just as it has brought forward the opening auction of a new 30-year government bond and expanded the T-bill programme.

newly registered unemployed people has increased by around 50,000. By comparison, in the years 2015-2019, there were an average of around 20,000 newly registered unemployed people during the same period, i.e. 11 to 29 March.

If the downturn ends up being severe and prolonged, it may be necessary to introduce new and bigger relief packages. It is also expected that more traditional fiscal stimulus will be needed to support demand when the outbreak has been contained.

Sharp drop in economic activity this year

Activity in a number of industries will suffer greatly for a short period of time as a result of the virus outbreak, the resulting extensive measures and changed behaviour. Then, activity will gradually be restored once the spread of infection is under control, but it is uncertain how quickly this will happen and to what extent.

Based on a number of real-time indicators, e.g. payment card transactions, traffic indicators, Google searches, labour market indicators and expert assessments, it is assessed that the current measures and

changed behaviour will reduce activity by around 25 per cent while they are in effect. An extension of the current situation by just a few weeks therefore has a significant impact on overall growth in 2020. Macroeconomic developments are thus not driven by the normal economic mechanisms, but rather by the development of the virus outbreak. This makes it very difficult to produce a forecast for 2020.

Three scenarios have been set up to describe the impact on annual GDP growth: A mild scenario that assumes a rapid recovery, a central scenario with a more gradual recovery and a hard scenario with a slow recovery, see Box 2. In these scenarios, GDP will fall by between three and ten per cent in 2020, see Chart 3¹.

1. The size of the downturns has been quantified using an input-output model. This provides for a high level of detail, which can better capture the industry-specific shutdowns and the effects that are in the nature of a supply shock than with Danmarks Nationalbank's aggregated model, MONA.

The probability of domestic consumption recovering when the outbreak is under control is considered to be high, which is particularly due to the wage compensation scheme, which to some extent braces the purchasing power of households. In addition, the consumption ratio was already low before the outbreak, and households had a relatively strong buffer. However, developments are subject to considerable uncertainty, even if the current measures are relaxed, as it is currently not possible to separate the economic effects of changed behaviour from the virus-related measures.

Many countries did not start off with the same favourable conditions as Denmark. Less fiscal room for manoeuvre and households and firms with a smaller buffer make it harder for a number of countries to underpin demand. Moreover, some countries are hit harder by the virus outbreak. Consequently, the recovery in foreign demand is likely to be considerably slower than in Denmark. Lower foreign demand reduces employment, income and investment in Denmark – and thus also domestic demand.

In the central scenario, there is a gradual recovery first in Denmark and, with a delay, also abroad, as the outbreak comes under control and concerns about infection are alleviated. At the end of 2021, the output gap is estimated to remain negative, mainly due to weak demand abroad.

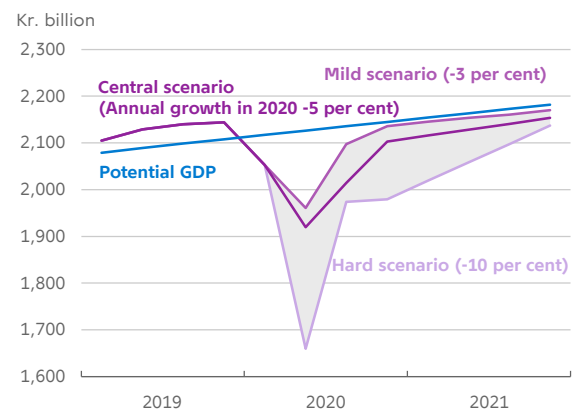
In the mild scenario, there is a rapid recovery both in Denmark and abroad, e.g. as a result of the rapid development of a vaccine or an effective treatment, and the output gap will close in the course of 2021.

In the hard scenario, the recovery takes a long time, e.g. as a result of the outbreak resurfacing again at the end of 2020, if the changes in behaviour turn out to be prolonged or, perhaps most importantly, if the decline abroad is prolonged and deep. In this case, there will continue to be a significant negative output gap at the end of 2021.

These scenarios are subject to exceptionally high uncertainty. This applies both to the extent of the outbreak of the virus, the duration of the current measures in Denmark and in particular developments abroad. The outbreak can lead to consumers changing their behaviour and businesses making adjustments to their production structures, which may prolong the time it takes for economies to recover.

Prospect of sharp decline in Danish activity

Chart 3



Note: See Box 2 for a description of the scenarios.
 Source: Own calculations.

Room for growing public debt

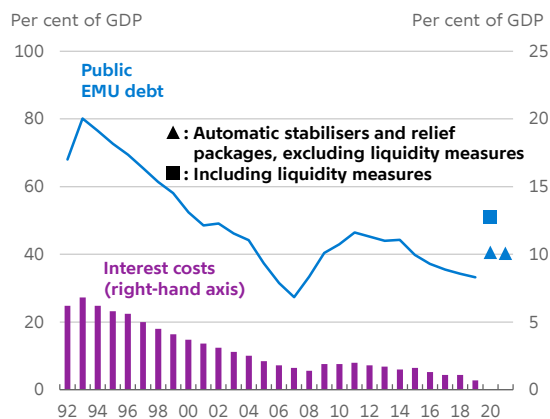
The cost of the relief packages is high. The Danish Ministry of Finance estimates that it could be as high as around three per cent of GDP, excluding the liquidity measures, which could further briefly increase gross public debt by up to ten per cent of GDP. In addition, public finances are further weakened primarily by reduced tax revenues, but also by increased expenditure on unemployment benefits.

If the outbreak is prolonged, or the relief packages are used to a greater extent than expected, the cost will be considerably higher. There is room for that too. Public debt is low, see Chart 4, and combined with the very low yield on government bonds, and the resulting low interest costs, this translates into a considerable scope for easing fiscal policy without calling into question the sustainability of public finances. As a rough estimate based on the central scenario, public debt could rise from 33 per cent of GDP in 2019 to just over 40 per cent in 2020. Part of the increase is due to GDP falling by 5 per cent. In 2021, the debt ratio will fall slightly as a result of strong GDP growth.

Without the relief packages, activity and employment will fall sharply and remain low for many years to come. The cost of the relief packages is thus much lower than if nothing is done.

Public debt will rise, but from a low level

Chart 4



Note: Public EMU debt was 33 per cent of GDP by the end of 2019. The Danish Ministry of Finance estimates that the cost of the relief packages introduced will be kr. 56.3 billion, while liquidity support may temporarily run up to kr. 287.4 billion. In addition, a low budget elasticity of 50 per cent is assumed, as the government's measures are likely to reduce the impact of the drop in GDP to the automatic stabilisers. Thus, as a rough estimate, the general government balance is reduced through the automatic stabilisers by kr. 75 billion. It is assumed that the entire deterioration of the public finances will be debt-financed. The projection excludes increased expenditure on interest payments as a result of fiscal measures.

Source: Statistics Denmark and own calculations.

Calculations of scenarios

Box 2

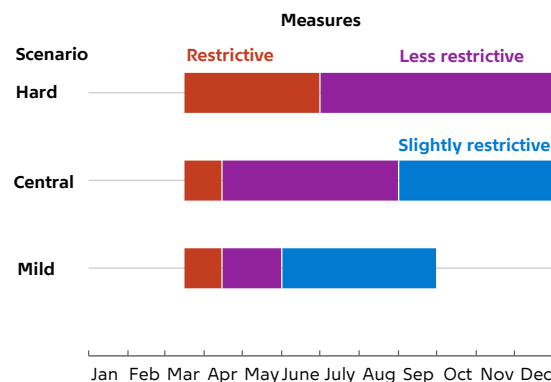
Three scenarios have been set up to illustrate and quantify the impact on economic activity. They are based on different assumptions about the scope and duration of measures to reduce the spread of infection as well as the consequences abroad. Estimates of the activity impact of three different sets of measures are provided:

- *Restrictive measures.* Current measures implemented in Denmark and abroad. Large parts of the economy have been completely shut down. Minimal travel activity. Large drop in foreign demand.
- *Less restrictive measures.* Gradual relaxation of some of the measures in Denmark, i.e. large parts of the economy are affected, but not necessarily completely closed. Measures around the world (US, UK and other countries) will be eased later – and several countries will be affected by derived effects.
- *Slightly restrictive measures.* Almost return to normality in Denmark and abroad. This could happen, for example, if an effective vaccine or treatment is developed quickly.

Three scenarios:

- *The central scenario* assumes that the restrictive measures will remain in place until after Easter, which is what the government has currently announced. They will then be partially relaxed until September, after which the slightly restrictive measures will take over for the rest of the year.
- *The mild scenario* assumes that the restrictive measures will remain in place until after Easter, which is what the government has currently announced. They will then be partially relaxed until June, after which the slightly restrictive measures will take over until the end of October.
- *The hard scenario* assumes that the restrictive measures will be maintained until the end of June. They will then be partially relaxed until the end of the year.

The scenarios illustrate that growth in 2020 is largely determined by how quickly the outbreak is contained and the measures are eased, i.e. when the different sets of restrictions are abandoned and new measures take over. This also applies abroad.



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The analysis consists of a Danish and an English version. In case of doubt regarding the correctness of the translation the Danish version is considered to be binding.

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