

# Monetary Policy Report

February 2020





## Monetary Policy Report

The Riksbank's Monetary Policy Report is published five times a year. The report describes the deliberations made by the Riksbank when deciding what is an appropriate monetary policy.<sup>1</sup> The report includes a description of the future prospects for inflation and economic activity based on the monetary policy that the Riksbank currently considers to be well-balanced.

The purpose of the Monetary Policy Report is to summarise background material for monetary policy decisions, and to spread knowledge about the Riksbank's assessments. By publishing the reports, the Riksbank aims to make it easier for external parties to follow, understand and assess its monetary policy.

The Riksbank must submit a written report on monetary policy to the Riksdag (Swedish Parliament) Committee on Finance at least twice a year (see Chapter 6, Article 4 of the Sveriges Riksbank Act (1988:1385)). During the spring, special material is submitted as a basis for the evaluation of monetary policy. During the autumn, the Monetary Policy Report is submitted as an account of monetary policy.

The Executive Board made a decision on the Monetary Policy Report on 11 February 2020. The report may be downloaded in PDF format from the Riksbank's website [www.riksbank.se](http://www.riksbank.se), where more information about the Riksbank can also be found.

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<sup>1</sup> See "Monetary policy in Sweden" on the next page for a description of the monetary policy strategy and what can be regarded as an appropriate monetary policy.

# Monetary policy in Sweden

## MONETARY POLICY STRATEGY

- According to the Sveriges Riksbank Act, the objective for monetary policy is to maintain price stability. The Riksbank has defined this as a 2 per cent annual increase in the consumer price index with a fixed interest rate (CPIF).
- At the same time as monetary policy is aimed at attaining the inflation target, it shall support the objectives of general economic policy for the purpose of attaining sustainable growth and a high level of employment. This is achieved through the Riksbank, in addition to stabilising inflation around the inflation target, endeavouring to stabilise production and employment around paths that are sustainable in the long term. The Riksbank therefore conducts what is generally referred to as flexible inflation targeting. This does not mean that the Riksbank neglects the fact that the inflation target is the overriding objective.
- It takes time before monetary policy has a full impact on inflation and the real economy. Monetary policy is therefore guided by forecasts for economic developments. The Riksbank publishes its own assessment of the future path for the repo rate. This repo-rate path is a forecast, not a promise.
- In connection with every monetary policy decision, the Executive Board makes an assessment of the repo-rate path needed, and any potential supplementary measures necessary, for monetary policy to be well-balanced. The trade-off is normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy.
- There is no general answer to the question of how quickly the Riksbank aims to bring the inflation rate back to 2 per cent if it deviates from the target. A rapid return may in some situations have undesirable effects on production and employment, while a slow return may weaken confidence in the inflation target. The Riksbank's general ambition has been to adjust monetary policy so that inflation is expected to be fairly close to the target in two years' time.
- To illustrate the fact that inflation will not always be exactly 2 per cent each month, a variation band is used that spans 1 to 3 per cent, which captures around three quarters of the historical monthly outcomes of CPIF inflation. The Riksbank always strives for 2 per cent inflation, regardless of whether inflation is initially inside or outside the variation band.
- According to the Sveriges Riksbank Act, the Riksbank's tasks also include promoting a safe and efficient payment system. Risks linked to developments in the financial markets are taken into account in the monetary policy decisions. With regard to preventing an unbalanced development of asset prices and indebtedness however, well-functioning regulation and effective supervision play a central role. Monetary policy only acts as a complement to these.
- In some situations, as in the financial crisis 2008–2009, the repo rate and the repo-rate path may need to be supplemented with other measures to promote financial stability and ensure that monetary policy is effective.
- The Riksbank endeavours to ensure that its communication is open, factual, comprehensible and up-to-date. This makes it easier for economic agents to make good economic decisions. It also makes it easier to evaluate monetary policy.

## DECISION-MAKING PROCESS

The Executive Board of the Riksbank usually holds five monetary policy meetings per year at which it decides on monetary policy. A Monetary Policy Report is published in connection with these meetings. Approximately two weeks after each monetary policy meeting, the Riksbank publishes minutes from the meeting, in which it is possible to follow the discussion that led to the current decision and to see the arguments put forward by the different Executive Board members.

## PRESENTATION OF THE MONETARY POLICY DECISION

The monetary policy decision is presented in a press release at 9:30 a.m. on the day following the monetary policy meeting. The press release also states how the individual Executive Board members voted and provides the main motivation for any reservations entered. A press conference is held on the day following the monetary policy meeting.

# Contents

## **CHAPTER 1 – Monetary policy considerations 5**

Global growth close to normal levels 5

Current monetary policy 7

Uncertainty and risks 10

**ARTICLE – Inflation not fully comparable between countries 14**

## **CHAPTER 2 – Financial conditions 17**

International developments 17

Developments in Sweden 20

**ARTICLE – What has happened to the financial conditions since the autumn of 2018? 23**

## **CHAPTER 3 – The current economic situation 26**

Inflation in Sweden 26

Global and Swedish economic activity 28

## **CHAPTER 4 – Economic outlook and inflation prospects 32**

International outlook 32

Sweden 35

**Tables 40**



## CHAPTER 1 – Monetary policy considerations

Growth abroad has slowed towards more normal levels. Inflation is still subdued, especially in the euro area, and global interest rates continue to be low. After several years of high economic growth, the economic situation in Sweden has become more balanced. Growth is expected to be modest this year but increase gradually from the end of 2020 as a result of stronger domestic demand. As the economy has entered a phase of slower growth, development on the labour market has also softened. During the forecast period, however, the employment rate remains at its current level, which is high from both a historical and an international perspective.

Inflation has been close to 2 per cent since the beginning of 2017, but decreased significantly in the summer of 2019 as a result of falling energy prices. Energy prices will continue to hold back inflation in 2020. Thereafter, inflation will rise gradually towards 2 per cent.

Developments since the monetary policy meeting in December have largely been as the Riksbank expected and the revisions of the economic outlook and inflation prospects in the slightly longer term are minor. The Executive Board has therefore decided to leave the repo rate unchanged at zero per cent, in line with the forecast from December. The expansionary monetary policy adopted in this report is judged to create the conditions for balanced economic activity and close-to-target inflation. The forecast for the repo rate is the same as in December and indicates that the repo rate will be unchanged during almost the entire forecast period. The monetary policy underlines that the Riksbank is safeguarding the inflation target's role as anchor for price-setting and wage formation.

### Global growth close to normal levels

#### The global decline has slowed

Since 2017, GDP growth abroad has slowed down towards more normal levels. Global industrial activity has weakened, which, in combination with uncertainty regarding trade relations in different parts of the world, has dampened both companies' willingness to invest and trade, especially in countries like Germany and the United States. In recent months, however, various growth indicators have stabilised. The risk of the decline in the manufacturing industry also having significantly negative consequences for the service sector has lessened. Consumer confidence is relatively high and the labour market continues to develop strongly. In addition, some of the uncertainty that has weighed on global development for some time has decreased somewhat. For example, the United States and China have signed a "phase one" agreement aimed at improving trade relations. This year and in the years to come, GDP abroad is expected to grow approximately in line with, or slightly below, the historical average.

It is difficult to estimate the economic consequences of the coronavirus outbreak in China, as it is not currently possible to predict the spread of the epidemic going forward. In the forecasts, the epidemic is expected to reduce growth this year,

Table 1.1.

Important factors for monetary policy
Some recovery in international growth, rising global inflation
Continued expansionary financial conditions abroad and in Sweden. Continued low global interest rates.
After several years of high economic activity, the economic situation in Sweden has become more balanced.
Inflation will continue to be dampened by energy prices in 2020 but will then rise again towards the inflation target. The overall picture for long-term inflation expectations is that they are close to 2 per cent.
<b>Conclusion:</b> Expansionary monetary policy is required for a long time to ensure close-to-target inflation. The repo rate is left unchanged at zero per cent and the forecast indicates that it will remain unchanged for almost the entire forecast period.

Table 1.2.

Important forecast revisions
Growth in Sweden is revised upwards as a result of slightly higher exports, public consumption and housing investment.
Lower energy prices and a weaker krona during the forecast period.
Inflation forecast revised down primarily as a result of lower electricity and fuel prices in the year ahead.



primarily in China, but some contagion of economic effects is expected to other parts of the global economy. The Riksbank is following developments and, where necessary, adjusting its forecasts as more information becomes available.

In recent years, KIX-weighted inflation abroad has been around 2 per cent but inflation has been significantly lower in some regions. Despite a clear strengthening of economic activity in the euro area, HICP inflation has continued to be lower than the European Central Bank’s (ECB’s) target of below, but close to, 2 per cent. That the pass-through from demand to consumer prices has been weaker than before the financial crisis is a global phenomenon. There is no comprehensive explanation, however. Various structural factors, such as increased globalisation and digitalisation, and institutional changes are often mooted as possible explanations for weak price and wage development. Backward-looking inflation expectations has also been mentioned as reason for why it takes time before rising cost pressures have a clear impact on consumer prices.<sup>2</sup>

Low inflation and apprehension about a more significant slowdown in global economic activity caused several central banks abroad to make monetary policy more expansionary up until the autumn of 2019, and global interest rates fell on a broad front. Improved sentiment on financial markets has contributed to a slight increase in government bond yields over the past six months and to equity prices continuing their upward trend. Financial conditions are still deemed expansionary and to be providing support to the global economy. In the period ahead, rising costs are expected to be passed on to consumers to a slightly greater extent. KIX-weighted inflation abroad is expected to rise to just over 2 per cent in 2022.

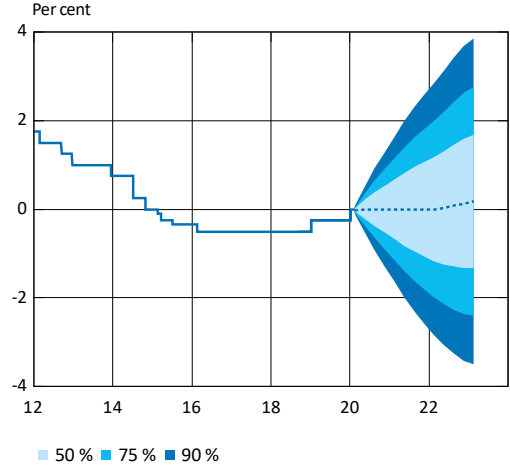
**Balanced economic situation in Sweden**

After several years of good growth and high resource utilisation, growth in Sweden softened in the second half of 2018 and was modest in 2019 (see Figure 1:2). Growth is also expected this year to be lower than previously and economic activity will continue to slow. This is due in part to the Swedish export market growing at a comparatively slow rate and to a decline in housing construction. Growth will increase gradually from the end of 2020 as a result of rising domestic demand. This development implies a balanced economic situation in which resource utilisation is close to a normal level during the entire forecast period.

In step with the economy entering a phase of slower growth, labour demand has softened. Last year, employment increased at a slower pace than before while unemployment rose slightly. A further softening of employment growth is expected over the coming year. But the labour force is also increasing more slowly and the rise in unemployment will therefore be modest. Despite lower employment growth, the employment rate will remain at

<sup>2</sup> See E. Bobeica et al., 2019, “The link between labor cost and price inflation in the euro area”, ECB Working Paper Series No 2235 and Y. Abdih et al., 2018, “Understanding Euro Area Inflation Dynamics: Why So Low for So Long?”, IMF Working Paper WP/18/188.

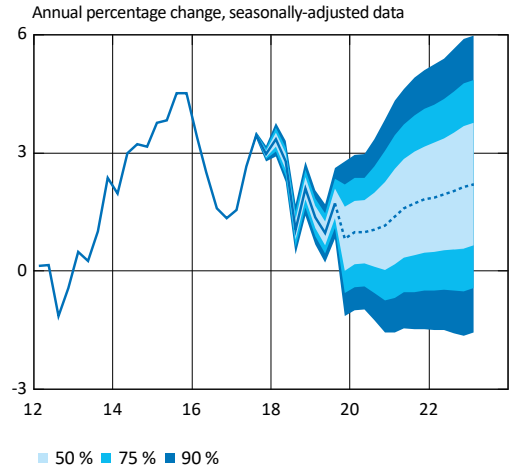
**Figure 1:1. Repo rate with uncertainty bands**



Note. The uncertainty bands for the repo rate are based on the Riksbank’s historical forecasting errors and the ability of risk-premium adjusted forward rates to forecast the future repo rate for the period 1999 up to the point when the Riksbank started to publish forecasts for the repo rate during 2007. The uncertainty bands do not take into account the fact that there may be a lower bound for the repo rate. Outcomes are daily rates and forecasts refer to quarterly averages.

Source: The Riksbank

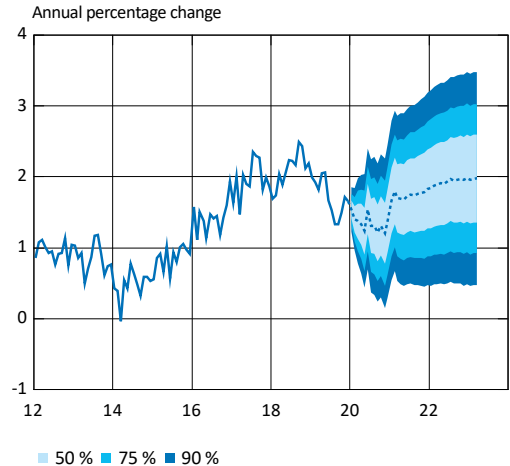
**Figure 1:2. GDP with uncertainty bands**



Note. The uncertainty bands are based on the Riksbank’s historical forecasting errors. The reported outcomes for GDP are also uncertain, as the National Accounts figures are revised several years after the first publication.

Sources: Statistics Sweden and the Riksbank

**Figure 1:3. CPIF with uncertainty bands**



Note. The uncertainty bands are based on the Riksbank’s historical forecasting errors.

Sources: Statistics Sweden and the Riksbank



its current level, which is high from both a historical and an international perspective.

**Inflation dampened by low energy prices this year**

Inflation has been close to 2 per cent since the beginning of 2017 (see Figure 1:3). In 2019, the rate of increase for energy prices decreased, leading to inflation falling back. Inflation has risen again in recent months and in December, CPIF inflation was measured at 1.7 per cent. The variation in energy prices continues to affect inflation. In 2020, falling electricity and fuel prices will hold down CPIF inflation (see Figure 1:4). The expected decline in the effects of the weak krona on price increases is also having a dampening effect on inflation.

Adjusted for energy prices, inflation increased in 2019. The measures of underlying inflation, which exclude or reduce the significance of widely fluctuating prices, indicate that more persistent inflation has been relatively stable over the past year and is just under 2 per cent. This suggests that inflation will be close to 2 per cent once the effects of low energy prices subside.<sup>3</sup> Several factors will help to keep up underlying inflation in the period ahead. Demand in the Swedish economy has been high for a long period and domestic demand is expected to strengthen again towards the end of the forecast period. Wage growth is expected to rise somewhat and company costs are increasing. Underlying inflation abroad, especially in the euro area, is expected to rise somewhat during the forecast period. Overall, the conditions remain in place for inflation to be close to target.

**Current monetary policy**

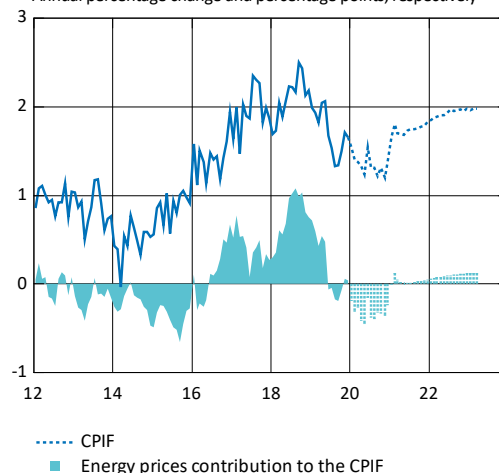
**The picture of economic developments is unchanged**

Global growth has slowed in line with the Riksbank’s forecasts. Indicators reflecting companies’ expectations of the economic development have stabilised and, if anything, the prospects over the short term appear slightly brighter. The Riksbank’s forecast assumes that uncertainty will gradually decrease in the period ahead and the economic outlook will become increasingly stable. Although the coronavirus has recently increased unease, overall sentiment on financial markets has nevertheless improved slightly since December.

Growth in Sweden is also expected to be slightly higher compared with the previous assessment. The Government has announced that more funding will be allocated to municipalities and regions in the spring Fiscal Policy Bill, which will lead to slightly higher public consumption this year. Optimism on the housing market has strengthened and the forecast for housing investment has therefore been revised up towards the end of the forecast period.

At the same time, the forecast for inflation has been revised down for the next 12 months (see Figure 1:5). This is mainly a

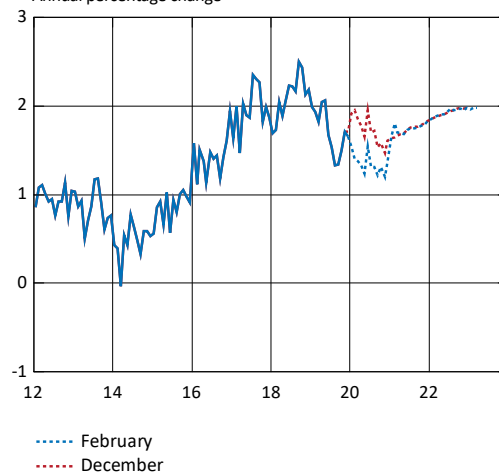
**Figure 1:4. CPIF and contribution from energy prices**  
Annual percentage change and percentage points, respectively



Note. The contribution of energy prices to the CPIF in the forecast is calculated as the annual percentage change in energy prices multiplied by their current weight in the CPIF.

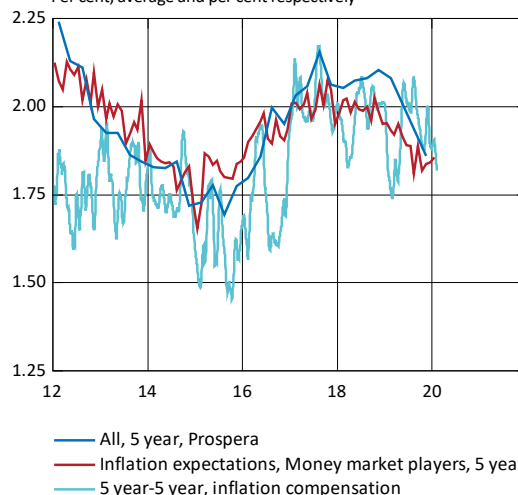
Sources: Statistics Sweden and the Riksbank

**Figure 1:5. CPIF**  
Annual percentage change



Sources: Statistics Sweden and the Riksbank

**Figure 1:6. Long-term inflation expectations**  
Per cent, average and per cent respectively



Note. Inflation compensation refers to a 5-year period starting in 5 years’ time, calculated on the basis of bond yields, 15 days moving average. Expectations from Prospera refer to the CPI.

Sources: Kantar Sifo Prospera and the Riksbank

<sup>3</sup> See the article “Why measures of core inflation?” in Monetary Policy Report, October 2018.

result of lower energy prices during 2020, rather than factors that reflect more underlying price pressures. The krona exchange rate is expected to be weaker during the forecast period, contributing on the margin to higher inflation. On the whole, the picture for the development of inflation is the same as in December and the assessment is that inflation will increase somewhat from 2021 and thereafter be close to 2 per cent.

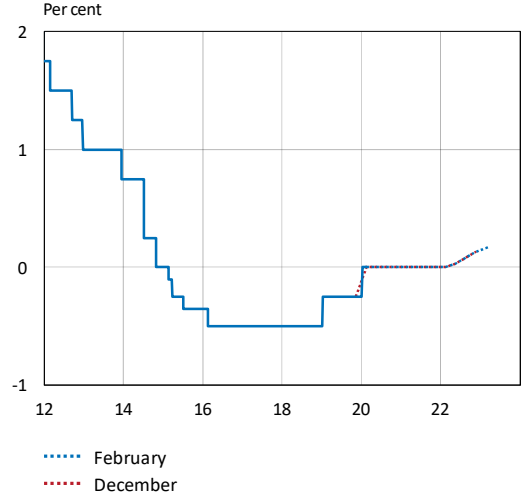
The overall picture for long-term inflation expectations is that they have been close to 2 per cent for a few years. According to Prospera’s survey, inflation expectations five years ahead fell back somewhat last year. Over the last few months, however, the expectations of money market participants have been relatively stable, slightly below 1.9 per cent (see Figure 1:6). According to price-setting on financial markets, expectations have risen compared with the beginning of 2019.

Developments since the monetary policy meeting in December have largely been as the Riksbank expected and the revisions of the economic outlook and inflation prospects in the slightly longer term are minor. The Executive Board has therefore decided to leave the repo rate unchanged at zero per cent, in line with the forecast from December (see Figure 1:7).

**Low interest rate for a long time to ensure close-to-target inflation**

Global interest rates have fallen to exceptionally low levels over the past few decades, partly as a result of demographic changes

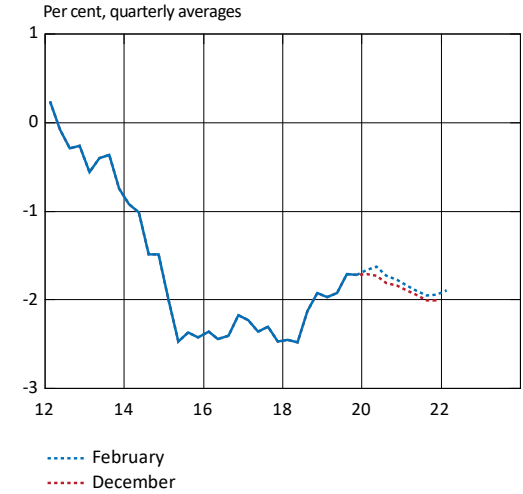
**Figure 1:7. Repo rate**



Note. Outcomes are daily data and the forecasts refer to quarterly averages.

Source: The Riksbank

**Figure 1:8. Real repo rate**



Note. The real repo rate is the Riksbank’s expected real interest rate, calculated as a mean value of the Riksbank’s repo rate forecast for the year ahead minus the inflation forecast (CPIF) for the corresponding period. Outcomes are based on the latest forecasts at that time.

Source: The Riksbank

that have contributed to a greater propensity to save.<sup>4</sup> Against this background, the Riksbank and many other central banks have recently cut their policy rates to historically low levels in order to provide sufficient stimulus to keep inflation close to target. Several central banks have also supplemented low policy rates with substantial purchases of government bonds. In the years immediately after the financial crisis, there was an expectation among both central banks and market participants that the period of very low interest rates would be limited. Gradually, but particularly clearly in the past year, these expectations have shifted towards interest rates remaining very low for a long time. At present, market expectations indicate that policy rates among the major central banks will remain unchanged, or be even lower, for several years.

Expectations of long-term low interest rates around the world also affect the conditions for Swedish monetary policy. The Riksbank has successively adapted monetary policy to provide support to the Swedish economy and inflation in an uncertain world and in recent years, development has been good with inflation close to 2 per cent, high growth and a strong labour market.

In the long term, it is reasonable to expect the repo rate to be higher than zero per cent. However, low interest rates globally, in combination with uncertainty regarding economic and inflation development, mean that the most likely scenario is an unchanged interest rate for almost the entire forecast period. The forecast for the repo rate is the same as in December.

An interest rate of zero per cent, in combination with large holdings of government bonds, and thereby a large liquidity surplus in the banking system, means that monetary policy remains expansionary. This is expected to create the conditions for a balanced economy and close-to-target inflation. The real repo rate has been negative for the last eight years and is expected to continue to be negative during the forecast period (see Figure 1:8).

If the economic outlook and inflation prospects were to change, monetary policy may need to be adjusted. Improved prospects could justify a higher interest rate. But if the economy were instead to develop more weakly than forecast, the Executive Board could both cut the repo rate and take other measures to make monetary policy more expansionary.

### Government bond purchases to continue

The repo rate is the primary tool for monetary policy. But, as a complementary monetary policy measure, the Riksbank has also purchased a significant volume of nominal and real Swedish government bonds. The purchases have caused banks' liquidity

### Side-effects of monetary policy

In the period 2015–2019, the repo rate was negative, at the same time as the Riksbank carried out comprehensive purchases of government bonds. This is an unusual monetary policy in historical perspective. The expansionary monetary policy has contributed to close-to-target inflation and good economic development. In the Riksbank's latest Business Survey, four out of five companies consider that the net effect of the low rates over the last five years has been positive for their operations overall.<sup>5</sup>

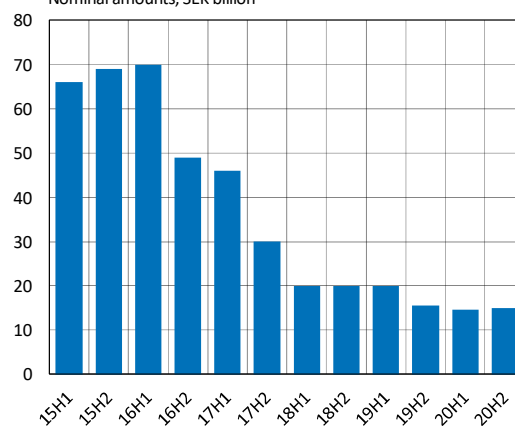
Even though the repo rate is now at zero per cent, there are other interest rates that are still negative. The Riksbank continuously analyses the possible side-effects of monetary policy and the assessment so far is that the low and periodically negative rates, coupled with government bond purchases, have worked well and had a positive impact on the economy.

But low interest rates can create incentives for excessive risk-taking. Assets may become overvalued, risk may be incorrectly priced and the indebtedness of various agents may increase in an unsustainable manner. The functioning of financial markets can also be affected in an undesirable way. However, the markets have been able to manage the period with a negative repo rate relatively smoothly. On the other hand, the Riksbank's purchases of government bonds have led to a large proportion of the stock not being available for trading on the market. According to the Financial markets survey published by the Riksbank in December, almost half of the respondents think that liquidity on the government bond market is poor or very poor.<sup>6</sup> On the other hand, other markets where the participants can manage interest rate risk are considered to be functioning well. The picture is approximately the same as in the survey in June.

Banks' lending capacity is considered not to have been affected in any decisive way by the low interest rates. The profitability of the major Swedish banks has been relatively high and stable in recent years and is still good.

The Riksbank's assessment is that the side-effects of monetary policy have so far been manageable for the various economic agents.

**Figure 1:9. The Riksbank's purchases of government bonds**  
Nominal amounts, SEK billion



Source: The Riksbank

<sup>4</sup> See, for instance, L. Rachel and T. D. Smith, 2017, "Are Low Real Interest Rates Here to Stay?", *International Journal of Central Banking*, vol. 13(3) and M. King and D. Low, 2014, "Measuring the 'World' Real Interest Rate", NBER Working Paper Series 19887.

<sup>5</sup> See the article "Positive with low interest rates but negative rates feel counter-intuitive" in the Riksbank's Business Survey November 2019.

<sup>6</sup> See Financial markets survey, autumn 2019.

surplus in relation to the Riksbank to rise sharply to about SEK 435 billion, equivalent to just under 10 per cent of GDP.

At the end of January, total holdings of government bonds amounted to about SEK 336 billion as a nominal amount. To retain an appropriate level of bond holdings and the Riksbank's presence on the market, the Executive Board decided in April that, from July 2019 to December 2020, the Riksbank will purchase government bonds for a total nominal amount of SEK 45 billion. During the second half of 2019, purchases amounted to just over SEK 15 billion and they are planned to continue at approximately the same level in 2020 (see Figure 1:9). The purchases mean that the Riksbank maintains holdings close to the average level since the beginning of 2018, when net purchases were concluded (see Figure 1:10).

The Executive Board will determine in good time whether it is appropriate to continue purchasing government bonds after December 2020 and communicate this plan. In the long term, the holdings are expected to be smaller than they are today. The Riksbank will adapt the details regarding the purchases of government bonds in view of how the economy develops.

## Uncertainty and risks

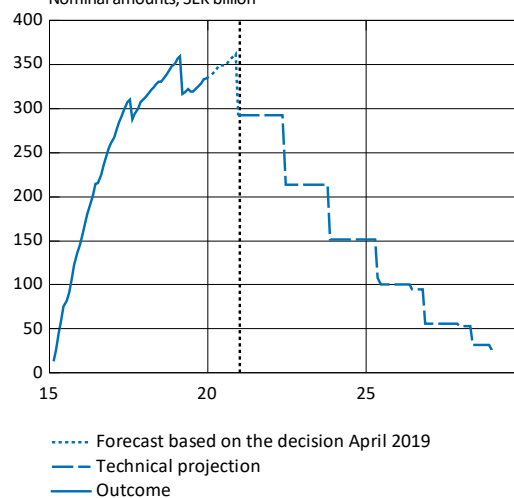
Forecasts of future economic development are always uncertain, as illustrated by the uncertainty bands in Figures 1:1–1:3. In the Riksbank's forecasts, the risks of both stronger and weaker development are, in principle, the same. It is difficult, however, to assess the likelihood of future events and their potential consequences. Neither is it obvious how monetary policy should relate to uncertainty and risks. There are occasions on which monetary policy deliberations may wish to pay particular attention to certain risks, the consequences of which may have a severe impact on economic development. But, on other occasions, it may be necessary to await more information before adjusting monetary policy.

### Uncertainty about economic development abroad

Sweden is a small, open economy, meaning that developments abroad have considerable significance. Several uncertainty factors have characterised global economic development in recent years, but in the near term, there are signs that the uncertainty has abated slightly.

The risk of the last two years' weak industrial production, especially in the euro area, spreading to other parts of the economy has decreased somewhat. For example, confidence indicators for the service sector in the euro area are still close to a historical average and households are optimistic (see Figures 3:8 and 3:11). In addition, the ongoing trade conflict between the United States and China, which has created uncertainty over the development of world trade and global growth, has eased. In January, the United States and China signed a "phase one" agreement, which resolves several short-term issues regarding trade between the two countries (see the box "New trade deal

**Figure 1:10. The Riksbank's holdings of government bonds**  
Nominal amounts, SEK billion



Note. Forecast up until December 2020, after that a technical projection with the assumption that no further purchases are made. The vertical line marks the shift between the forecast and technical projection.

Source: The Riksbank

between the United States and China” in Chapter 4). But many issues remain and another flare-up of the conflict cannot be ruled out. Furthermore, the risk of new or increased tariffs on US imports from the EU has risen following statements by the US representative on trade issues. This could have repercussions on foreign trade and also on the investment willingness in Europe and Sweden. In addition, uncertainty remains as regards the future relationship between the United Kingdom and the EU, which may affect global economic activity.

Developments in Italy also affect the international risk outlook. Significant challenges still remain regarding, for example, public indebtedness and the stability of the banking sector.

The coronavirus outbreak in China is another uncertainty factor (see the box “Novel coronavirus in China” in Chapter 4). At present, it is difficult to gain an overview of the extent of the virus epidemic and its economic consequences. The Riksbank’s forecast assumes certain effects of the epidemic but growing unease and further spread of the virus may lead to these being greater. It is a question of both reactions on financial markets and growth effects. The significance of China for the global economy has grown significantly and it is not possible to rule out the possibility of China and other Asian economies, as well as other parts of the world, being effected to an even greater extent by lower consumption, missed deliveries, production stoppages and reduced trade.

#### Sudden fall in equity prices may affect growth prospects

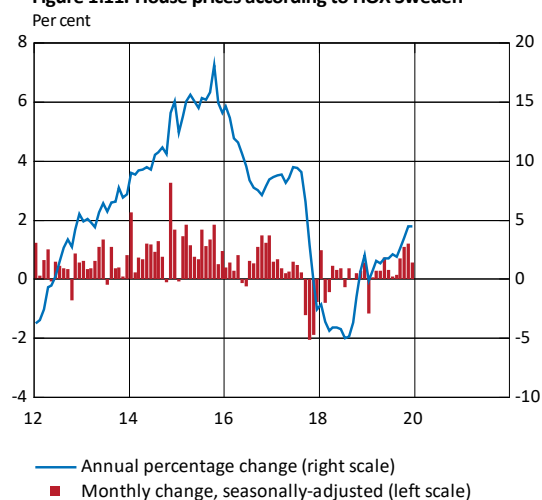
During the period of low global interest rates, investors have turned to riskier asset types, which, among other things, has led to rising equity prices. The price increase has been particularly apparent in the United States. The currently high valuations can in part be explained by the low interest rates. But there is nevertheless cause for vigilance as a substantial and sudden decline in US equity prices going forward could spread to other markets and contribute to greater uncertainty among economic agents globally. Ultimately, it could have an effect on growth prospects both abroad and in Sweden.

#### Question marks about domestic demand

Household consumption in Sweden has recovered over the past six months. However, consumer confidence is still weaker than its historical average (see Figure 3:12). According to the Riksbank’s forecast, growth in consumption will increase at a more normal pace in the period ahead while the saving ratio will gradually fall. Unless households grow more optimistic, there is a risk of the upturn in consumption petering out.

Future developments on the housing market also constitute an uncertainty factor for the domestic economic outlook. Optimism has indeed increased since the autumn of 2019, manifested in, among other things, rising growth in housing prices (see Figure 1:11). It is the Riksbank’s assessment that housing prices will continue to rise in the period ahead, approximately in line with disposable household income, and

Figure 1:11. House prices according to HOX Sweden



Sources: Valueguard and the Riksbank

that the decline in housing investment will slow in 2020. If the housing market continues to strengthen, both housing prices and housing investment may develop more strongly than in the Riksbank's forecast. If housing prices were to fall sharply during the forecast period, the forecasts for domestic demand would instead need to be revised down.

### Uncertainty surrounding the inflation forecast

The risks affecting Swedish growth prospects could also lead to a different outcome for inflation than in the Riksbank's forecast. However, even if the economic outlook were largely to be realised, inflation may develop in an unexpected direction. In the euro area, which is Sweden's most important trading partner, inflation has shown markedly weak development, despite steadily falling unemployment and a rising rate of increase in both wages and unit labour costs.

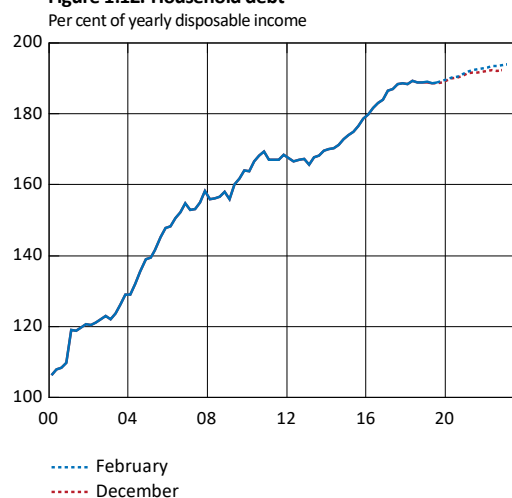
The Riksbank's assessment is that rising cost pressures will eventually make some impression on inflation in the euro area, so that it rises during the forecast period. But bearing in mind developments in recent years, there is a risk of inflation being lower than in the forecast. Long-term inflation expectations in the euro area, measured by market pricing and surveys, are still at low levels (see Figure 2:5), suggesting that market participants still perceive inflation pressures to be weak.<sup>7</sup>

The relationship between inflation in Sweden and abroad is complicated and depends on the driving forces behind the fluctuations. However, it is reasonable to assume that lower inflation abroad affects Swedish inflation negatively via a lower rate of increase in import prices.

A link between inflation abroad and in Sweden is the development of the krona exchange rate. The Riksbank's forecast implies that the krona will strengthen in the longer term compared with its current level, which will dampen cost pressures via imported goods during the forecast period. But exchange rate forecasts are generally very uncertain, as is the pass-through of the exchange rate to inflation.<sup>8</sup>

Another source of uncertainty is domestic cost pressures. They are normally measured in terms of unit labour costs, i.e. wages in relation to productivity. In recent years, wage increases have been low despite high resource utilisation. But productivity has also risen slowly. Unit labour costs have therefore increased relatively quickly, despite the modest wage growth. The uncertainty surrounding wages and productivity adds to the difficulty of assessing future domestic cost pressures.

**Figure 1:12. Household debt**



Note. Households' total debts as a share of their disposable income totalled over the past four quarters.

Sources: Statistics Sweden and the Riksbank

<sup>7</sup> See F. Corsetto, S. Neri and A. Tagliabracchi, 2019, "Anchored or de-anchored? That is the question", Banca d'Italia Occasional paper 516.

<sup>8</sup> See C.-J. Belfrage, V. Corbo and S. Ingves, 2019, "Perspective on the krona, inflation and monetary policy", *Economic Commentaries* No. 13, Sveriges Riksbank. See also V. Corbo and P. Di Casola, 2018, "Conditional exchange rate pass-through: evidence from Sweden", Sveriges Riksbank working paper series, no. 352 and R. Rubene and I. Colavecchio, 2020, "Non-linear exchange rate pass-through to euro area inflation: a local projection approach", ECB Working paper series no. 2362.

**The structural problems on the Swedish housing market must be managed**

Despite housing prices starting to rise again, the household's debt growth has slowed and now stands at about 5 per cent a year. The Finansinspektionen amortisation requirements have helped to slow indebtedness. Debt growth slows slightly more in the forecast as average housing price growth in recent years has been modest. Debt as a percentage of disposable household income, the debt-to-income ratio, will increase to about 194 per cent at the end of the forecast period (see Figure 1:12).

Many years of sharply increased indebtedness have amplified vulnerabilities in the Swedish economy and made households sensitive to both price falls on the housing market and rising interest expenses. This development is due above all to the structural problems on the housing market and to the falling trend in real interest rates in Sweden and abroad. But in part the Riksbank's expansionary monetary policy has also contributed.

To address the fundamental structural problems, extensive reform measures are required in housing and tax policy. Examples of feasible measures include reviewing the regulations regarding the new production of housing, as well as the rent-setting system, the taxation of capital gains from housing property sales and also property tax and tax relief on interest expenditure.



## ARTICLE – Inflation not fully comparable between countries

It can be difficult to compare the development of inflation in different countries as the methods used to measure consumer prices differ. One of these differences concerns quality adjustments, which are an important element in the calculation of all consumer price indices. The measured price movements of the products that are often replaced, and that thus need to be adjusted for quality, differ markedly from country to country. It may be difficult to understand the differences as many of the products are similar and are traded across borders. The differences in measurement methods illustrate the need for further international coordination between statistical authorities. Sweden is one of the countries in which measured prices for quality-adjusted goods have developed relatively slowly. The result in this article does not mean that the Riksbank's inflation target should be changed or that the Riksbank should have conducted a different monetary policy.

It is well known that it can be difficult to compare macroeconomic measures from country to country and consumer price statistics are no exception. Several factors contribute towards making the consumer price index (CPI) difficult to compare. Differences in index construction, the composition of the consumption baskets and the way housing costs are measured are examples of such factors. One further aspect is that quality adjustments are not performed in the same way in different countries. The challenges inherent in quality adjustment have long been known, but this article illustrates how different methods can give rise to major differences in measured price movements for some goods and that quality adjustments are greater in Sweden than in many other countries.<sup>9</sup>

### Quality adjustments are an important element of all price indices

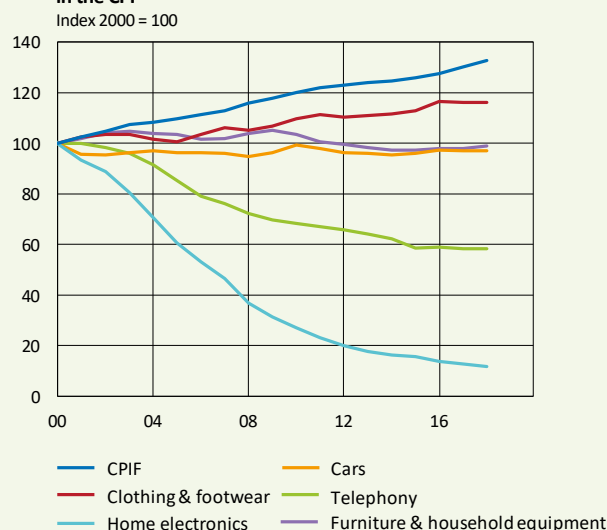
Some form of quality adjustment is almost always performed when a price index is calculated. A consumer price index aims to measure 'pure' price movements and not movements in price due to the quality of a product changing. Above all, adjustments are made in connection with the measured products being replaced by new ones. In Sweden, this takes place either in connection with Statistics Sweden updating the consumption basket in the CPI at the end of the year or regularly over the year if a measured product is removed from the range or is no longer representative.

Quality adjustment methods are not fully harmonised between countries. If some countries systematically make larger or smaller quality adjustments than others, this can give rise to differences in the measured price movement even if the prices of the goods sold have moved in a similar way.

### Quality-adjusted products developing weakly in Sweden

Figure 1:13 shows the development of the CPI in Sweden and the sub-indices that measure prices for products that are often replaced and thereby need to be adjusted for quality. These include products with rapid technological development such as computers, telephones and other home electronics. It shows that prices for home electronics, according to CPI statistics, have fallen by almost 90 per cent between 2000 and 2018 in Sweden.

Figure 1:13. CPIF and sub-indices for selected product groups in the CPI



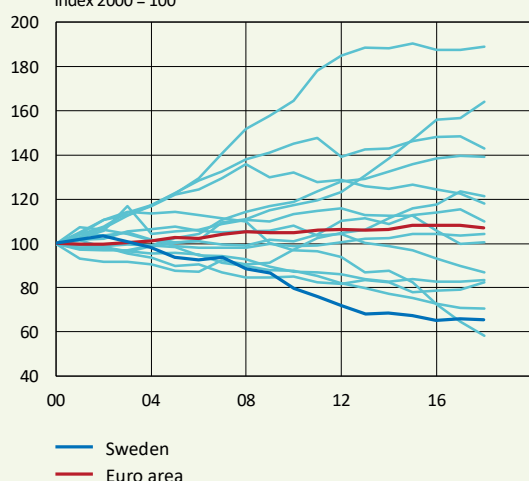
Source: Statistics Sweden

Compared with most other western European countries, the price statistics in Sweden show weaker price growth in all product groups that are frequently adjusted for quality, with the exception of clothes and shoes. It may be difficult to

<sup>9</sup> This article is based on the results of O. Tysklind, "Quality adjustments and international price comparisons", *Staff Memo*, January 2020, Sveriges Riksbank.

understand the relative price movements measured as many of the goods are similar and are traded across borders, at the same time as the krona has depreciated on average. Figure 1:14 shows development in Sweden and most other western European countries, in relation to the EU28, for home electronics according to HICP statistics. The spread between countries is large and prices in Sweden have fallen relatively substantially compared with other countries.

**Figure 1:14. Relative development for home electronics according to the HICP**  
Index 2000 = 100



Note. A value below 100 means that the index development for the country has been weaker than in the EU28. A figure of 50 should be interpreted as the price in the country being 50 per cent of what it is in the EU28 in relation to the situation in 2000. The turquoise line shows the development in Germany, Ireland, France, Norway, the United Kingdom, Austria, Belgium, Denmark, Finland, Italy, Luxembourg, the Netherlands, Portugal and Spain. Figures for individual countries can be found in the background material on the Riksbank website.

Sources: Eurostat, Statistics Sweden and the Riksbank

There are other data sources that can also be used to measure relative price movements between countries. One such source is the purchasing power parities (PPP) statistics from the OECD and Eurostat.<sup>10</sup> These statistics instead indicate that the price level for home electronics has risen slightly in Sweden in comparison to the average for the EU28 and that price movements from country to country have been significantly more similar during the period 2000–2018.

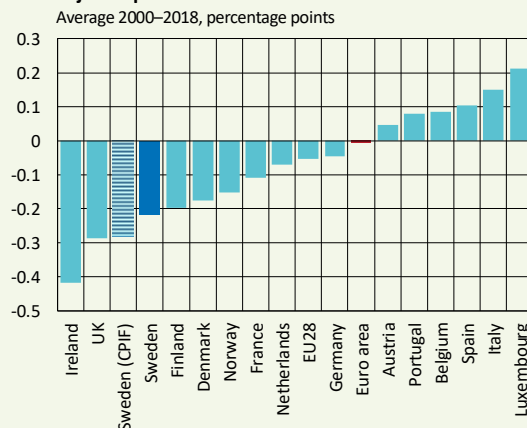
Alternative data sources thus show a different picture.<sup>11</sup> The differences due to quality adjustment are so large that they have a marked effect on price movements as a whole. Figure 1:15 shows that the contribution to the annual percentage change in the HICP from the groups that are substantially quality adjusted has been about 0.2 percentage points lower in Sweden compared with the average in the EU28.

<sup>10</sup> These statistics measure the price of a small number of identical or very similar products in the various countries. This means that no quality adjustment needs to be made. Compared with normal price statistics, the selection of products is much smaller, pricing information for each sub-aggregate is collected far less frequently and statistics do not become available until after a certain delay.

### Comparability of other variables is also affected

Difficulties in measuring and comparing the consumer price index also affect the comparability of other macroeconomic variables where the consumer price index is included in the calculation. Some examples of this are the real exchange rate, real wages and real interest rates. Differences in how prices are measured also affect, to an extent, the calculation of the development of the real economy, among other things via the fixed-price calculation of household consumption in the National Accounts.

**Figure 1:15. Contribution to HICP inflation from quality-adjusted products**  
Average 2000–2018, percentage points



Note. The contributions are calculated as annual percentage change multiplied by the weight of the different sub-indices shown in Figure 1:13

Sources: Eurostat, Statistics Sweden and the Riksbank.

### Should the Riksbank's inflation target be changed?

The results presented here should not be taken to suggest that Statistics Sweden is measuring consumer prices in an incorrect manner or that it has underestimated the development of inflation. The fact that methodological differences mean that price movements are not really comparable between countries is nothing new and neither is it specific to the issue of quality adjustment.<sup>12</sup> The discussion here is limited to quality adjustments and does not take account of other measurement problems or methodological differences.

In Sweden, Statistics Sweden is responsible for the official statistics and the Riksbank has chosen to define the inflation target in terms of CPIF inflation as it is measured by Statistics Sweden. Most comparable countries with variable exchange rates have similar but not identical inflation targets. The results of this article do not imply that the Riksbank should have another inflation target or that it should have conducted another monetary policy this century. For example, the highly expansionary monetary policy of recent years should be viewed in the light of the level of interest rates having

<sup>11</sup> See also the discussion on this in the article "Trend development of the Swedish krona" in Monetary Policy Report, July 2019.

<sup>12</sup> See, for example, M. J. Boskin, 1996, "Toward a more accurate measure of the cost of living", final report to the Senate Finance Committee from the Advisory Commission To Study The Consumer Price Index.

become very low internationally and confidence in the inflation target having weakened in 2010–2015. The monetary policy conducted was necessary to re-establish confidence in the inflation target.

However, in several contexts, it is important to be able to compare economic development with the rest of the world. It is therefore important that further international coordination takes place between statistical authorities to harmonise measurement methods for price statistics.

## CHAPTER 2 – Financial conditions

Sentiment on the financial markets has improved in recent months. Equity prices have risen and measures of risk premia, such as the yield gaps between risky and safe assets, have fallen. Expansionary monetary policy abroad has contributed to these developments by keeping financial conditions favourable, providing support to economic development. At the same time, market participants assess the risks associated with trade wars and Brexit as having decreased. After the outbreak of the coronavirus at the end of January, however, uncertainty on financial markets has increased. Prices of risky assets and long-term bond yields have fallen back somewhat and volatility has risen. The Riksbank's repo rate hike in December was expected by market participants. Both market-based and survey-based forecasts of the repo rate indicate a very slow adjustment towards a higher interest rate. Similar to abroad, equity prices in Sweden have risen in recent months but have fallen back somewhat since the end of January. The Swedish krona is slightly stronger than in the autumn but has weakened since the monetary policy decision in December. The financial conditions are also expected to continue to be expansionary in Sweden and provide support to economic development.

### International developments

Last year, sentiment on financial markets was characterised by concern over the trade conflict between the United States and China and by political uncertainty. At the same time, there was apprehension that the slowdown in global economic activity would be significant and in turn weaken inflation. To combat this, several foreign central banks made monetary policy more expansionary. This caused bond yields to fall last year (see Figures 2:1 and 2:2), boosted equity prices and helped reduce the yield differences between risky and safe assets (see Figures 2:3 and 2:4).

The risks to the economic outlook have decreased slightly and a softer tone has been struck between the United States and China after the parties agreed to a "phase one" trade deal. The improved sentiment has provided additional support to equity markets and helped to push up government bond yields since the autumn.

Prices of risky assets, such as equities, rose between December and mid-January but have fallen back slightly after the news of the coronavirus outbreak. Government bonds have also fallen recently (see Figure 2:2). Market pricing still indicates concerns over too low inflation and the risk of the trade conflict between the United States and China flaring up again still

Table 2:1.

Developments on the financial markets since the Monetary Policy Report in December
Market participants expect the repo rate to remain unchanged in the year ahead.
Government bond yields abroad have fallen.
Equity prices have risen somewhat in Sweden and the United States and volatility has increased.
The krona is weaker.

#### The transmission mechanism - from the repo rate to interest rates for households and companies

The repo rate has a direct effect on short-term interbank rates and government bond yields via the overnight rate. Expectations regarding the future repo rate and government bond purchases affect the development of longer-term government bond yields, which are also influenced by foreign interest rates. Government bond yields act as an anchor for other types of bond yields, which in turn affect banks' funding costs. This ultimately affects lending rates to households and companies.



remains even though it has diminished. Overall, the financial conditions abroad are expected to remain favourable, providing support to economic development.

**Continued expansionary monetary policy abroad**

At its monetary policy meeting in January, the European Central Bank (ECB) decided to continue its previously communicated monetary policy direction. Policy rates were held unchanged and asset purchases continue according to the previous decision. Pricing on the financial markets indicates that market participants expect an unchanged policy rate this year and for most of next year (see Figure 2:1). In conjunction with the meeting, the ECB also communicated that it intends to review the monetary policy strategy in 2020 (see the box “Several central banks reviewing their frameworks”).

The Federal Reserve (Fed) decided to keep the interval for the policy rate unchanged at 1.50–1.75 per cent at its monetary policy meeting in January. The decision was expected by market participants but pricing on financial markets indicates that participants expect at least one cut to the policy rate this year (see Figure 2:1).

In September last year, turbulence arose on the US money market when short-term interest rates suddenly began to rise far above the interval for the Fed’s policy rate. There was concern among market participants that a similar situation might arise around the turn of the year. However, the Fed took measures that helped keep short-term money market rates within the interval for the policy rate over the turn of the year.

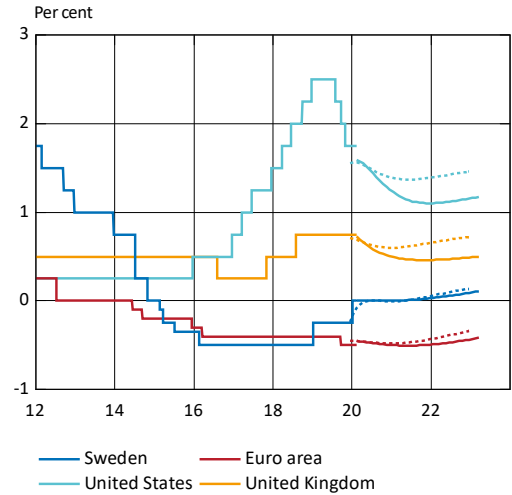
At its monetary policy meeting in January, Norges Bank held the policy rate unchanged. In conjunction with the decision, the bank communicated that it still expected the policy rate to remain around 1.50 per cent over the next three years. However, a few market participants have interpreted the forecast for the policy rate as there being some probability of the interest rate being raised this year.

At its monetary policy meeting in January, a majority of the Bank of England Monetary Policy Committee voted to hold both the policy rate and asset purchases unchanged. However, market participants expect the policy rate to be lowered this year (see Figure 2.1).

**Government bond yields have risen slightly over the autumn**

In the autumn, government bond yields in both the United States and Germany have risen somewhat, due largely to the improved sentiment (see Figure 2:2). Market participants now have a more positive view of growth prospects and thus are not expecting an equally expansionary monetary policy as they did at the beginning of the autumn. The view of participants with regard to the future policy rate in the euro area is approximately the same as at the time of the monetary policy decision in December. However, they expect the future policy rate in the United States to go lower than they did in December (see Figure 2:1). Since the news of the coronavirus outbreak at the end of January,

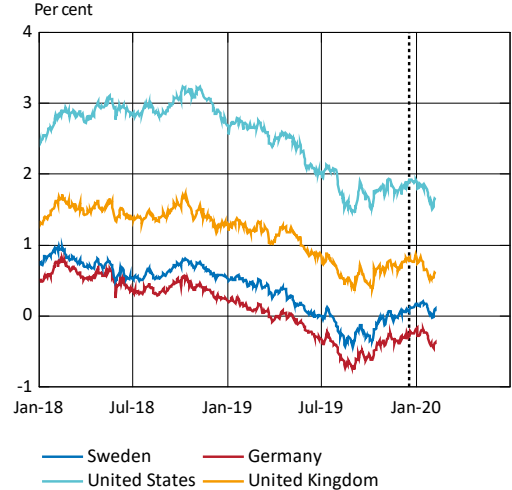
**Figure 2:1. Policy rates and rate expectations according to forward rates**



Note. Forward rates describe the expected overnight rate. Unbroken lines refer to 7 February 2020, broken lines refer to 16 December 2019.

Sources: The national central banks, Macrobond and the Riksbank

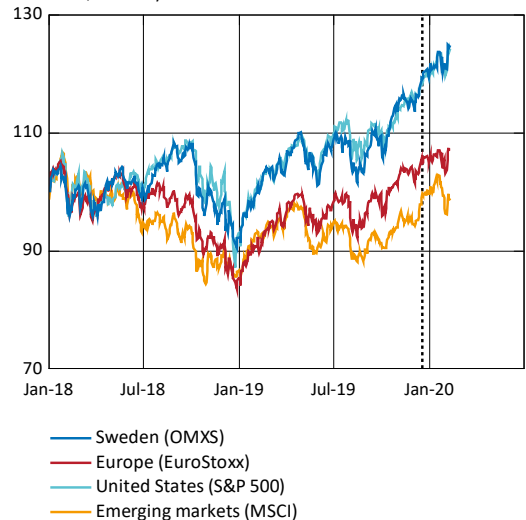
**Figure 2:2. Government bond yields with 10 years to maturity**



Note. Implied zero-coupon yields from government bonds for Sweden, Germany and United Kingdom. 10-year benchmark bonds for the United States. The vertical line indicates the Monetary Policy Meeting in December.

Sources: The national central banks, US Treasury and the Riksbank

**Figure 2:3. Stock market movements in domestic currency Index, 2 January 2018 = 100**



Note. The vertical line indicates the Monetary Policy Meeting in December.

Source: Macrobond

government bond yields in the United States and the euro area have fallen back.

### Long-term inflation expectations in the euro area remain at low levels

Inflation in the euro area is still lower than the ECB's target. Long-term inflation expectations also fell for most of last year, according to both market-based and survey-based indicators. This was an important reason behind the ECB's decision to make monetary policy more expansionary at the beginning of the autumn last year. In late autumn, however, the market-based measure of long-term inflation expectations stopped falling and has risen slightly since the turn of the year (see Figure 2:5).

The market-based measure of long-term inflation expectations also fell in the United States last year. The decline slowed during the autumn and the measure has recently increased. The levels are still relatively low from a historical perspective, in both the euro area and the United States, and this indicates that market participants still see a risk of too low inflation.

### Risky assets continue to increase in value

Last year, equity prices rose by approximately 25 per cent in the United States and around 20 per cent in the euro area. Equity prices in large parts of the world have continued to increase since the autumn (see Figure 2:3). During this period, equity prices have certainly fallen when investors have reacted to negative news about, for example, the trade conflict between the United States and China, but the falls have been quickly recovered. During the conflict between the United States and Iran at the beginning of the year, market reactions were limited while the reactions have been greater to the news about the outbreak of the coronavirus in China. So far, however, price falls have been relatively limited. After previous virus outbreaks, price falls have been quickly recovered.<sup>13</sup>

The gap between corporate bond and government bond yields reflects the risk premia in credit markets. Premia have risen somewhat since December (see Figure 2:4).

An increasing number of participants are now turning to risky and illiquid assets and as they do, asset market valuations are rising. For example, the Price-to-Earnings Ratio (P/E Ratio), which measures equity prices in relation to company earnings, is at historically high levels. This can lead to increased vulnerability in the global financial system.<sup>14</sup>

The picture of a high valuation is not clear-cut, however. An important component in the valuation of high-risk assets, such as equities, is the risk-free interest rate. Usually, the prices of high-risk assets rise when the risk-free interest rate falls. The fact that risk-free rates, such as yields on government bonds, have fallen

### Several central banks reviewing their frameworks

In conjunction with the press conference following the monetary policy decision in January, ECB President Christine Lagarde announced that the ECB intends to review the monetary policy framework. The review will be of the monetary policy toolkit, monetary policy analysis and target definition, as well as communication practices. In addition, the ECB will also look into whether, and in what way, financial stability and climate policy considerations should influence monetary policy strategy. At the beginning of the year, Mark Carney gave a speech in which he stated that the Bank of England will also review its monetary policy framework. He did not go into more detail about the review but highlighted that a regular review is an important component in maintaining a central bank's legitimacy and acceptance as part of a country's stabilisation policy framework.

The Bank of Canada conducts a review of the monetary policy framework every fifth year. At the end of 2018, the bank announced that this time it intends to examine the implications of low global interest rates for monetary policy and whether there are alternatives to the inflation target in order to achieve price stability. It also intends to examine the alternative monetary policy tools available, and how monetary policy affects wealth distribution and financial stability in the economy.

The Fed announced at the end of 2018 that it is reviewing its monetary policy strategy, tools and communication to achieve the objectives of full employment and price stability. The starting-point for the Fed's review, however, is that an inflation target of 2 per cent is the most appropriate quantitative formulation of price stability. In line with the Bank of Canada, the Fed is examining the monetary policy implications of low global interest rates, the tools a central bank has at its disposal and how policy is communicated to the general public. The review is taking place in consultation with the general public, with the bank having a number of different events around the country, that are aimed at different parts of US society. The conclusions from the review will be reported during the first half of this year.

The Riksbank is following and participating in international discussions on framework design. Furthermore, the monetary policy framework is continuously discussed in Sweden, for example in conjunction with the Committee on Finance's evaluations of the Riksbank. Examples of past changes to the monetary policy framework in Sweden are the change of the target variable from the CPI to the CPIF in 2017 and the reintroduction of a variation band to illustrate that the scope for monetary policy to micromanage inflation is limited. In November 2019, the Parliamentary Riksbank Committee's review of the monetary policy framework and the Sveriges Riksbank Act was presented. The ongoing discussion on monetary policy in Sweden will therefore continue.

<sup>13</sup> Earlier episodes when virus outbreaks have caused falls in the prices of risky assets include the SARS epidemic from the autumn of 2002 to the spring of 2003 and the swine flu pandemic from the spring of 2009 to the summer of 2010.

<sup>14</sup> See Financial Stability Report 2019:2, Sveriges Riksbank.



to historically low levels can therefore be a factor that partly explains why equity prices are high relative to earnings.<sup>15</sup>

Credit markets are also showing signs of increased vulnerability. On the US credit market, for example, companies with lower credit ratings are responsible for an increasingly large share of the bonds issued. Conditions on credit markets can thus be very sensitive to downgrades of companies' credit-ratings, which can contribute to further instability in the event of poor economic development.

The development for riskier assets shows that investors expect the slowdown in economic activity to be limited, given that central banks continue to support the economy.

### Developments in Sweden

In line with market participants' expectations, the repo rate was raised at the monetary policy meeting in December. According to market-based and survey-based measures, the expectation is that the repo rate will be raised very slowly in the coming years. Similar to developments abroad, equity prices and longer-term government bond yields have risen since the autumn. Yields on corporate bonds have not increased to the same extent, however. Neither have lending rates to households and companies risen at the same pace as the repo rate so far. The Swedish krona has depreciated since the monetary policy meeting in December. In line with other countries, risky asset prices, such as equities, have fallen back after the news about the coronavirus at the end of January. The financial conditions in Sweden are deemed to still be expansionary and are lending support to economic development. How the financial conditions have developed since the autumn of 2018 is described in the article "What has happened to the financial conditions since the autumn of 2018".

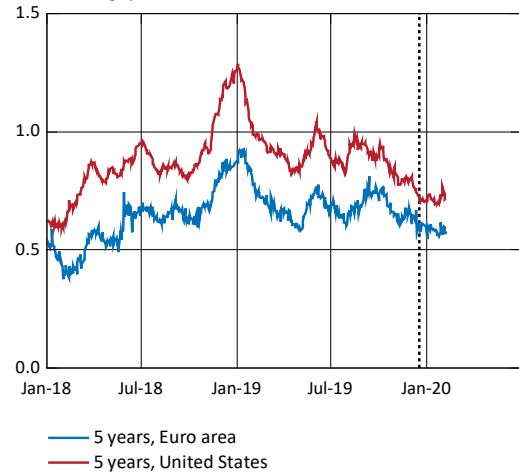
#### Expectations of an unchanged policy rate in Sweden

According to pricing, market participants are expecting the repo rate to be more or less unchanged in the years ahead (see Figure 2:6). Prospera's survey of money market participants, published in mid-January, also shows that the Riksbank is expected to hold the repo rate unchanged in the coming year (see Figure 2:6). According to Prospera's survey, however, market participants expect the repo rate to be increased slightly earlier than in the Riksbank's forecast from December. Since the repo rate rise, interbank market interest rates have increased (see Figure 2:7).

#### Short-term government bond yields are still lower than the repo rate

Similar to those in other countries, Swedish government bond yields have risen from very low levels in the autumn but are more or less unchanged compared with the monetary policy meeting in

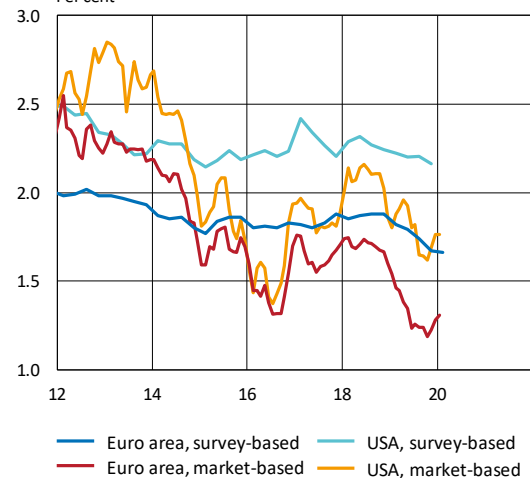
**Figure 2:4. Difference between yields on corporate bonds and government bonds in the United States and euro area**  
Percentage points



Note. Yield differentials refer to 5-year benchmark issued by companies with good credit ratings respectively benchmark sovereign bonds. The vertical line indicates the Monetary Policy Meeting in December.

Source: Macrobond

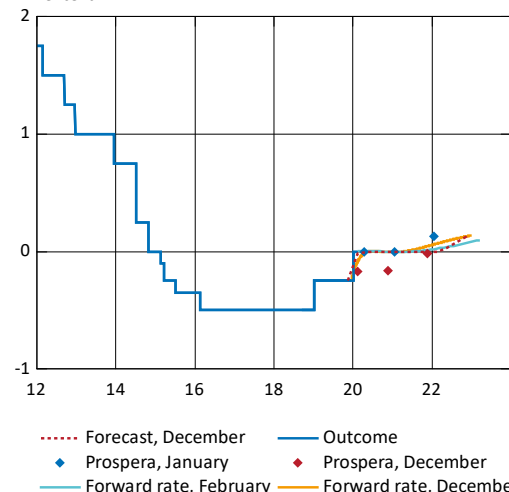
**Figure 2:5. Long term inflation expectations in euro area and United States**  
Per cent



Note. Survey-based measures according to the ECB and the Survey of Professional Forecasters by the Federal Reserve Bank of Philadelphia (FRBP), 5 and 10 years ahead, respectively. Market-based measures refer to a 5-year period starting in 5 years' time. This measure has been calculated on the basis of inflation swaps for the euro area and on the basis of bond yields for the United States. Inflation refers to HICP and CPI respectively.

Sources: Bloomberg, ECB, FRBP, Macrobond and the Riksbank

**Figure 2:6. Repo rate and market repo rate expectations**  
Per cent



Note. The forward rate refers to 7 February 2020 and 16 December 2019 and is a measure of the expected repo rate. Survey responses from Prospera show the average for money market participants 16 January 2020 (Prospera, January) respectively 27 November 2019 (Prospera, December).

Sources: Kantar Sifo Prospera, Macrobond and the Riksbank

<sup>15</sup> Taking the decline in risk-free interest rates into account, equity prices are more in line with their historical averages, at least on the US equity market. See, for example, *Financial Stability Report*, November 2019, Board of Governors of the Federal Reserve System.



December. Shorter government bond yields have also risen, but the two-year government bond yield is still lower than the repo rate (see Figure 2:7). Even for other maturities, shorter than ten years, rates are still negative. A contributory factor to the low yields on short-term government bonds in relation to the repo rate is the Riksbank's purchases of government bonds. This illustrates that monetary policy expansiveness is not determined by the repo rate alone.

### Rising equity prices in line with abroad

Last year, equity prices in the Swedish OMX stock exchange index rose by slightly more than 25 per cent (see Figure 2:3). As in other countries, prices on the Swedish stock exchange have also continued to rise since the turn of the year. In Sweden, too, different measures of the P/E Ratio, which shows equity prices in relation to different definitions of company earnings, are somewhat higher than their historical mean values.

### Gradually rising housing prices and slightly higher listed interest rates

Average lending rates to households and companies tend to closely follow the Riksbank's repo rate (see Figure 2:8).<sup>16</sup> The statistics for actual lending rates to households and companies are published with a time lag. It will therefore take time to see how much lending rates have risen after the repo rate rise in December 2019. On the other hand, the listed lending rates of banks and mortgage lending institutions have risen, but so far not as much as the repo rate (see Figure 2:7).<sup>17</sup>

For much of last year, both lending for housing purposes and total lending increased by around 5 per cent as an annual rate. This is a slowdown compared with recent years. However, the financial market statistics still do not contain information on lending by new mortgage credit companies established in recent years. These players have only a small share of total lending but have nevertheless contributed to total lending growing a few tenths more rapidly last year than is evident from the statistics for lending by monetary financial institutions (see Figure 2:9).<sup>18</sup>

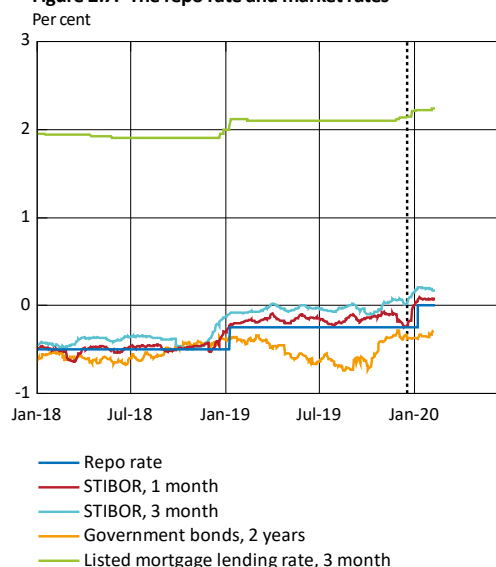
Measured as an annual percentage change, housing prices fell over most of 2018. Since the summer of last year, however, prices of tenant-owned apartments and detached houses have

<sup>16</sup> For an effect on mortgage rates when the repo rate changes, see L. Fransson and O. Tysklind, "The effects of monetary policy on interest rates", *Economic Review*, 2016:1, Sveriges Riksbank. For an analysis of the effects on mortgage rates when the repo rate changes and turns negative, see H. Erikson, and D. Vestin, "Pass-through at Mildly Negative Policy Rates: The Swedish Case", *Staff Memo* January 2019, Sveriges Riksbank.

<sup>17</sup> It is possible that the differential between lending rates to households and the Riksbank's repo rate will decrease slightly in the period ahead. When the repo rate is raised, mortgage lending rates do not then increase to the same extent. The reason for this is that new players on the mortgage market have taken market shares, which has increased the competition for mortgage customers. New players on the mortgage market include Stabelo AB, Svensk Hypotekspension AB and Hypoteket Bolån Sverige AB. See N. Engström, 2020, "New challengers on the mortgage market – Increased competition and possible pressure on interest rates", *Economic Commentaries* No. 1, Sveriges Riksbank, for further discussion.

<sup>18</sup> See N. Engström, 2020, "New challengers on the mortgage market – Increased competition and possible pressure on interest rates", *Economic Commentaries* No. 1, Sveriges Riksbank. The new players on the mortgage market, the mortgage credit companies, include Stabelo AB, Svensk Hypotekspension AB and Hypoteket Bolån Sverige AB.

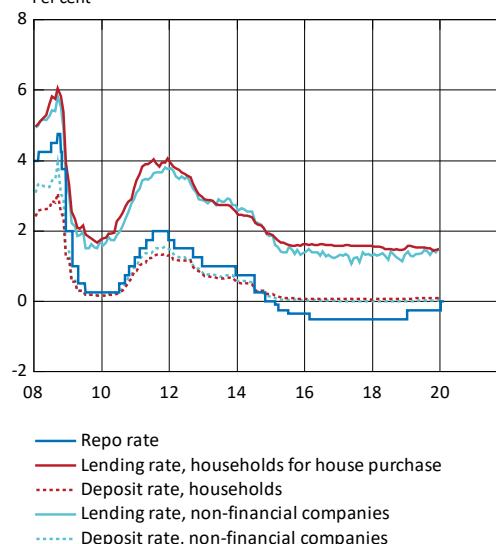
Figure 2:7. The repo rate and market rates



Note. Zero coupon rate with 2-year maturity calculated from government bonds. The listed mortgage rate is an average of listed rates from SEB, Swedbank, SHB, SBAB and Nordea. The vertical line indicates the Monetary Policy Meeting in December.

Sources: Macrobond and the Riksbank

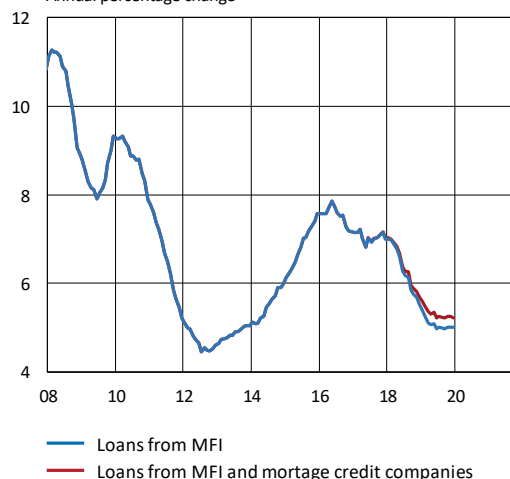
Figure 2:8. Repo rate together with the average deposit and lending rate to households and companies, new contracts



Note. MFIs' average deposit and lending rates are a weighted average of all interest rates for different maturities.

Sources: Statistics Sweden and the Riksbank

Figure 2:9. Household borrowing



Note. Lending by MFIs and mortgage credit companies to households adjusted for reclassifications and bought and sold loans.

Sources: Statistics Sweden and the Riksbank

increased. Indicators show that both households and estate agents expect prices to continue to rise slightly in the period ahead. The difference between the asking price and the actual sale price has increased recently.

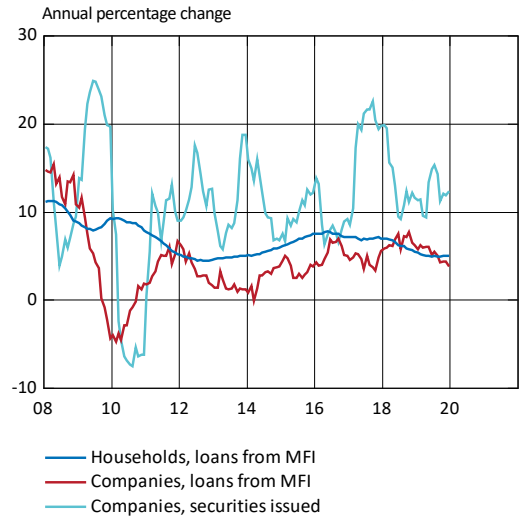
Bank lending rates to non-financial companies increased in December while lending fell (see Figures 2:8 and 2:10). Increasingly, however, these companies obtain funding directly on the capital markets. Although bank lending still makes up the primary source of funding, around one-third of companies' loan debt comes from wholesale funding.

**The krona is stronger than in the autumn**

Since the autumn, the krona, measured in effective terms (according to the KIX krona index), has been affected to a large degree by the outlook for the global economy and the improved sentiment on financial markets. Since mid-October last year, the krona has strengthened by around 2 per cent (see Figure 2:11). Expectations that the Riksbank would raise the repo rate in December may also have helped to strengthen the krona exchange rate.

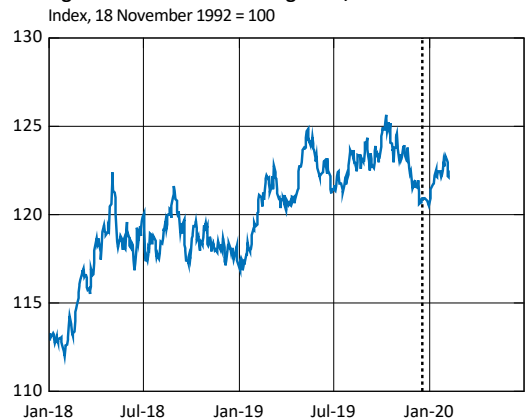
The geopolitical tensions between the United States and Iran around the turn of the year did not give rise to any major reactions on international financial markets. Movements in the Swedish krona were also relatively modest during this episode. Since the monetary policy meeting in December, however, the krona has depreciated, partly in connection with the outbreak of the coronavirus.

**Figure 2:10. Lending to households and companies**



Note. Lending by MFIs to households and non-financial corporations adjusted for reclassifications and bought and sold loans. Securities issued by non-financial corporations have been adjusted for currency impact.  
Source: Statistics Sweden

**Figure 2:11. Nominal exchange rate, KIX**



Note. The KIX (krona index) is a weighted average of the currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. The vertical line indicates the Monetary Policy Meeting in December.  
Sources: National sources and the Riksbank

## ARTICLE – What has happened to the financial conditions since the autumn of 2018?

Since the autumn of 2018, the Riksbank has raised the repo rate twice, from –0.50 per cent to zero per cent, but has cut the forecast for the repo rate, which is now expected to stay unchanged over the next few years. Over this period, yields with short maturities have risen in line with or slightly less than the repo rate, while yields for government and mortgage bonds with longer maturities have fallen. Interest rates for households and companies have remained largely unchanged. Equities have risen in value and the krona has depreciated. An index developed by the Riksbank indicates that the financial conditions in Sweden have become more expansionary since the autumn of 2018, even though the repo rate has been raised twice. Factors contributing to this include more expansionary financial conditions abroad and the Riksbank’s downward adjustment of the forecast for the repo rate.

### Monetary policy affects the financial conditions in Sweden

The target for monetary policy in Sweden is for inflation to be 2 per cent. The Riksbank adjusts monetary policy to fulfil the inflation target by influencing the financial conditions, which, in turn, has an effect on resource utilisation and inflation.<sup>19</sup> Since the autumn of 2018, the repo rate has been raised in two steps by a total of 0.5 percentage points to the present level of zero per cent. Over the same period, the forecast for the repo rate has also been adjusted down significantly and

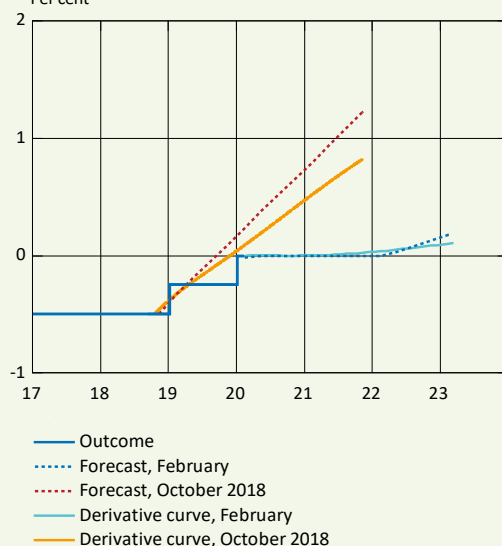
the current forecast means that the repo rate is expected to be largely unchanged over the next three years. At the same time, market participants’ expectations for the repo rate, according to forward rates, have fallen (see Figure 2:12).

### Development of financial variables since the autumn of 2018

Since October 2018, shorter market rates have risen. The three-month STIBOR rate has risen by just over 0.5 percentage points, which is approximately as much as the repo rate. The current level of the STIBOR rate is approximately 20 basis points above the repo rate, which is in line with the historical difference that could be observed before the negative policy rate period. Over the same period, the two-year mortgage bond yield and the two-year government bond yield have only risen marginally, even if the variation in these yields has been greater than the movements in the STIBOR rate (see Figure 2:13). The fact that two-year yields have not risen as much overall as the repo rate should be seen in the light of falling expectations since October 2018 among market participants of the repo rate’s future level as well as the fact that the hike in 2018 was expected.

Unlike shorter yields, five-year government bond and mortgage bond yields have fallen since the autumn of 2018 (see Figure 2:14). Yields for bonds with even longer maturities have also fallen, for example the ten-year government bond yield (see Figure 2:2). Yields with long maturities are determined, to a greater extent than short-term yields, by expectations of the repo rate’s future level. Falling expectations of the repo rate in the period ahead among market participants’ may reasonably therefore provide part

Figure 2:12. Repo rate and market repo rate expectations  
Per cent



Note. The forward rate refers to 7 February 2020 and 19 October 2018 and is a measure of the expected repo rate.

Sources: Macrobond and the Riksbank

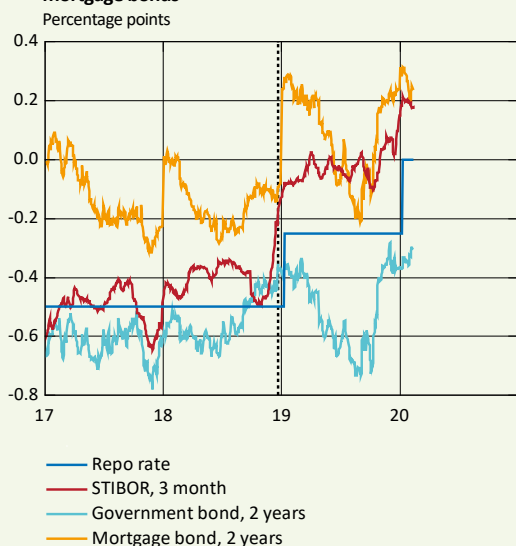
<sup>19</sup> The financial conditions are a summary of the state of the financial markets and the interest rates and conditions met by households and companies when they need to borrow or invest capital. For a more in-depth discussion of how monetary policy

affects demand and inflation via the financial conditions, see J. Alsterlind, M. Lindskog, and T. von Brömsen, “An index for financial conditions”, *Staff Memo*, February 2020, Sveriges Riksbank.

of the explanation for why longer-term yields have fallen while shorter-term yields have risen.<sup>20</sup>

However, to understand the development of the level of interest rates and financial conditions in Sweden more generally, it is not enough to consider only Swedish monetary policy without taking note of international developments, which have a strong effect on long-term interest rates. The period since the autumn of 2018 has been characterised by significant uncertainty over matters such as the United Kingdom's withdrawal from the EU, the trade conflict between the United States and China, the ongoing slowdown of the global economy and low inflation in many countries. These circumstances have contributed to both the ECB and Federal Reserve making monetary policy more expansionary in 2019, which, in turn, is also a factor behind the low interest rates in Sweden. Greater global uncertainty has also contributed to increased demand for risk-free assets, which has further fuelled the fall in long-term interest rates.

**Figure 2:13. Repo rate, money market rate, government and mortgage bonds**



Note. The vertical line indicates the Monetary Policy Meeting in December 2018.

Sources: Macrobond and the Riksbank

On the foreign exchange market, the krona, measured in terms of the krona index (KIX), has depreciated by about 4 per cent since October 2018. Part of the reason for this depreciation is that the krona usually depreciates in times of turbulence in the global economy. At the same time, the lower forecast for the repo rate can also be assumed to have had an effect. Supported by clear signals of continued expansionary monetary policy and low global interest rates, equities have continued to increase in value. The Swedish

OMX stock exchange index is now about 20 per cent above its level from the autumn of 2018 (see Figure 2:3).

Mortgage rates rose in conjunction with the repo rate increase in December 2018, before then falling back to the same level as previously (see Figure 2:8). As statistics for actual lending rates to households and companies are published with a time lag, the full effects of the rate hike in December 2019 cannot yet be seen in the available data. One of the reasons that mortgage rates have remained more or less unchanged since the autumn of 2018 is the establishment of mortgage credit companies in recent years, which has increased the competition for mortgage customers. This may have contributed to the reduction of margins among banks.<sup>21</sup>

**Figure 2:14. Government and mortgage bonds, 5 years**



Note. The vertical line indicates the Monetary Policy Meeting in December 2018.

Source: Macrobond

### Measuring the financial conditions

The development of the financial conditions since the autumn of 2018 is thus not uniform. Some variables, such as yields with short maturities, have risen, indicating less expansionary financial conditions. Other variables indicate more expansionary conditions: yields with longer maturities have fallen, equity prices have risen and the krona exchange rate has weakened. Consequently, to understand how the financial conditions have changed overall, a summarised measure or index may be used. Such a Financial Conditions Index (FCI) was documented in a recently published staff memo.<sup>22</sup> The index is a further development of the FCI that the Riksbank published previously and summarises five

<sup>20</sup> Longer-term yields fell up until the summer of 2019 due to increased international risks, but rose over the autumn as the situation between China and the United States improved and the risk of a no-deal British withdrawal from the EU decreased.

<sup>21</sup> It is possible that the differential between lending rates to households and the Riksbank's repo rate will decrease slightly in the period ahead. The reason for this is that new players on the mortgage market have taken market shares, which has increased the competition for mortgage customers. New players on the mortgage

market include Stabelo AB, Svensk Hypotekspension AB and Hypoteket Bolån Sverige AB. See N. Engström, 2020, "New challengers on the mortgage market – Increased competition and possible pressure on interest rates", *Economic Commentaries* No. 1, Sveriges Riksbank, for further discussion.

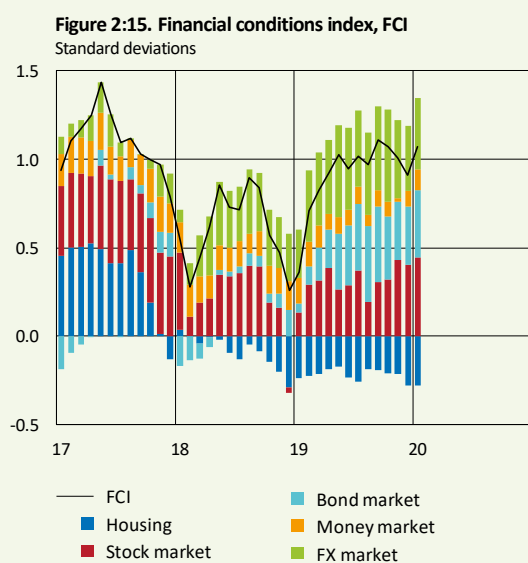
<sup>22</sup> J. Alsterlind, M. Lindskog, and T. von Brömsen, "An index for financial conditions" *Staff Memo* February 2020, Sveriges Riksbank,

different markets: the housing market, equity market, bond market, money market and foreign exchange market.

The index attaches the same weight to the different markets and thereby has the advantage of being relatively transparent and easy to interpret.

### Development of financial conditions since the autumn of 2018

Since the autumn of 2018, most of the markets included in the FCI have moved in an expansionary direction; the index as a whole has also moved in a more expansionary direction (see Figure 2:15).



Note. A higher value indicates more expansionary financial conditions.

Source: The Riksbank

The change in the FCI is most clearly linked to increased contributions from the bond market, equity market and foreign exchange market, which can be explained by the falling yields for bonds with longer maturities, the depreciation of the krona and the upturn on the stock market. The money market makes a slightly lower contribution than in the autumn of 2018, primarily because STIBOR has risen. At the same time, the contribution from the housing market has been relatively stable since the autumn of 2018. The contribution made by the housing market fell at the end of 2017 and start of 2018 and has been negative since then. The more positive development of the housing market seen recently, with increased optimism and rising prices, has still not affected the FCI significantly. One reason for this is the time lag in the statistics, but also that debt has continued to increase faster than housing prices.

Overall, the financial conditions are deemed to have become more expansionary in Sweden since the autumn of 2018, even though the repo rate has been raised twice. Important reasons for this include the Riksbank's downward adjustment of the forecast for the repo rate and the

accompanying fall in forward rates, as well as the more expansionary financial conditions abroad.

It is not clear-cut how more expansionary conditions in turn affect demand and inflation. The reason for this is that the financial conditions sometimes reflect the development of the macroeconomy and are sometimes affected by factors that are more specific to the financial markets. Occasionally, the financial conditions can thus become more expansionary due to expectations of a more expansionary monetary policy, which, in turn, may be caused by worsened macroeconomic prospects. For example, the fall in bond yields since the autumn of 2018 has made a positive contribution to the financial conditions according to the FCI (see Figure 2:15). As has already been pointed out, important reasons for the fall are increased global uncertainty, the slowdown in global economic activity and more expansionary monetary policies abroad. Consequently, even if expansionary financial conditions themselves are contributing to a more favourable economic development, the underlying driving forces must be taken into account to understand how they ultimately affect demand and inflation.

## CHAPTER 3 – The current economic situation

The international economy continues to be divided with a relatively strong service sector and weak industry, especially in the euro area. In recent months, however, growth indicators in the manufacturing industry have stabilised, which confirms the picture of the global decline having slowed down. In Sweden, confidence among households and companies is lower than normal and GDP growth is expected to be modest in the quarters ahead. Development on the labour market has also slowed and, after several years of strong economic activity, resource utilisation is assessed to be slightly over or close to normal. The unusually warm weather is contributing to falling electricity prices and will keep CPIF inflation down in the coming months. Excluding energy prices, inflation is expected to be just under 2 per cent.

### Inflation in Sweden

#### Inflation 1.7 per cent in December

CPIF inflation has been close to 2 per cent since the beginning of 2017. During the summer of 2019, energy prices decreased leading to CPIF inflation falling back (see Figure 3:1). Inflation has risen again in recent months and in December, CPIF inflation was measured at 1.7 per cent. The rate of increase in the CPIF excluding energy, which rose in 2019, also amounted to 1.7 per cent in December. Inflation was slightly lower than the Riksbank's forecast.

The weak Swedish krona has contributed to a faster-than-normal increase in the prices of many goods, including food, in recent years. The rate of increase in food prices has risen since 2017 and the prices of many other product groups, which normally fall, have recently followed an upward trend (see Figure 3:2). At the same time, clothing and shoe prices have increased at an unusually slow rate given the behaviour of the krona. That the weak krona has contributed to higher prices is also apparent from Economic Tendency Survey data. According to companies, sales prices have been on a relatively high level in 2019 and have risen primarily because of the increase in import prices (see Figure 3:3). New statistics for the fourth quarter of 2019 show that sales prices fell somewhat in the trade sector but rose in the service sector, compared with the third quarter.

The Riksbank studies different measures of underlying inflation to estimate the level of the more persistent component of the inflation rate. These measures, which exclude or reduce the significance of widely fluctuating prices, indicate that more persistent inflation has been relatively stable over the past year and is just under 2 per cent (see Figure 3:4). The measures UND24 and CPIFPC, which, according to an evaluation, best reflect underlying inflationary pressures, amounted to 1.8 and 2.0 per cent respectively in December.<sup>23</sup>

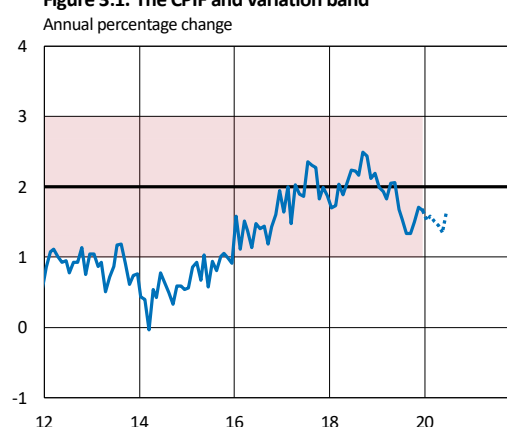
<sup>23</sup> UND24 gives greater weight to less volatile sub-groups in the CPIF, while the CPIFPC is based on common trends among the sub-groups. See also the article "Why measures of core inflation?" in Monetary Policy Report, October 2018.

**Table 3:1. The economic situation compared with the assessment in the MPR in December**

Expected development in December MPR	Actual development
CPIF inflation and CPIF inflation excluding energy, 1.7 per cent and 1.8 per cent in December.	CPIF inflation and CPIF excluding energy increased by 1.7 per cent.
GDP growth 0.8 per cent in fourth quarter.	Indicators suggest slightly stronger development.
Unemployment 6.9 per cent and employment growth 1.4 per cent in the fourth quarter.	Unemployment was 6.8 per cent and employment growth was 1.5 per cent.

Note. MPR refers to the Monetary Policy Report. Inflation refers to the annual percentage change. GDP and employment growth refer to the seasonally adjusted quarterly changes in per cent, calculated at an annual rate.

**Figure 3:1. The CPIF and variation band**



Note. The pink area shows the Riksbank's variation band and covers about three-quarters of the outcomes since January 1995. The variation band is a means of showing whether the deviation from the inflation target is unusually large. The broken line represents the forecast for the next 6 months.

Sources: Statistics Sweden and the Riksbank



**Inflation dampened by falling electricity prices in the months ahead**

The development of the various measures of underlying inflation provided a pointer to short-term inflation prospects and inflation measured in terms of the CPIF excluding energy is expected to be between 1.8 and 1.9 per cent in the coming months (see Figure 3:5). Other indicators of inflation also suggest that inflation will continue to amount to just under 2 per cent. Consumer prices in the producer channel are rising more quickly than a historical average, both for imported goods and for goods produced in Sweden. Furthermore, more trading companies than normal are planning to increase their prices in the months ahead according to the Economic Tendency Survey, although the proportion clearly decreased in January. Price plans seen across the entire business sector are also somewhat higher than they normally are (see Figure 3:6).

The unusually mild winter has subdued the demand for electricity, and electricity prices are therefore expected to fall in the period ahead (see Figure 4:18). The falling electricity prices will keep energy prices and CPIF inflation down over the coming six-month period and the inflation rate is expected to be 1.4 per cent on average (see Figure 3:1).

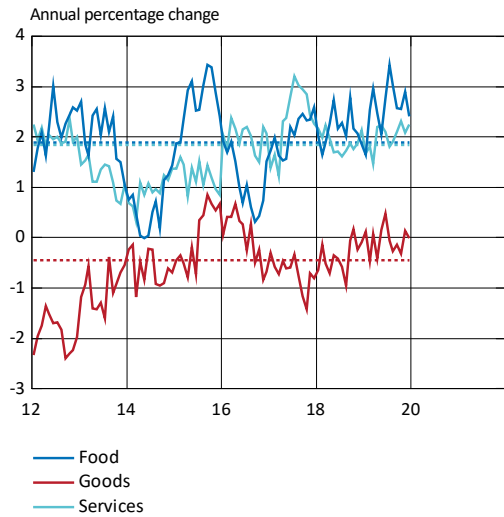
**Inflation forecast revised down in the short term**

The rate of increase in the CPIF excluding energy is expected to be somewhat lower in the coming months compared with the forecast in December (see Figure 4:17). This is to a large extent due to the outcome for December being somewhat lower than expected. The Riksbank’s model forecast, which summarises information from a large number of indicators (such as pricing plans, producer prices and exchange rates), points to inflation being around 1.9 per cent in the first quarter and then falling somewhat (see Figure 3:5). The Riksbank’s assessment is in line with the model forecast at the beginning of the year, but is slightly higher from April onwards. The deviation is primarily explained by the development of prices for foreign travel, which looks different in the assessment and in the model forecast. Compared with December, the forecast for energy prices is revised down as a result of lower electricity prices, which means that CPIF inflation in the short term is revised down slightly more than CPIF inflation excluding energy.

**Short-term inflation expectations slightly below 2 per cent**

According to Prospera, short-term inflation expectations have fallen over the past year as actual inflation has decreased. They have stabilised in recent months, however, and in January, the CPI inflation expectations of money market participants were 1.7 per cent one and two years ahead (see Figure 3:7). According to Prospera, long-term inflation expectations have not fallen as much and measured in terms of the CPI, they were 1.9 per cent in January.

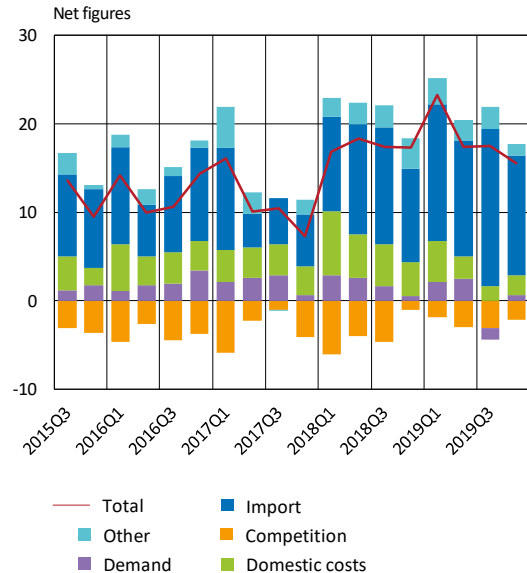
**Figure 3:2. Food, goods and service prices**



Note. The broken lines represent the average for the period 2000 to the latest outcome. The line showing the average for food overlaps the line showing the average for services.

Sources: Statistics Sweden and the Riksbank

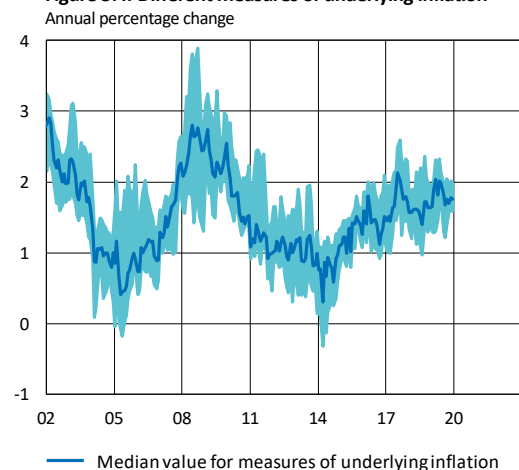
**Figure 3:3. The driving forces behind price changes among companies in the trade and service sectors**



Note. Companies in the trade and service sectors answer whether prices have risen or fallen in the most recent quarter and which factor has been the most significant price development driver.

Sources: National Institute of Economic Research and the Riksbank

**Figure 3:4. Different measures of underlying inflation**



Note. The field shows the highest and lowest outcome among different measures of underlying inflation. The measures included are the CPIF excluding energy, UN24, Trim85, CPIF excluding energy and perishables, persistence-weighted inflation (CPIFPV), factors from principal component analysis (CPIFPC) and weighted mean inflation (Trim1).

Sources: Statistics Sweden and the Riksbank



## Global and Swedish economic activity

### Subdued global industrial activity but optimistic households

Last year, growth abroad was burdened by weak industrial production and subdued global trade in goods. At the same time, confidence in the service sector was maintained and the retail trade showed relatively strong development. The division in the economy remains, with a relatively strong service sector and weak industry especially in the euro area. But, after falling over several months, growth indicators in the manufacturing industry have stabilised, which confirms the picture of the global decline having slowed down. In addition, consumer confidence is relatively high in many countries, probably as a result of strong labour markets and low interest rates.

A novel coronavirus has broken out in China over the past month. It is still difficult to assess the economic consequences of the outbreak, but over the next six-month period, it is expected to have a dampening effect on Chinese GDP, and thus on growth in the rest of the world (see the box “Novel coronavirus in China” in Chapter 4). Trade-weighted (KIX-weighted) GDP is expected to grow slightly more slowly than a historical average over the next two quarters.

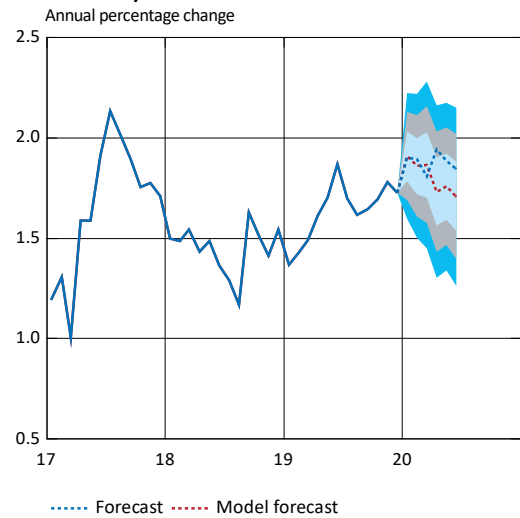
### Stabilisation in the euro area and economic downturn in the United States

According to preliminary figures, GDP in the euro area increased by a modest 0.4 per cent in the fourth quarter, compared with the third quarter and calculated in annualised terms. GDP figures have not yet been published for all the countries in the euro area. Provisional statistics for France and Italy indicated negative growth, which contributed to the modest growth in the euro area.

After two years of weak industrial production and low confidence in the manufacturing industry in the euro area, there are some signs of the decline having slowed down. Confidence indicators are indeed on a low level, but they have stabilised (see Figure 3:8). The decline in the demand for cars in China has slowed, while the United States and China have signed a “phase one” agreement aimed at improving trade relations. This is expected to benefit industrial production. In addition, the decline in industry does not seem to have had any clearly negative effects on other parts of the economy. Confidence in the service sector is on a level close to the historical average and sales in the retail sector showed strong growth for most of 2019.

Consumer confidence is still above the historical average and although employment growth has slowed recently, real household disposable income has increased thanks to higher wage growth and low inflation (see Figure 3:9). In addition, investment is stimulated by low interest rates. During the year’s first quarter, GDP in the euro area is expected to grow slightly more rapidly than normal, but in the second quarter, growth is expect to again fall back and be slightly weaker than a historical average.

**Figure 3:5. CPIF excluding energy, model forecast with uncertainty bands**

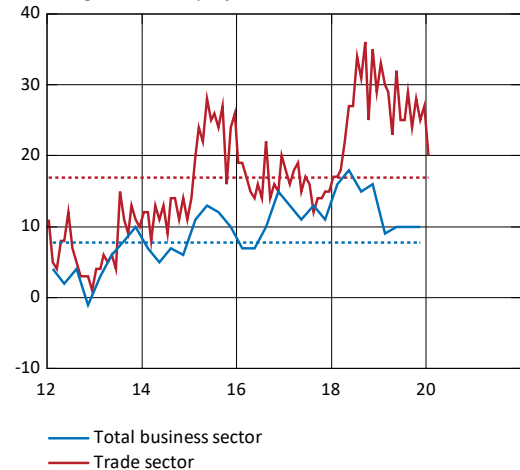


Note. The uncertainty bands 50, 75 and 90 per cent are based on the models’ historical forecast errors.

Sources: Statistics Sweden and the Riksbank

**Figure 3:6. Price plans in the business and trade sectors**

Net figures, seasonally-adjusted data

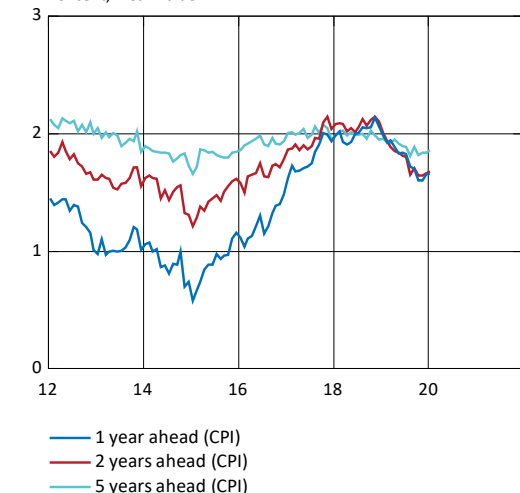


Note. The net figure is the difference between the proportion of companies stating that they expect higher sales prices and those expecting lower sales prices over the next three months. Broken lines represent mean values since May 2003.

Source: National Institute of Economic Research

**Figure 3:7. Inflation expectations among money market participants**

Per cent, mean value



Source: Kantar Sifo Prospera

GDP in the United States increased by 2.1 per cent in the fourth quarter, compared with the third quarter and in annualised terms (see Figure 3:10). Households did not consume at the same healthy rate as during the third quarter. Instead, higher public consumption contributed to growth. Weaker imports also helped to raise GDP. Consumer confidence remains high (see Figure 3:11) and the labour market is strong with good employment growth and low unemployment. However, corporate sector confidence has fallen over the past year, both among service companies and in the manufacturing industry. Confidence in the manufacturing industry did recover somewhat in January, but is still under the historical average. Confidence in the service sector remains close to the historical average. Overall, GDP is expected to grow somewhat more slowly than normal and economic activity will slow in the coming quarters.

**Low inflation in the euro area and rising inflation in the United States**

Inflation in the euro area is still low. Inflation rose to 1.4 per cent in January. The increase in HICP inflation over recent months is mainly linked to rising food and energy prices. Underlying inflation, adjusted for energy, food, alcohol and tobacco, fell to 1.1 per cent in January. A lower rate of increase in service prices softened underlying inflation. Inflation is expected to remain low in the quarters ahead and amount to just above 1 per cent.

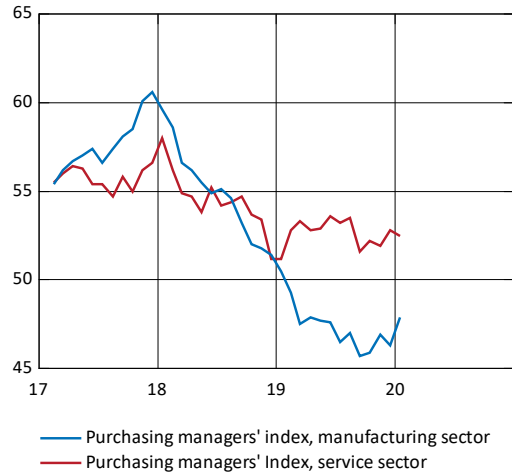
In the United States, CPI inflation rose to 2.3 per cent in December. Different measures of underlying inflation paint somewhat different pictures. The rate of increase in the CPI excluding energy and food was 2.3 per cent in December, a level it has been around over the past five months (see Figure 3:9). The rate of increase in the deflator for private consumption excluding energy and food, a measure to which the Federal Reserve attaches considerable importance, is much lower and amounted to 1.6 per cent in December. Together with low interest rates, the strong labour market, with very low unemployment and good wage growth, is expected to help boost inflation in the coming months.

**Modest Swedish growth**

The industry-led slowdown in Europe in 2019 was faster than many analysts had predicted. But in Sweden, it is primarily domestic demand that has been weak, due in part to fewer homes being built.

Confidence among Swedish households and companies has been subdued for the past year. That households and service companies are more pessimistic than normal is something that differentiates the economy in Sweden from many other European countries. However, the National Institute of Economic Research’s Economic Tendency Survey, which is a summary indicator of corporate and household confidence, rose by four units in January (see Figure 3:12). The increase is mainly explained by a marked rise in confidence in the manufacturing industry. The Purchasing Managers’ Index for the manufacturing

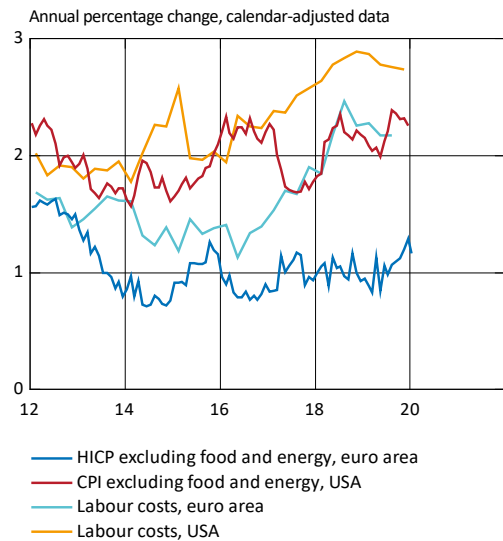
**Figure 3:8. Confidence indicators in the euro area**  
Index



Note. Purchasing Managers' Index for the manufacturing industry and service sector published on 3 February 2020 and 5 February 2020 respectively.

Source: Markit Economics

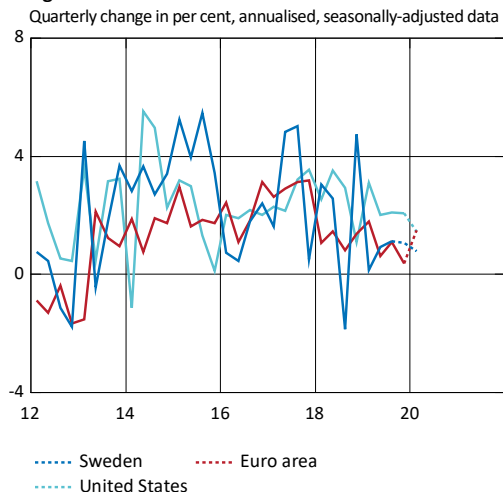
**Figure 3:9. Core inflation and labour costs in the euro area and the United States**



Note. Refers to labour costs per employee.

Sources: Bureau of Labor Statistics, ECB, Eurostat and Macrobond

**Figure 3:10. GDP in Sweden and abroad**



Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

industry also rose significantly in January and is now above 50. However, household confidence decreased by two units in the same month. In particular, it is households' view of how the Swedish economy will develop, rather than their view of their own finances, that is pessimistic.

Monthly statistics for demand and production show that industrial production and trade in goods decreased in the fourth quarter, while household consumption increased at a healthy rate. However, the growth sequence in, for example, GDP and household consumption was affected to a certain extent by the amended tax rules for cars introduced at the turn of the year. The rule change is assumed to have contributed to the sharp rise in new car registrations in December, which then fell back in January. As a large proportion of the new car registrations can be assumed to be imported, however, GDP, seen over a few quarters, is not expected to be affected to any great extent.

The situation on the Swedish housing market continued to stabilize in 2019. Housing investment increased in the third quarter after having decreased in the five preceding quarters and prices rose significantly in the second half of the year. Despite this, reduced housing construction weighed down domestic developments in 2019 and is expected to continue to subdue GDP growth this year.

The Riksbank's short-term models based on confidence indicators and monthly statistics for production and demand indicate that growth will be lower than normal. The Riksbank's forecast is slightly lower still and GDP will grow by just under 1 per cent per quarter in the fourth quarter of 2019 and first quarter of 2020, calculated in annualised terms. The forecast is somewhat lower than the short-term models indicate (see Figure 3:13). This is primarily because the models are not considered to take full account of the decline in housing investment.

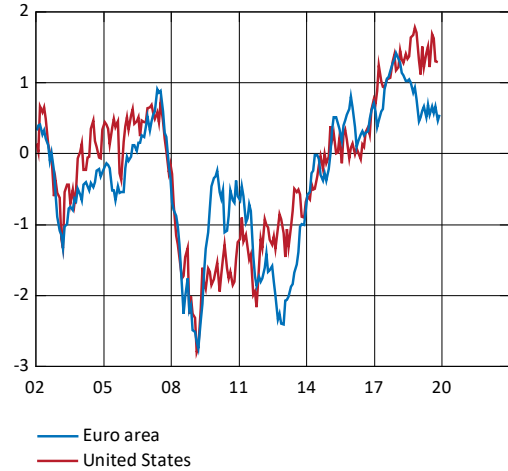
**Unemployment rising slowly**

Development in both employment and the labour force has been strong for many years. The number of unemployed persons fell in 2014–2017 despite many people flowing into the labour force during the same period. Since mid-2018, employment growth has slowed (see Figure 3:14). However, employment continues to grow and over 34,000 more people were employed in 2019 compared with 2018. The number of people in the labour force has, however, increased more and unemployment has therefore risen over the past year, according to both the Labour Force Surveys (LFS) and the Swedish Public Employment Service's measure of unemployment.<sup>24</sup> In the coming quarters, growth in the labour force is also expected to slow and unemployment will therefore rise at a slower rate than last year.

<sup>24</sup> In the autumn, Statistics Sweden drew attention to serious quality flaws in the data collection of its external suppliers. In November, Statistics Sweden therefore decided to publish revised statistics for the period July 2018 – September 2019. These are based on only half of the sample – that part of the data collection for which Statistics Sweden's own department is responsible. That the statistics are now based on a sample that is half as large increases the uncertainty of the figures, not least as the LFS has for a long time had problems with a high non-response rate.

**Figure 3:11. Consumer confidence**

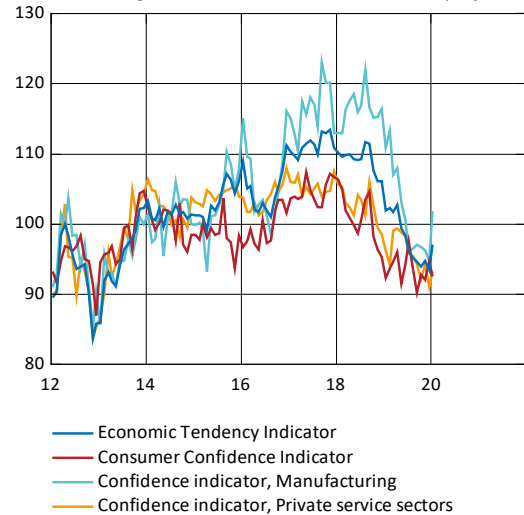
Index, average = 0, standard deviation = 1



Note. The series have been standardised from 1986 by the Riksbank. Sources: Conference Board, the European Commission and the Riksbank

**Figure 3:12. Confidence indicators in Sweden**

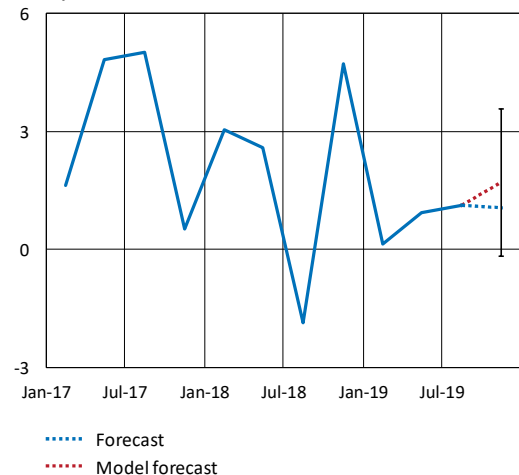
Index, average = 100, standard deviation = 10, seasonally-adjusted data



Source: National Institute of Economic Research

**Figure 3:13. GDP, model forecast and uncertainty bands**

Quarterly change in per cent calculated as an annual rate, seasonally adjusted data.



Note. The model forecast is a mean value of forecasts made using different statistical models. The vertical line represents a 50-percent uncertainty band based on the models' historical forecasting errors. Sources: Statistics Sweden and the Riksbank

Labour demand softened last year and labour market indicators point to this development continuing in the coming quarters. For example, the number of newly registered job openings according to the Swedish Public Employment Service has fallen, although it continues to be on a high level. At the same time, the number of redundancies has increased and is close to a historical average (see Figure 3:15). According to the Economic Tendency Survey, recruitment plans have also decreased and indicate virtually unchanged employment. Overall, the indicators suggest that employment will continue to increase in the coming quarters, albeit at a slower rate than in recent years. Unemployment is expected to be 6.9 per cent in the first quarter and then rise at a modest pace.

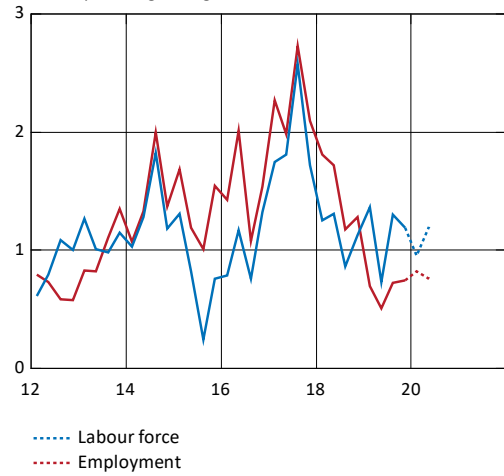
**Resource utilisation normalising**

The amount of spare capacity in the economy affects the development of wages and prices. In the data, this interchange seems to occur with a significant time lag. However, resource utilisation cannot be measured exactly and the Riksbank therefore makes an assessment based on a number of different indicators.

Certain indicators currently suggest resource utilisation is normal while other indicators and measures point to it still being somewhat higher than normal. According to the Economic Tendency Survey, the proportion of companies reporting a shortage of labour is higher than the historical average, although the proportion has fallen over the last four quarters. Capacity utilisation in the manufacturing industry has continued to rise according to Statistics Sweden and is high in a historical perspective while the National Institute of Economic Research’s measure is instead close to the historical average. The Riksbank’s indicator for resource utilisation is an aggregate of several different indicators that can be considered to give a picture of resource utilisation in the economy. According to this indicator, resource utilisation is currently normal (see Figure 3.16). Other measures of resource utilisation are the GDP, employment and hours gaps. According to these, GDP, the number of employed persons and the number of hours worked are still higher than their long-term trends (see Figure 4:11).

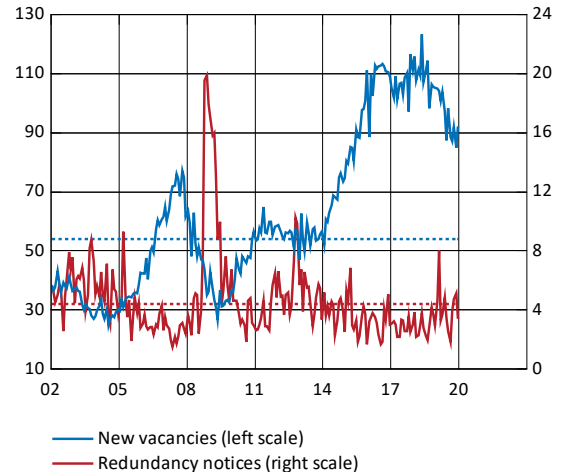
The overall assessment is that resource utilisation softened last year and is now on a level close to or slightly higher than normal.

**Figure 3:14. Employment and labour force**  
Annual percentage change



Sources: Statistics Sweden and the Riksbank

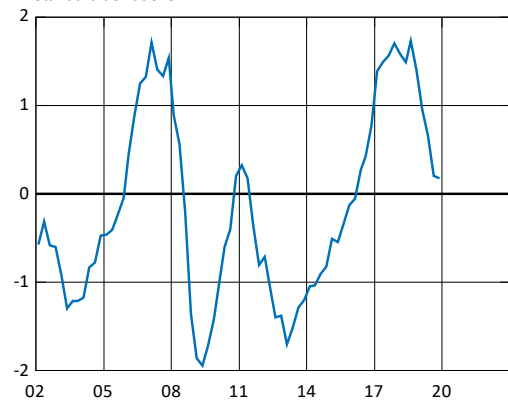
**Figure 3:15. New vacancies and redundancy notices**  
Thousands



Note. Seasonally-adjusted data for new vacancies. Broken lines represent mean values since January 1995.

Sources: the Swedish Public Employment Service and Macrobond

**Figure 3:16. Resource utilisation indicator**  
Standard deviations



Note. The RU indicator is a statistical measure of resource utilisation. It is normalised so that the mean value is 0 and the standard deviation is 1.

Source: The Riksbank

## CHAPTER 4 – Economic outlook and inflation prospects

Growth indicators for the global manufacturing sector have stopped falling and signs that confidence has strengthened can now be seen in the euro area and United States. International trade-weighted GDP is expected to continue to grow in the period ahead by about 2 per cent per year. Last year, demand slowed in Sweden, following several years of rapid growth, and unemployment continued to rise. However, in the period ahead, a recovery is expected in domestic demand with growth rising again. The employment rate will remain at a high level over the years to come and, after a long period of high demand for labour, an increase in wage growth is expected. Compared with the assessment from December, inflation is expected to become slightly lower this year, among other things due to lower electricity prices. However, the previously high resource utilisation is continuing to hold up the underlying rate of price increases. In the slightly longer run, rising inflation abroad and higher wage growth in Sweden will contribute towards inflation gradually rising towards the inflation target of 2 per cent.

### International outlook

#### Some recovery in international growth

In 2018, a global slowdown took place in the manufacturing industry and industrial production started to fall in the euro area. This downturn continued last year and international growth in trade-weighted GDP has been weak in recent quarters. However, various growth indicators have stopped falling and signs that confidence is strengthening can now be seen in the euro area and the United States. Over the next few years, international growth of about 2 per cent per year is expected for trade-weighted GDP, which is approximately in line with or just below the historical average (see Figure 4:1).

The trade conflict between China and the United States and the uncertainty over the United Kingdom's withdrawal from the EU contributed to the weak development in 2018–2019. Last year saw the greatest decline in world trade in goods since 2009 and imports developed particularly weakly in China, Germany and the United States.<sup>25</sup> The Riksbank's index for the Swedish export market, which is an aggregate of imports of goods and services from Sweden's most important trading partners, rose last year by about 2.5 per cent. This can be compared with average growth in the export market index of just over 4.5 per cent per year since the year 2000 (see Figure 4:2).

In January, the United States and China concluded a new trade agreement to regulate some of the issues the two countries had been in dispute over (see the box "New trade agreement between the United States and China"). In the United Kingdom, the Conservative Party did well in the election in December and was thereby able to form a majority in parliament for the withdrawal agreement that the government had

#### New trade agreement between the United States and China

On 15 January this year, the United States and China concluded a new trade agreement, the "phase one" agreement. China has agreed, this year and next year, to increase imports from the United States by a total of USD 200 billion against the level for 2017. This commitment means that total imports of agricultural and industrial goods, energy products and services this year will be about 40 per cent higher than the corresponding level for 2017. Next year, Chinese purchases will increase further to exceed imports for 2017 by about 65 per cent.

China will also take measures to restrict theft of intellectual property rights, refrain from demands for the transfer of technology and open up its financial sector to foreign competition. In addition, both the United States and China promise to refrain from interventions on the foreign exchange market aimed at gaining competitive advantages.

For its part, the United States commits to cutting tariffs from 15 per cent to 7.5 per cent on goods worth about USD 110 billion. The agreement includes no commitments for further tariff cuts, but the United States has promised to refrain from previously planned increases that were to have been introduced in December 2019. Compared to 2017, tariff increases remain on the United States' imports from China of goods worth approximately USD 360 billion, which corresponds to about 65 per cent of the United States' total imports from China.

The agreement also includes rules for the resolution of any future disputes on breach of agreement. Among other things, these make clear that the parties have the right to take measures, such as raising tariffs, if they consider that the other party has violated the agreement. The agreement regulates a number of the issues that the United States and China have disputed and the intention is for the two countries to continue to negotiate with the aim of concluding a second bilateral agreement. This second phase of negotiations is planned to deal with more structural issues, such as reforms of China's state-owned companies and industrial policy. However, no timetable for these upcoming negotiations has been specified.

<sup>25</sup> The downturn in the trade in goods refers to world trade until the end of November according to *CPB World Trade Monitor*.



previously negotiated with the EU. The withdrawal from the Union has now taken place in an orderly fashion and, over the transition period lasting until the end of the year, the EU and United Kingdom aim to negotiate the future terms for trade, tariffs and other matters.<sup>26</sup>

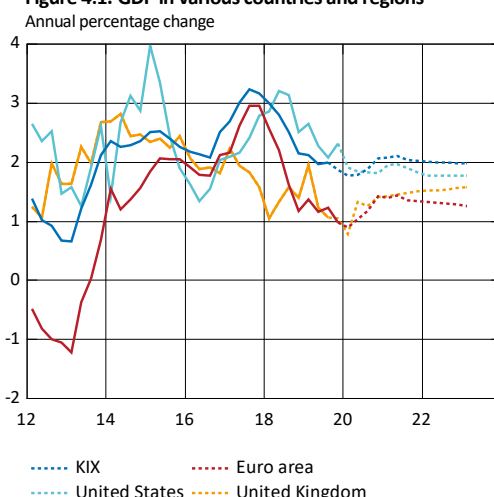
The pause in the trade conflict and the United Kingdom's orderly withdrawal from the EU have contributed towards halting the decline in confidence in the global manufacturing industry. However, the viral outbreak in China is now dampening global growth prospects. At present, it is not possible to predict the epidemic's continued spread and therefore it is difficult to estimate the economic consequences, both as regards growth in Asia and as regards China's trade with the rest of the world (see the box "Novel coronavirus in China"). The forecast assumes that growth in Asia will be lower over the first six months of the year, compared with the assessment in December. Lower demand in Asia and disruptions to the supply of input goods mean that growth in the United States and Europe will also be affected. However, some recovery is expected over the second six months of the year. Overall, this means that growth in Sweden's most important export markets will rise to 3 per cent this year and that it will grow by just over 3 per cent per year over the next few years (see Figure 4:2). The Riksbank is following the impact of the epidemic on global growth prospects and is adjusting its forecasts as more information becomes available.

#### Economic activity in the euro area to stabilise

The assessment is that monetary policy in the euro area will remain expansionary throughout the forecast period. Fiscal policy is also expected to provide some support to demand, with higher public expenditure and lower taxes. Since 2013, unemployment has fallen by almost 5 percentage points and consumer confidence is relatively high. However, in the period ahead, some slowdown is expected in employment growth. Unemployment, which has fallen at a slower rate over the last six months, is expected to remain on a level just below 7.5 per cent. The rate of wage growth will also slow down over the next few years, after several years with a growing rate of increase.

The potential growth rate in the euro area is low, due to low population growth and other factors. Towards the end of the forecast period, the working age population will decrease. While

Figure 4.1. GDP in various countries and regions



Note. KIX is an aggregate of countries that are important to Sweden's international trade.

Sources: Bureau of Economic Analysis, Eurostat, national sources, Office for National Statistics and the Riksbank

#### Novel coronavirus in China

The Chinese authorities have so far confirmed more than 40,000 cases of patients infected with the novel coronavirus that was discovered in December and that has spread to several other countries in Asia, North America and Europe. So far, over 900 fatalities have been linked to the viral outbreak.<sup>27</sup> The province of Hubei, of which Wuhan is the capital, has been placed in quarantine, affecting about 60 million inhabitants. In many cities in China, offices, schools and factories have been kept closed with the aim of decreasing the risk of contagion.

It is difficult to estimate the economic consequences of the novel coronavirus, as it is difficult to gain an overview of the extent of the outbreak at present. In 2003, the world was affected by another coronavirus named SARS, which led to about 800 fatalities. The economic consequences of SARS were deemed to have been minor, among other reasons because the authorities gained control over the spread of contagion fairly quickly. Above all, it was tourism and retail sales that were affected. The effects on China's GDP were short-lived and the growth trend was unaffected.

The novel coronavirus has already affected more people than SARS did in 2003. In addition, China's importance for the global economy has grown significantly since then. In 2018, output in China corresponded to almost 16 per cent of the world's total GDP, in comparison with about 4 per cent at the time of the SARS outbreak. Over the same period, the country's share of the world's total exports has more than doubled, from about 6 per cent to about 14 per cent, according to World Bank figures.<sup>28</sup> About 4 per cent of Sweden's total exports went to China in 2018.<sup>29</sup>

The spread of the novel coronavirus has led to unease on financial markets and the price of oil has fallen. The virus outbreak coincided with the Chinese New Year, which is a time when many people travel and when consumption is usually high. Clear negative effects are therefore expected on tourism and consumption. To this can be added the risk of disruptions to output in the manufacturing sector, both in China and outside it. Chinese factories supply companies around the world with input goods and missed deliveries have already led to production stoppages in other countries in Asia. If contagion is not restricted soon, such supply shocks could also lead to serious consequences in Europe and the United States.

<sup>26</sup> The United Kingdom will remain part of the EU single market and customs union over the transition period. When it comes to the impending negotiations, representatives of the European Commission say that it will be difficult to reach agreement on all areas by the end of the year (see speech by President of the European Commission Ursula von der Leyen at London School of Economics, 8 January 2020, and statement by European Commission Chief Negotiator Michel Barnier during his visit to Stockholm on the same day). Alongside the terms for the trade in goods, the parties must negotiate on issues concerning transport, financial services, fishing rights and other areas. Should the UK and the EU so wish, the transitional period can be extended. A request for an extension must have been received from the UK Government by latest 30 June 2020.

<sup>27</sup> WHO Novel Coronavirus Situation Report 21, published 10 February 2020.

<sup>28</sup> Data on China's share of the world's total GDP and exports is based on statistics compiled by the IMF (*World Economic Outlook*, October 2019) and World Bank (*Global Economic Monitor*), respectively. The calculation refers to output and exports at current prices.

<sup>29</sup> China's share of Swedish goods exports was approximately 5 per cent for the same year, according to Statistics Sweden.

the labour force participation rate is also expected to rise slightly, so that the labour force will still continue to increase, the rate of increase will be low. Productivity has developed weakly in recent years but higher investment levels will contribute to rising productivity growth in the period ahead. In the forecast, GDP grows by just over 1.2 per cent per year over the next three years, which is approximately the level deemed to be sustainable in the long term (see Figure 4:1). Resource utilisation is expected to remain normal.

**Growth slowly falling in the United States**

Several years of high growth and falling unemployment have resulted in resource utilisation in the US economy now being higher than normal. However, the growth rate is expected to become lower over the next few years and resource utilisation will then fall and approach a normal level. Among other things, this forecast is based on the assumption that fiscal policy in the period ahead will make less of a contribution to shoring up demand, compared with developments in recent years. The recently implemented cut of the US policy rate simultaneously supports economic activity.

In recent years, the trade conflict between the United States and China has created uncertainty over the conditions for future trade, and this is deemed to have contributed towards dampening companies’ willingness to invest. Great uncertainty still prevails over how the US trade policy will be formulated in the period ahead, but the pause in the trade conflict with China has, nevertheless, reduced this uncertainty. Overall, GDP is expected to grow by 1.9 per cent this year, and by 1.8 per cent per year in 2021–2022 (see Figure 4:1).

**Viral epidemic restraining oil price**

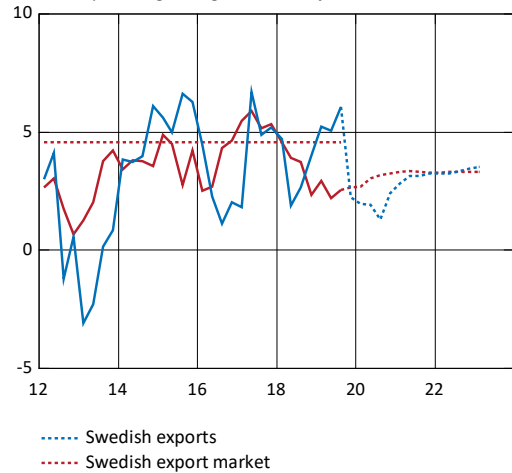
In December, the global market price of oil rose after reports of success in the negotiation of a new trade agreement. Following the US drone attack in Iraq on 3 January, the price increased further so that Brent oil cost about USD 68 per barrel. Following this, however, the price fell back and has been around USD 55 per barrel in recent days. China is the world’s largest net importer of petroleum products and the rapid spread of the coronavirus has created uncertainty over China’s growth and thereby over future demand for oil. According to forward pricing, the price over the next few years will be just over USD 55 per barrel (see Figure 4:3).

**Slowly rising inflation abroad**

KIX weighted inflation abroad is expected to be slightly below 2 per cent this year and next year, after which it will rise to just over 2 per cent in 2022 (see Figure 4:4).

In the euro area, HICP inflation is 1.4 per cent, which is lower than the ECB’s target of inflation just below 2 per cent. Inflation is also low according to underlying HICP, adjusted for energy, food, alcohol and tobacco.

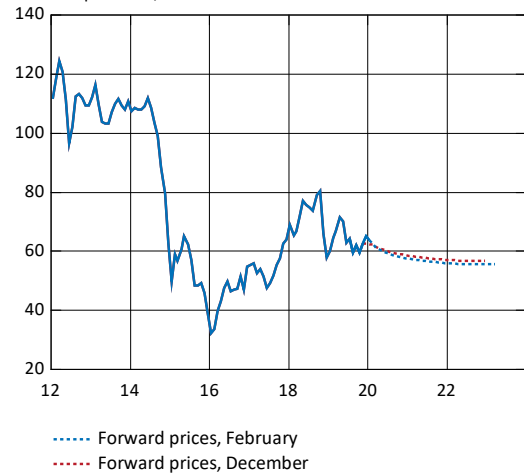
**Figure 4:2. Exports and the Swedish export market**  
Annual percentage change, calendar-adjusted data



Note. The Swedish export market index aims to measure import demand in the countries to which Sweden exports. This is calculated by aggregating 32 countries and covers around 85 per cent of the total Swedish export market. Dashed line refers to an average of Swedish export market growth, 2000Q1–2019Q3.

Sources: Statistics Sweden and the Riksbank

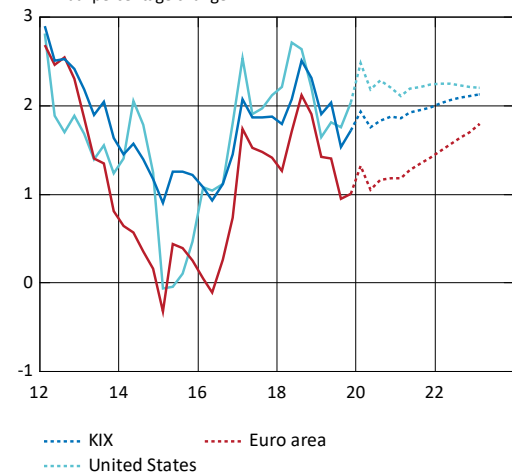
**Figure 4:3. Price of crude oil**  
USD per barrel, Brent oil



Note. Forward prices are calculated as a 15-day average. The outcomes refer to monthly averages of spot prices.

Sources: Macrobond and the Riksbank

**Figure 4:4. Consumer prices**  
Annual percentage change



Note. KIX is an aggregate of the countries that are important to Sweden’s international trade.

Sources: The Bureau of Labor Statistics, Eurostat, national sources and the Riksbank



The rate of price increases in the euro area has been surprisingly slow in recent years, particularly considering that development on the labour market has been strong. The relatively low rate of inflation may be due to the pass-through from rising wages being unusually slow or lower when inflation is already low.<sup>30</sup> One possible explanation for such a delay is that many companies are basing their decisions on pricing on backward-looking inflation expectations and that it therefore takes time before rising cost pressures have a clear impact on consumer prices.

Inflation in the euro area is expected to remain low over the coming year but, in the long run, the higher costs will be passed on to consumers. HICP inflation will therefore rise over the forecast period, from 1.3 per cent this year to 1.6 per cent in 2022 (see Figure 4.4).

Wages in the United States are expected to rise at a good rate over the next few years. Together with the effects of previous tariff increases, higher wages are contributing to higher costs for companies and to CPI inflation rising to 2.3 per cent this year. However, in the longer term, inflationary pressures will be restrained slightly as growth falls and resource utilisation is normalised. Overall, CPI inflation in the United States is expected to be just above 2 per cent in 2021 and 2022 (see Figure 4:4).

## Sweden

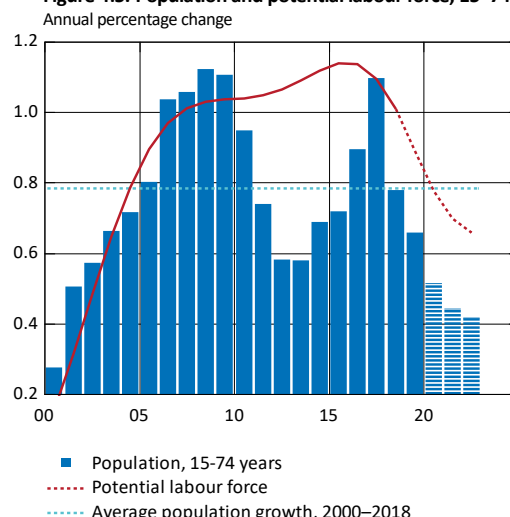
### Slower growth in labour supply

How labour supply and productivity develop over time is affected by the economy's growth over the long term. In Sweden, the working-age population and labour supply have grown relatively quickly in recent years (see Figure 4:5). This can largely be explained by immigration. In addition, there has been an upward trend in the labour force participation rate among Swedish-born and foreign-born persons.

Over the forecast period, growth in the working-age population will slow as the Swedish-born population gets older on average at the same time as the foreign-born population increases at a slower and slower rate. The proportion of older people participating in the labour force is simultaneously expected to increase, among other reasons because the age limits in the pension system are being raised and because people are staying healthy to a more advanced age and also living longer. The number of foreign-born persons participating in the labour force is also expected to increase. Overall, this means that labour supply growth will continue to be significantly higher than growth in that part of the population that is of working age (see Figure 4:5).

<sup>30</sup> See "Wage Growth and Inflation in Europe: A Puzzle?", Chapter 2 of *IMF Regional Economic Outlook: Europe*, 2019, E. Bobeica et al., 2019, "The link between labor cost and price inflation in the euro area", ECB Working Paper Series No 2235 and Y. Abdih et al., 2018, "Understanding Euro Area Inflation Dynamics: Why So Low for So Long?", IMF Working Paper WP/18/188.

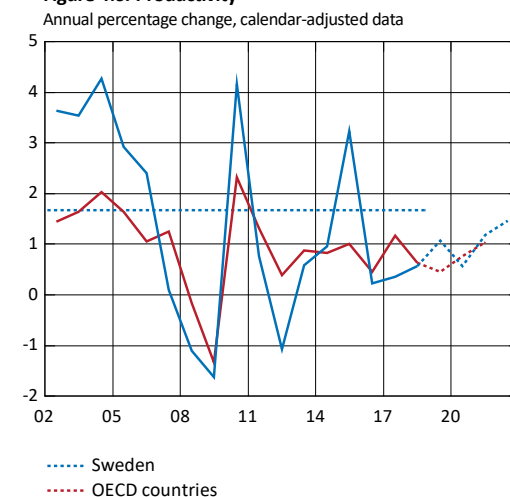
**Figure 4:5. Population and potential labour force, 15–74 years**



Note. Potential labour force refers to the long-term sustainable level according to the Riksbank's assessment.

Sources: Statistics Sweden and the Riksbank

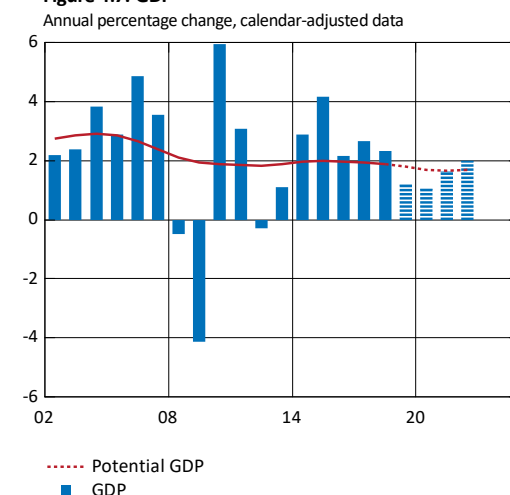
**Figure 4:6. Productivity**



Note. The forecast for the OECD is taken from Economic Outlook, November 2019. Productivity for the OECD refers to GDP per employee. For Sweden, it refers to GDP per hour worked. The broken line represent the average Swedish productivity growth 1995–2018.

Sources: OECD, Statistics Sweden and the Riksbank

**Figure 4:7. GDP**



Note. Potential GDP refers to the long-term sustainable level according to the Riksbank's assessment.

Sources: Statistics Sweden and the Riksbank

Productivity growth has long been low, both in Sweden and abroad. In Sweden, average productivity has grown by 0.9 per cent per year since 2005, which can be compared to average growth of 1.7 per cent per year since 1995. Of the various structural factors that are restraining productivity growth in Sweden, the comparatively slow technological development abroad is deemed to be particularly significant.<sup>31</sup> However, the low productivity growth in recent years is also due to cyclical causes. A certain recovery took place last year and, over the forecast period, growth is expected to increase so that productivity will grow by about 1.5 per cent per year towards the end of the period (see Figure 4:6). Overall, growth in the labour force and productivity is expected to lead to potential GDP growth of nearly 2 per cent a year in 2019–2022 (see Figure 4:7).

**Lower growth gives a balanced economic situation**

After several years of good growth and high resource utilisation, growth in Sweden softened in the second half of 2018 and was modest in 2019 (see Figure 4:7). Growth is also expected to be slightly lower than the economy’s growth potential this year. This is due in part to the Swedish export market growing at a comparatively slow rate and to a decline in housing construction. The Riksbank’s overall assessment is that resource utilisation is now close to a normal level and that GDP in the next few years will grow at approximately the rate that is sustainable in the long term.

**Dampened willingness to invest and resilient households**

In the wake of the earlier fall in the price of housing, the number of housing starts has significantly fallen recently. This year, the number of housing starts is expected to amount to just over 45,000, which is still high from a historical perspective. The rate of housing construction is expected to remain approximately unchanged in the period ahead. Housing investment will continue to fall this year but, as of next year, stabilisation will take place and, over the next few years, housing investment will remain approximately unchanged.

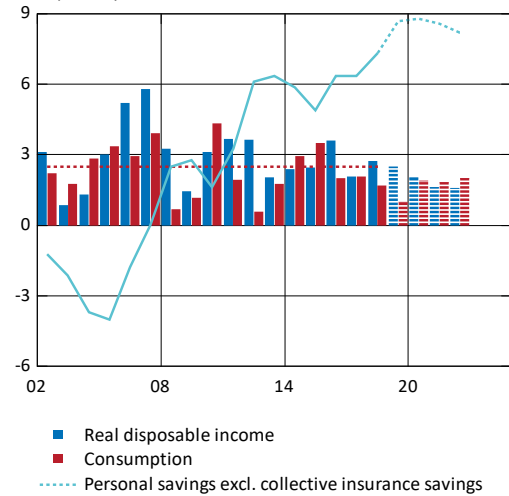
As the prospects for industrial activity have deteriorated, the willingness to invest among companies in the rest of the business sector (excluding housing) has decreased and growth stagnated in 2019. Some recovery is expected in the period ahead but, despite this, the assessment is that investment overall will develop weakly over the next few years.

For a number of years, household consumption has increased more slowly than disposable income. Consumption is expected to continue to grow by slightly less than 2 per cent per year in the period ahead, even though the labour market has now slowed, and will contribute to disposable incomes growing more slowly for a few years (see Figure 4:8). This development corresponds with a historical pattern in which consumption growth varies less between individual years, compared with growth in incomes.

<sup>31</sup> See the chapter “Productivity growth in Sweden and abroad” in the National Institute of Economic Research’s wage formation report 2019.

**Figure 4:8. Households’ real disposable income, consumption and savings ratio**

Annual percentage change and per cent of disposable income, respectively

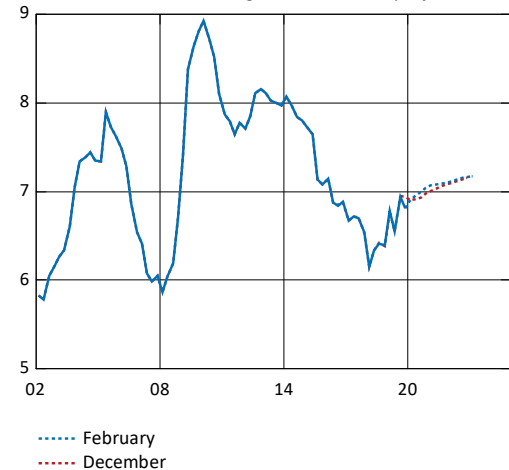


Note. Disposable income has been deflated using the household consumption deflator. Broken line is the average of consumption growth 1994–2018. Collective insurance savings consist of savings that households do not control themselves, e.g. premium pensions and collective agreements insurances.

Sources: Statistics Sweden and the Riksbank

**Figure 4:9. Unemployment**

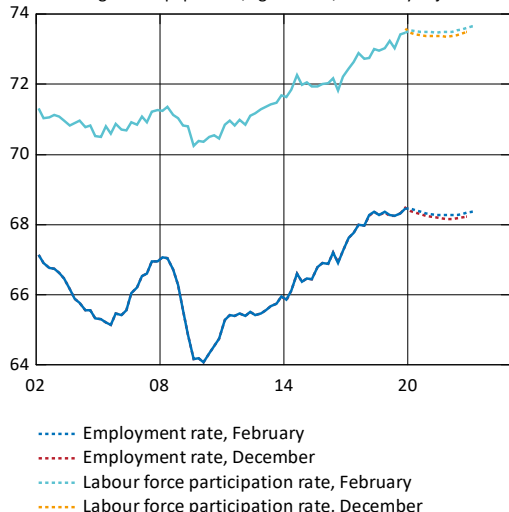
Per cent of the labour force, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

**Figure 4:10. Employment rate and labour force participation rate**

Percentage of the population, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

**Lower net lending in the public sector**

General government net lending for 2019 is deemed to have fallen to a level corresponding to about 0.3 per cent of GDP, from having amounted to 0.8 per cent of GDP in 2018. At the same time as economic activity is slowing down, demographic changes mean that many municipalities and regions need to increase their expenditure, which is contributing to rising domestic demand. This year, net lending is expected to decrease further slightly to be close to zero over the next few years, which corresponds with the historical pattern of lower lending in times when resource utilisation declines and expenditure is rising.

**Housing prices are rising at a slower rate**

Measured by the HOX housing price index, housing prices rose by 4.5 per cent in December compared with the same month the year before. The development of housing prices differs from region to region and between different types of housing. However, the last year’s increase means that the price for an average Swedish home is now back at approximately the same level as in August 2017, just before prices started to fall. The rising rate of price increases is due to demand for housing being relatively strong. However, supply remains high from a historical perspective and, in addition, household incomes are expected to grow at a slower rate in the period ahead than they have in recent years. Consequently, in the forecast, the rate of price increase falls back slightly.

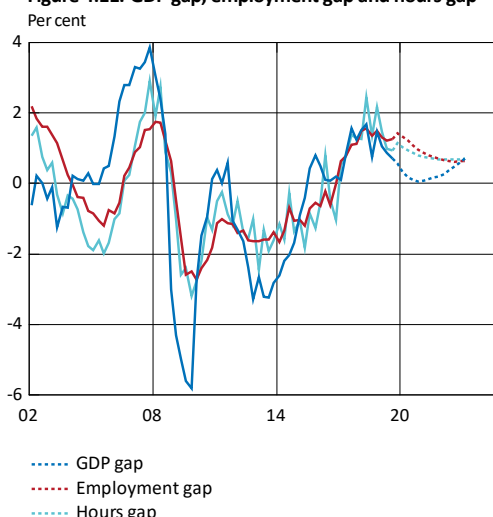
Despite the recovery of housing prices, debt growth has slowed down and debts are now increasing by about 5 per cent at an annual rate. Household debt is increasing at such a rapid rate because, among other things, a person purchasing a home on the secondary market today will pay a price that, on average, is significantly higher than the price the seller once had to pay. In addition, many are taking mortgages as the number of additional new homes remains great. The previously introduced amortisation requirements are certainly restraining the growth of debts where housing is used as collateral. This is because an increasing proportion of borrowers are subject to the requirements, as housing changes hands and new mortgages have to be taken. At the same time, however, household consumption loans have increased at a comparatively rapid rate in recent years.<sup>32</sup> Debt as a percentage of disposable household income, the debt-to-income ratio, is expected to increase to about 194 per cent in 2022 (see Figure 1:10).

**Some slowdown on the labour market**

In step with the economy entering a phase of slower growth, resource utilisation on the labour market has softened. Demand for labour decreased last year, which was reflected, among other things, by a lower recruitment need among companies and a certain upturn in the number of redundancy notices.

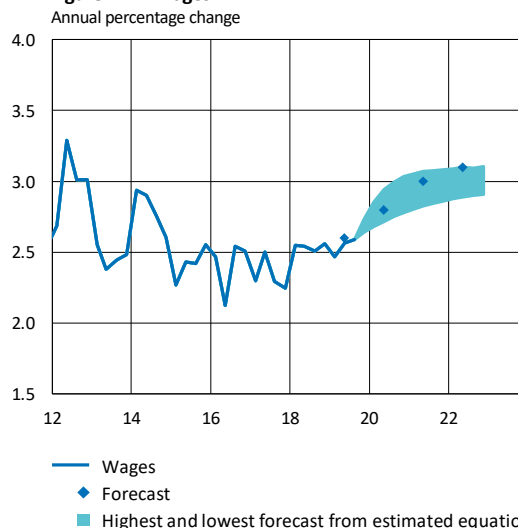
<sup>32</sup> Consumption loans, which make up about 6 per cent of household’s total debts with MFIs, increased in December 2019 by just over 8 per cent, compared with the level one year previously. Consumption loans are largely formed of what is known as unsecured credit.

**Figure 4:11. GDP gap, employment gap and hours gap**



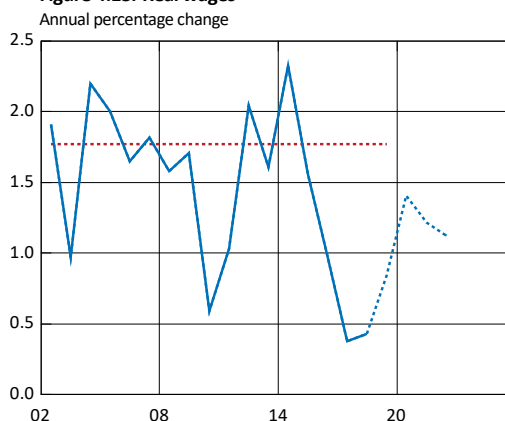
Note. The gaps refer to the deviation of GDP and the number of hours worked from the Riksbank’s assessed trends.  
Sources: Statistics Sweden and the Riksbank

**Figure 4:12. Wages**



Note. Wages according to the short-term wage statistics. The squares illustrate the Riksbank’s forecasts for wage growth for 2019–2022. The band illustrates the difference between the highest and lowest forecast from simple estimated equations in which wage growth is explained by the GDP gap, productivity, international wages (KIX-weighted) and profit share in the entire economy.  
Sources: National Mediation Office and the Riksbank

**Figure 4:13. Real wages**



Note. Short-term wages are deflated by the CPIF. The broken red line represent the mean value 1995–2018.  
Sources: National Mediation Office, Statistics Sweden and the Riksbank

Employment increased at a slower rate and unemployment increased slightly (see Figure 4:9). Despite lower employment growth, the employment rate remains at historically high levels (see Figure 4:10). Over the next few years, a further slowdown is expected in demand for labour. Employment growth will therefore be restrained further. However, the labour force will also grow more slowly in the period ahead and unemployment will therefore increase at a slow pace (see Figures 4:9 and 4:10). The employment rate will decrease slightly but, despite this, will remain on a high level.

The rise in unemployment is mainly due to the slowdown in economic activity, although there are also structural causes. For example, there has been a major inflow to the labour force of people with a weak connection to the labour market, particularly those lacking upper-secondary education or work experience from the Swedish labour market. This development has entailed a substantial change in the composition of the unemployed, so that increasing numbers belong to one or other of the groups deemed to have weak competitiveness on the labour market. Just over 75 per cent of those registered as unemployed at the Swedish Public Employment Service now belong to one or other of these groups.<sup>33</sup> Also in the period ahead, most people entering the labour force are expected to have a comparatively weak connection to the Swedish labour market.

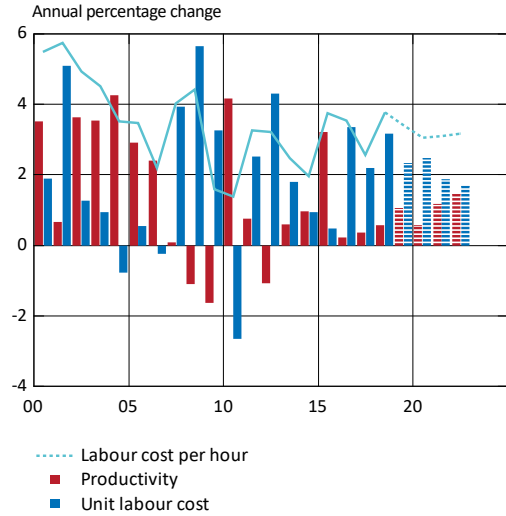
**Wages increasing at a faster rate**

Wage growth has been around 2.5 per cent over the last two years. This is an unusually slow rate of increase in relation to the strong economic situation of recent years and this development can partly be explained by low productivity growth.

Several factors indicate that wage growth will rise in the period ahead. The labour market has been strong for several years, while inflation has increased and been close to the target in recent years. Productivity growth has also risen and this development is expected to continue over the next few years. In addition, wage growth abroad has increased. Different models, in which wage growth is explained by resource utilisation, productivity, the profit share in the economy and international wage growth, forecast rising wage growth. The Riksbank’s forecast is approximately in line with the model forecasts (see Figure 4:12). The growth rate in real wages, which has been low from a historical perspective, is expected to increase as nominal wage growth rises (see Figure 4:13).

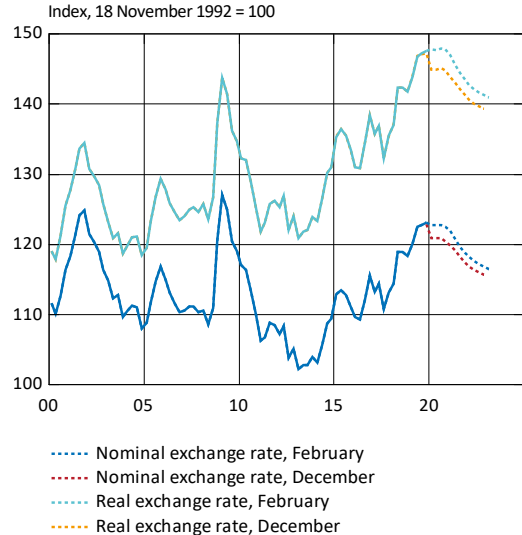
Despite moderate wage rises, unit labour costs have risen at a relatively rapid rate in recent years. The reason for this is that productivity growth has been low. In the period ahead, unit labour costs are expected to rise more or less in line with their historical average of 2 per cent per year (see Figure 4:14).

**Figure 4:14. Labour costs in the whole economy**



Sources: Statistics Sweden and the Riksbank

**Figure 4:15. Nominal and real exchange rate, KIX**



Note. The KIX (krona index) is a weighted average of the krona exchange rate against currencies in 32 countries that are important for Sweden's international trade. A higher value indicates a weaker exchange rate. The real exchange rate is calculated using the CPIX for Sweden and the CPI for other countries.

Sources: National sources, Statistics Sweden and the Riksbank

<sup>33</sup> According to the Employment Service’s definition, the term unemployed with weak competitiveness covers unemployed persons belonging to one or more of the following categories: those lacking upper-secondary education, those born outside Europe, those with a disability and those in the age group 55–64 years.

**Krona to appreciate in period ahead**

After having appreciated at the end of 2019, the krona depreciated slightly again at the start of this year. The Riksbank deems that the krona is presently weaker than can be justified by long-term determinants and that it will therefore appreciate in the longer term. However, it is uncertain how rapidly and at what pace this will happen. The current forecast is based on an assessment in which the krona neither appreciates nor depreciates over the coming year. Thereafter, a gradual appreciation of the exchange rate is expected similar to the assessment in the Monetary Policy Report from December (see Figure 4:15).

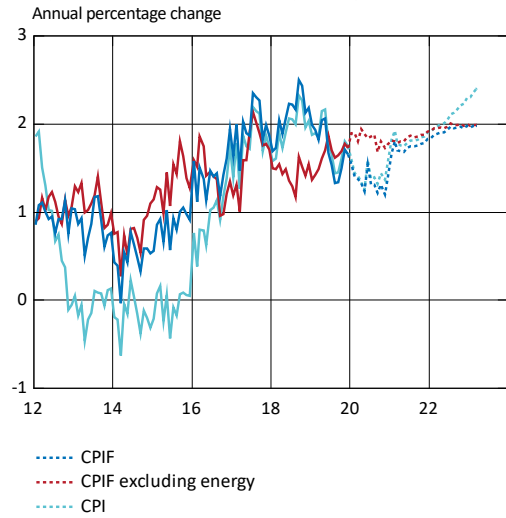
**Inflation rising gradually towards the target**

Having been close to the Riksbank’s target of 2 per cent since the start of 2017, CPIF inflation fell during the summer of 2019. The downturn was mainly due to a falling rate of increase in energy prices. During the autumn, CPIF inflation increased again (see Figure 4:16) but, since the monetary policy meeting in December, inflation has been slightly lower than expected. In December, CPIF inflation amounted to 1.7 per cent and the same rate of increase was measured in the CPIF excluding energy. The median of the different measures of underlying inflation that the Riksbank monitors lies at 1.8 per cent.

CPIF inflation will fall slightly over 2020. This is primarily explained by falling energy prices. At the same time, the krona's effects on inflation will decline. Inflation measured in terms of the CPIF excluding energy will have a more stable development and is expected to vary between 1.7 per cent and 1.9 per cent over the year (see Figure 4:17). The prices in the CPI affected most by resource utilisation have gradually increased at an ever-increasing rate in recent years. Demand in the Swedish economy has been high for a long period and domestic demand is expected to strengthen again towards the end of the forecast period. In the period ahead, rising wage growth and higher inflation abroad will contribute to the CPIF excluding inflation rising at a rate close to 2 per cent. In addition, over the next few years, energy prices will increase at a higher rate and this also contributes to the assessment that CPIF inflation will be close to the target of 2 per cent at the end of the forecast period (see Figures 4:16 and 4:18).

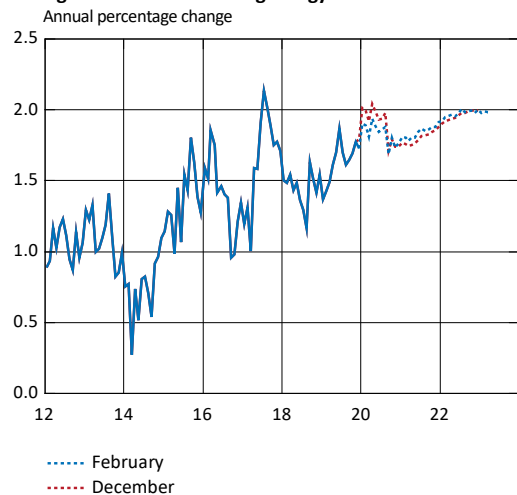
Compared with the assessment in December, inflation is expected to be lower this year. Inflation measured in terms of the CPIF excluding energy will be slightly lower in 2020, above all because outcomes at the end of 2019 were lower than expected. In addition, energy prices have been revised downwards and are now expected to be significantly lower, compared with the forecast in December. The unusually mild winter is an important reason for why electricity prices have fallen recently (see Figure 4:18). This, in turn, means that the forecast for CPIF inflation has been revised clearly downwards for this year.

**Figure 4:16. CPIF, CPIF excluding energy and CPI**



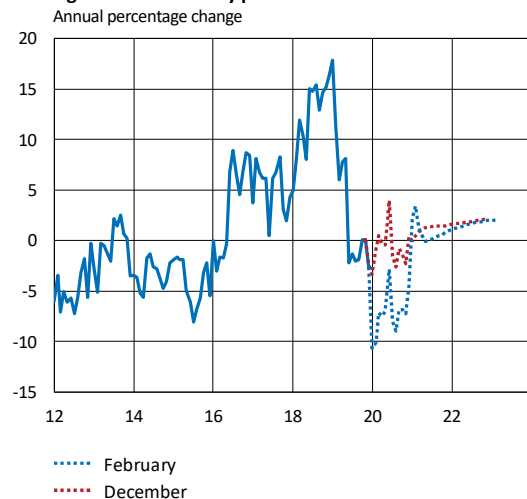
Sources: Statistics Sweden and the Riksbank

**Figure 4:17. CPIF excluding energy**



Sources: Statistics Sweden and the Riksbank

**Figure 4:18. Electricity prices in the CPIF**



Note. Electricity prices have a weight of about 4 per cent in the CPIF. Sources: Statistics Sweden and the Riksbank

## Tables

The forecast in the previous Monetary Policy Report is shown in brackets unless otherwise stated.

**Table 1. Repo rate forecast**

Per cent, quarterly averages

	Q4 2019	Q1 2020	Q2 2020	Q1 2021	Q1 2022	Q1 2023
Repo rate	-0.25 (-0.25)	-0.02 (-0.02)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.18

Source: The Riksbank

**Table 2. Inflation**

Annual percentage change, annual average

	2018	2019	2020	2021	2022
CPIF	2.1 (2.1)	1.7 (1.7)	1.3 (1.7)	1.7 (1.7)	1.9 (1.9)
CPIF excl. energy	1.4 (1.4)	1.6 (1.6)	1.8 (1.9)	1.8 (1.8)	2.0 (2.0)
CPI	2.0 (2.0)	1.8 (1.8)	1.4 (1.8)	1.8 (1.8)	2.1 (2.1)
HICP	2.0 (2.0)	1.7 (1.7)	1.4 (1.8)	1.7 (1.7)	1.9 (1.9)

Note. HICP is an EU harmonised index of consumer prices.

Sources: Statistics Sweden and the Riksbank

**Table 3. Summary of financial forecasts**

Per cent, unless otherwise stated, annual average

	2018	2019	2020	2021	2022
Repo rate	-0.5 (-0.5)	-0.3 (-0.3)	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)
10-year rate	0.7 (0.7)	0.1 (0.1)	0.2 (0.3)	0.6 (0.7)	1.0 (1.1)
Exchange rate, KIX, 18 November 1992 = 100	117.6 (117.6)	122.1 (122.1)	122.7 (120.8)	120.3 (118.6)	117.5 (116.3)
General government net lending*	0.8 (0.8)	0.3 (0.3)	0.0 (0.0)	-0.1 (-0.1)	-0.1 (-0.1)

\* Per cent of GDP.

Sources: Statistics Sweden and the Riksbank

**Table 4. International conditions**

Annual percentage change, unless otherwise stated

GDP	PPP-weights	KIX-weights	2018	2019	2020	2021	2022
Euro area	0.11	0.49	1.9 (1.9)	1.2 (1.2)	1.1 (1.2)	1.4 (1.3)	1.3 (1.3)
USA	0.15	0.08	2.9 (2.9)	2.3 (2.3)	1.8 (1.8)	1.9 (1.7)	1.8 (1.7)
Japan	0.04	0.02	0.3 (0.3)	1.0 (1.0)	0.2 (0.3)	0.6 (0.5)	0.6 (0.6)
China	0.19	0.09	6.7 (6.7)	6.1 (6.1)	5.6 (5.9)	5.9 (5.8)	5.8 (5.8)
KIX-weighted	0.75	1.00	2.6 (2.6)	2.0 (2.0)	1.9 (1.9)	2.1 (2.0)	2.0 (2.0)
World (PPP-weighted)	1.00	—	3.6 (3.6)	3.0 (3.0)	3.2 (3.3)	3.6 (3.5)	3.6 (3.6)

Note. Calendar-adjusted growth rates. The PPP weights refer to the global purchasing-power adjusted GDP weights for 2019, according to the IMF. KIX weights refer to weights in the Riksbank's krona index (KIX) for 2020. The forecast for GDP in the world is based on the IMF's forecasts for PPP weights. The forecast for KIX-weighted GDP is based on an assumption that the KIX weights will develop in line with the trend during the previous five years.

CPI	2018	2019	2020	2021	2022
Euro area (HICP)	1.8 (1.8)	1.2 (1.2)	1.2 (1.2)	1.3 (1.3)	1.6 (1.6)
USA	2.4 (2.4)	1.8 (1.8)	2.3 (2.3)	2.2 (2.2)	2.2 (2.2)
Japan	1.0 (1.0)	0.5 (0.6)	0.7 (0.8)	0.8 (0.9)	0.9 (1.0)
KIX-weighted	2.2 (2.2)	1.8 (1.8)	1.9 (1.8)	1.9 (1.9)	2.1 (2.1)

	2018	2019	2020	2021	2022
Policy rates in the rest of the world, per cent	0.1 (0.1)	0.1 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Crude oil price, USD/barrel Brent	71.5 (71.5)	64.1 (63.9)	59.9 (60.3)	56.7 (57.8)	55.7 (56.9)
Swedish export market	3.6 (3.6)	2.6 (2.8)	3.0 (3.1)	3.3 (3.2)	3.3 (3.2)

Note. International policy rate is an aggregate of policy rates in the US, the euro area (EONIA), Norway and the United Kingdom.

Sources: Eurostat, IMF, Intercontinental Exchange, national sources, OECD and the Riksbank



**Table 5. GDP by expenditure**

Annual percentage change, unless otherwise stated

	2018	2019	2020	2021	2022
Private consumption	1.7 (1.7)	1.0 (1.0)	1.9 (1.9)	1.8 (2.0)	2.0 (2.0)
Public consumption	0.4 (0.4)	0.4 (0.4)	1.0 (0.7)	1.0 (1.0)	0.9 (0.9)
Gross fixed capital formation	4.2 (4.2)	-1.3 (-1.2)	-0.2 (0.3)	1.7 (1.7)	2.5 (2.2)
Inventory investment*	0.4 (0.4)	-0.3 (-0.3)	-0.5 (-0.3)	0.0 (0.0)	0.0 (0.0)
Exports	3.2 (3.2)	4.5 (4.7)	2.3 (3.0)	3.3 (3.1)	3.3 (3.2)
Imports	3.6 (3.6)	1.9 (2.2)	1.0 (2.4)	3.0 (3.1)	3.1 (2.9)
GDP	2.2 (2.2)	1.2 (1.1)	1.3 (1.2)	1.8 (1.7)	2.0 (1.9)
GDP, calendar-adjusted	2.3 (2.3)	1.2 (1.2)	1.0 (1.0)	1.6 (1.6)	2.0 (2.0)
Final domestic demand*	1.9 (1.9)	0.2 (0.2)	1.1 (1.1)	1.5 (1.6)	1.8 (1.7)
Net exports*	-0.1 (-0.1)	1.3 (1.2)	0.7 (0.4)	0.3 (0.1)	0.2 (0.2)
Current account (NA), per cent of GDP	2.7 (2.7)	4.2 (4.2)	4.7 (4.4)	4.8 (4.3)	4.8 (4.4)

\*Contribution to GDP growth, percentage points

Note. The figures show actual growth rates that have not been calendar-adjusted, unless otherwise stated. NA is the National Accounts.

Sources: Statistics Sweden and the Riksbank

**Table 6. Production and employment**

Annual percentage change, unless otherwise stated

	2018	2019	2020	2021	2022
Population, aged 15–74	0.8 (0.8)	0.7 (0.7)	0.5 (0.5)	0.4 (0.4)	0.4 (0.4)
Potential hours worked	0.9 (0.9)	0.8 (0.8)	0.7 (0.7)	0.6 (0.6)	0.6 (0.6)
Potential GDP	1.9 (1.8)	1.8 (1.8)	1.7 (1.7)	1.7 (1.7)	1.7 (1.7)
GDP, calendar-adjusted	2.3 (2.3)	1.2 (1.2)	1.0 (1.0)	1.6 (1.6)	2.0 (2.0)
Number of hours worked, calendar-adjusted	1.8 (1.8)	0.1 (0.0)	0.5 (0.3)	0.4 (0.4)	0.5 (0.5)
Employed, aged 15–74	1.5 (1.5)	0.7 (0.7)	0.6 (0.5)	0.3 (0.3)	0.5 (0.4)
Labour force, aged 15–74	1.1 (1.1)	1.1 (1.2)	0.8 (0.6)	0.4 (0.4)	0.5 (0.5)
Unemployment, aged 15–74 *	6.3 (6.3)	6.8 (6.8)	7.0 (6.9)	7.1 (7.0)	7.1 (7.1)
GDP gap**	1.4 (1.6)	0.8 (1.0)	0.2 (0.2)	0.1 (0.1)	0.4 (0.3)
Hours gap**	1.8 (1.8)	1.1 (1.1)	0.9 (0.7)	0.7 (0.5)	0.7 (0.4)

\* Per cent of the labour force \*\*Deviation from the Riksbank's assessed potential level, per cent

Note. Potential hours refer to the long-term sustainable level for the number of hours worked according to the Riksbank's assessment.

Sources: Statistics Sweden and the Riksbank

**Table 7. Wages and labour costs for the economy as a whole**

Annual percentage change, calendar-adjusted data unless otherwise stated

	2018	2019	2020	2021	2022
Hourly wage, NMO	2.5 (2.5)	2.6 (2.6)	2.8 (2.8)	3.0 (3.0)	3.1 (3.1)
Hourly wage, NA	2.8 (2.8)	3.6 (3.8)	3.0 (2.9)	3.0 (3.0)	3.1 (3.1)
Employers' contribution*	0.7 (0.7)	-0.2 (-0.1)	0.1 (0.1)	0.1 (0.1)	0.1 (0.1)
Hourly labour cost, NA	3.5 (3.5)	3.5 (3.7)	3.1 (3.0)	3.1 (3.1)	3.2 (3.2)
Productivity	0.5 (0.5)	1.1 (1.2)	0.6 (0.7)	1.2 (1.2)	1.5 (1.4)
Unit labour cost	3.2 (3.2)	2.3 (2.5)	2.5 (2.3)	1.9 (1.9)	1.7 (1.7)

\* Difference in rate of increase between labour cost per hour, NA and hourly wages, NA, percentage points

Note. NMO is the National Mediation Office's short-term wage statistics and NA is the National Accounts. Labour cost per hour is defined as the sum of actual wages, social-security charges and wage taxes (labour cost sum) divided by the number of hours worked by employees. Unit labour cost is defined as labour cost sum divided by GDP in fixed prices.

Sources: National Mediation Office, Statistics Sweden and the Riksbank





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