

Monetary Policy Report

April 2018



Monetary Policy Report

The Riksbank's Monetary Policy Report is published six times a year. The report describes the deliberations made by the Riksbank when deciding what would be an appropriate monetary policy to conduct.¹ 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 produce 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 current Monetary Policy Report is submitted as an account of monetary policy.

The Executive Board made a decision on the Monetary Policy Report on 25 April 2016. The report may be downloaded in PDF format from the Riksbank's website www.riksbank.se, where more information about the Riksbank can also be found.

¹ 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 (the CPIF).
- At the same time as monetary policy is aimed at attaining the inflation target, it is also to 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 have a negative effect on confidence in the inflation target. The Riksbank's ambition has generally 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 imbalance in 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 six 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.

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CHAPTER 1 – Monetary policy considerations

The overall picture of the economic outlook and inflation prospects remains largely unchanged since the monetary policy meeting in February. Economic activity abroad is continuing to strengthen, but inflation is rising moderately. Conditions in the Swedish economy are strong and inflation has been close to the target over the past year. CPIF inflation was 2.0 per cent in March.

That CPIF inflation is 2 per cent owes partly to a rapid increase in energy prices. Underlying inflation has been unexpectedly low recently, which raises questions regarding the strength of inflation developments. The depreciation of the krona in recent months does contribute to higher inflation, but for inflation to stabilise close to target going forward, it is important that economic activity continues to be strong and has an impact on price development. Monetary policy therefore needs to remain expansionary and the Executive Board has decided to hold the repo rate unchanged at -0.50 per cent. Given the question marks regarding underlying inflation, the forecast for the repo rate has been revised down somewhat and indicates that slow increases in the repo rate will not begin until towards the end of the year. Reinvestments of redemptions and coupon payments in the government bond portfolio will continue until further notice. The expansionary monetary policy underlines the Riksbank's aim to safeguard the role of the inflation target as nominal anchor for price-setting and wage formation.

Strong economic activity abroad and in Sweden

International economic activity strengthened during 2017 and global GDP growth is assessed to have been the fastest since 2011. GDP growth abroad (aggregated with the weights in the krona index, KIX) was almost 3 per cent last year. The international upturn is broad, both with regard to countries and sectors. Import duties announced so far by the United States and China are at present expected to have little effect on world trade and on global GDP growth. Despite growth being high and unemployment having fallen to relatively low levels, inflationary pressures are still moderate and in the euro area in particular underlying inflation is expected to remain relatively subdued in the coming years.

Developments on the financial markets have recently been marked by increased unease and volatility, related to the economic consequences of increased protectionism. In this environment, the Swedish krona has weakened. The financial conditions abroad and in Sweden are still expansionary and households and companies still meet low interest rates.

The central banks are in different phases, with for instance the US Federal Reserve making its monetary policy less expansionary, while the European Central Bank is still extending its asset holdings. The difference in expectations of monetary policy has also increased somewhat in recent months. According to market pricing, the policy rate is now expected to be raised faster in the United States, while the European Central Bank is expected to begin its policy increases later,

Table 1.1.

Important factors for monetary policy
Increasingly strong economic activity abroad, but inflation is rising moderately.
Slow normalisation of monetary policy abroad.
The krona develops in a way compatible with inflation stabilising close to target.
Resource utilisation in Sweden higher than normal.
CPIF inflation close to target but underlying inflation still subdued.
Both short and long-term inflation expectations are close to 2 per cent.
Conclusion: Monetary policy needs to remain expansionary for CPIF inflation to be close to the target going forward. The repo rate is held unchanged at -0.50 per cent and slow increases in the repo rate are not expected to begin until towards the end of the year. Reinvestments of redemptions and coupon payments in the Riksbank's bond portfolio will continue.

Table 1.2.

Important forecast revisions
Weaker krona throughout forecast period contributing to higher inflation.
Lower underlying inflation in terms of the CPIF excluding energy in the coming year as a result of lower outcomes than expected.
Slightly lower GDP growth this year as a result of lower household consumption and investment.

compared with expectations in February. Market participants' overall assessment is that the normalisation of monetary policy is proceeding slowly and that global monetary policy will therefore remain expansionary in the years ahead.

Economic activity in Sweden remains strong and resource utilisation is assessed to be higher than normal. In the fourth quarter of 2017, exports increased rapidly while consumption and investment contributed less to growth than expected. In the coming years, growth is expected to remain good, but slow down somewhat (see Figure 1:2). Growth in exports is slowing down in line with developments on Swedish export markets and the weaker price development in the housing market will contribute to a decline in housing investment.

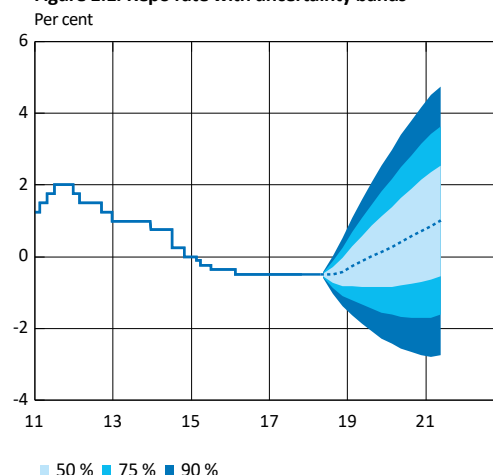
Developments on the labour market have been very strong for several years and both the labour force participation rate and the employment rate have risen to historically high levels. The increase in the labour supply and in employment will slow down in the coming years, however. This is a consequence of the population growth among the working age population slowing down relatively rapidly and of the labour force participation rate and employment rate in many groups already being at very high levels.

The high resource utilisation is reflected, for instance, in long recruitment times, that a large percentage of companies are reporting a shortage of labour and that an increasing share of recruitment is from among those who already have a job. In the coming years, the strong development in the labour market is expected to contribute to wage increases over and above the centrally-agreed wages, and thereby total wage growth, gradually rising faster. Unit labour costs, which also take into account productivity growth and are thus an important indicator of cost pressures, are rising at a relatively normal pace.

The krona exchange rate has become weaker than expected since February (see Figure 1:4). Some of this weakening has been in connection with market expectations of monetary policy in Sweden having shifted in a more expansionary direction, but the weakening has also taken place against a backdrop of unease and volatility on the financial markets. Depreciation of the exchange rate is judged to be partly temporary and the krona is expected to appreciate going forward. Compared with the previous forecast, however, the krona is assessed to be weaker throughout the forecast period.

During 2017, CPIF inflation was 2.0 per cent on average, entirely in line with the inflation target (see Figure 1:3). Rising energy prices have made a positive contribution to inflation, as has a higher rate of increase in service prices. Over the past six months, however, the rate of increase in service prices has slowed. Underlying inflation measured as CPIF excluding energy has fallen back to around 1.5 per cent and is expected to remain around this level for the rest of 2018. However, the conditions are good for underlying inflation to gradually continue to rise. In this context, the strong economic activity is

Figure 1:1. Repo rate with uncertainty bands

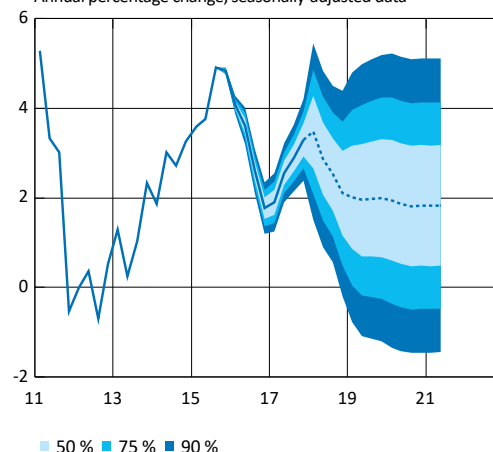


Note. The uncertainty bands for the repo rate are based on the Riksbank's historical forecasting errors and the ability of risk-premium adjusted forward rates to forecast the future repo rate for the period 1999 up to the point when the Riksbank started to publish forecasts for the repo rate during 2007. 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

Annual percentage change, seasonally-adjusted data

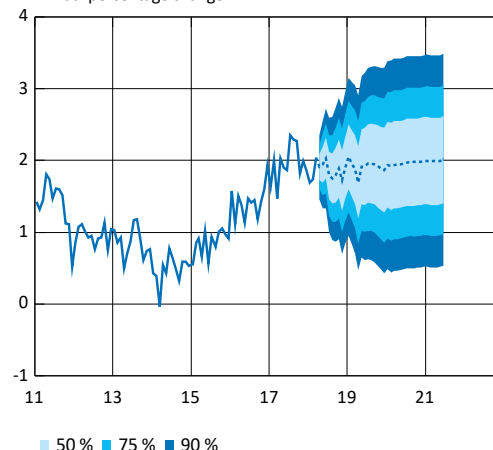


Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. There is also uncertainty for the outcomes for GDP, as the figures in the National Accounts are revised several years after the preliminary publication.

Sources: Statistics Sweden and the Riksbank

Figure 1:3. CPIF with uncertainty bands

Annual percentage change



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

Sources: Statistics Sweden and the Riksbank

of central importance. The weaker krona contributes to supporting prices of imported goods, which contributes to a higher rate of inflation. International inflation is also rising, although at a moderate pace. As in February, CPIF inflation is expected overall to amount to just below 2 per cent in the year ahead and then be close to 2 per cent.

Current monetary policy

The Riksbank's monetary policy with a negative policy rate and extensive purchases of government bonds has had a clear impact on short-term and long-term market rates and on the krona exchange rate.² Since 2014, inflation has risen and over the past year, it has been close to the target. Both short- and long-term inflation expectations have also risen and are close to 2 per cent. Monetary policy has also contributed to economic activity being strong and unemployment has fallen.

Expansionary monetary policy for inflation close to target

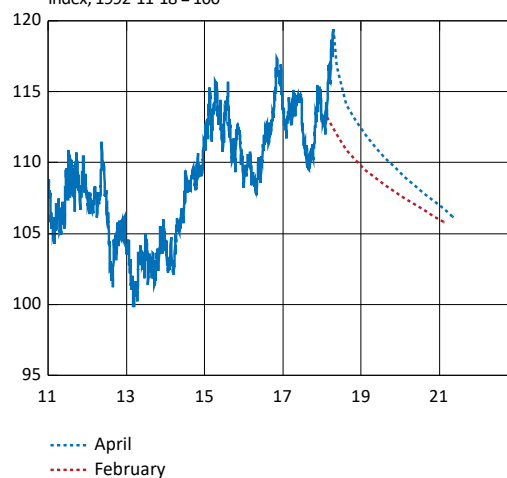
Since the monetary policy meeting in February, international economic activity has continued to strengthen, in line with the Riksbank's forecasts.

The situation in the Swedish economy is also strong, although the most recent GDP outcome showed some signs of weakness with regard to consumption and investment. The employment rate is high, unemployment has fallen to its lowest level since the financial crisis, and CPIF inflation is on target (see Figure 1:5). But CPIF inflation has been held up by rapidly rising energy prices. In recent months the CPIF excluding energy has been lower than expected, and compared with earlier assessments, the forecast is revised down this year (see Figure 1:6). Towards the end of the year, underlying inflation is expected to pick up again, partly as a result of the weaker krona. For inflation to continue to remain close to target going forward, it is important that economic activity remains strong and has an impact on price development. Monetary policy therefore still needs to be expansionary.

Given this, the Executive Board has decided to hold the repo rate unchanged at -0.50 per cent and to revise down the forecast for the repo rate, so that slow increases in the rate are not expected to begin until towards the end of the year, which is somewhat later than previously assessed (see Figure 1:7). The Riksbank's strategy for the gradual normalisation of monetary policy involves continuing to reinvest redemptions and coupon payments in the government bond portfolio for some time after the increases in the repo rate have begun.³

At the end of March, the Riksbank's government bond holdings amounted to a good SEK 320 billion, expressed as a nominal amount (see Figure 1:8). In addition to purchases

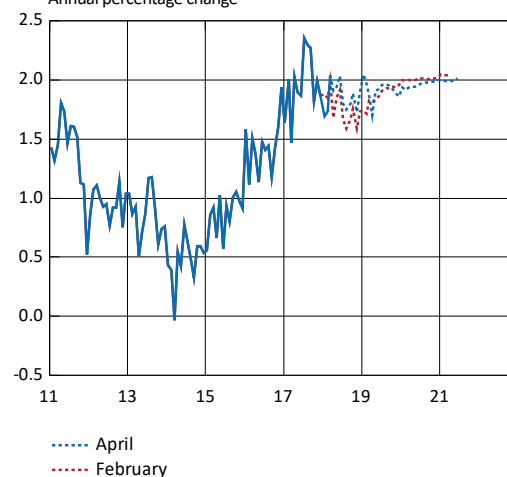
Figure 1:4. Competition-weighted nominal exchange rate, KIX
Index, 1992-11-18 = 100



Note. Outcomes are daily rates and forecasts refer to quarterly averages. KIX refers to an aggregate of countries that are important for Sweden's international transactions.

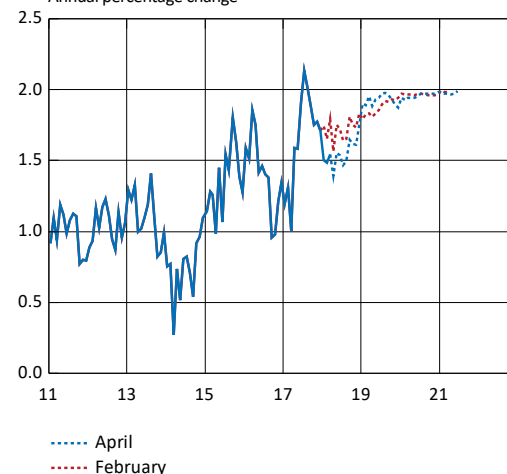
Sources: National sources and the Riksbank

Figure 1:5. CPIF
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Figure 1:6. CPIF excluding energy
Annual percentage change



Sources: Statistics Sweden and the Riksbank

² See the article "The effects of monetary policy on financial variables" in the April 2017 Monetary Policy Report.

³ See the article "The Riksbank's strategy for a gradual normalisation of monetary policy" in the December 2017 Monetary Policy Report.

made since 2015, the holdings also include the portfolio built up during 2012 and reinvestments of redemptions and coupon payments. Until further notice, redemptions and coupon payments will be reinvested in the government bond portfolio. In December 2017, the Executive Board decided to bring forward reinvestments of the large redemptions that are due during the first half of 2019. To retain the Riksbank's presence in the market and attain a relatively even rate of purchase, the Riksbank started reinvestments in January and these will continue until the middle of 2019 (see Figure 1:9). This means that the Riksbank's holdings of government bonds will increase temporarily in 2018 and early 2019 (see Figure 1:8).

As in many other countries in the world, monetary policy is expansionary and will remain so in the coming years. For example, the real repo rate is expected to be negative throughout the forecast period (see Figure 1:10).

Monetary policy considerations

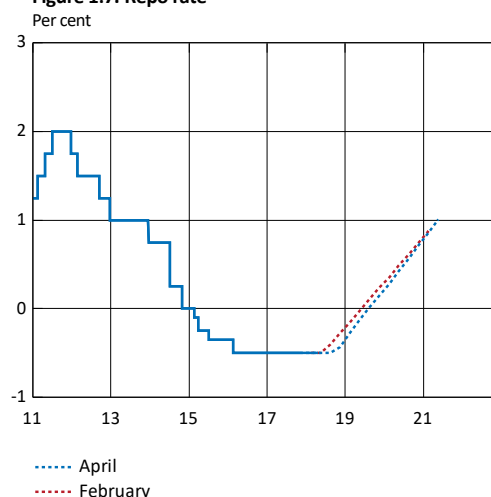
Economic activity in Sweden is strong, CPIF inflation has been close to 2 per cent for some time and inflation expectations indicate that actors have confidence in the inflation target. This could speak for beginning to raise the repo rate from today's historically low level.

But there is still considerable uncertainty over underlying inflationary pressures. The forecast for inflation was revised down in the February Monetary Policy Report and the information received after that has caused a further downward revision to the forecast for the CPIF excluding energy over the coming year. The slowdown in the rate of increase in service prices over the past six months raises questions regarding how much of an impact the strong economic activity manages to have on price increases and thereby also regarding the conditions for inflation to stabilise close the target. There is also an uncertainty over how inflation expectations may be affected in the event of further negative inflation surprises. It is possible that more long-term inflation expectations are at present unusually sensitive to shocks that can subdue inflation.

The krona exchange rate has been weaker than expected in recent months, which would normally lead to rising inflation with some time lag. However, the effect on inflation of the changes in the exchange rate depends on which factors have caused the exchange rate movements, which are often difficult to determine (see the article "The exchange rate and inflation"). The Riksbank assesses that some of the most recent weakening of the krona is temporary and that the krona will strengthen going forward. It is important that the krona exchange rate develops in a way compatible with inflation stabilising close to the target.

All in all, this indicates that inflation still needs considerable support from monetary policy. It has taken a long time to raise inflation and inflation expectations, and monetary policy needs to proceed cautiously. The repo rate is held unchanged at -0.50 per cent and the uncertainty regarding underlying inflationary

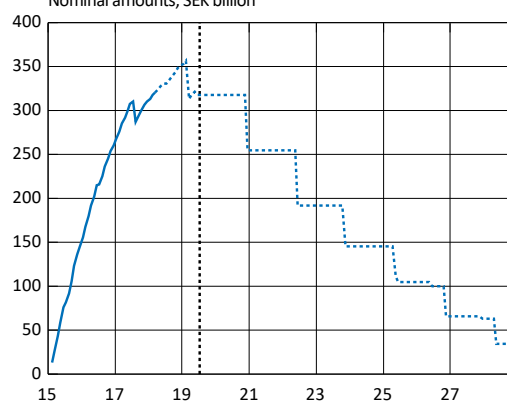
Figure 1:7. Repo rate



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

Source: The Riksbank

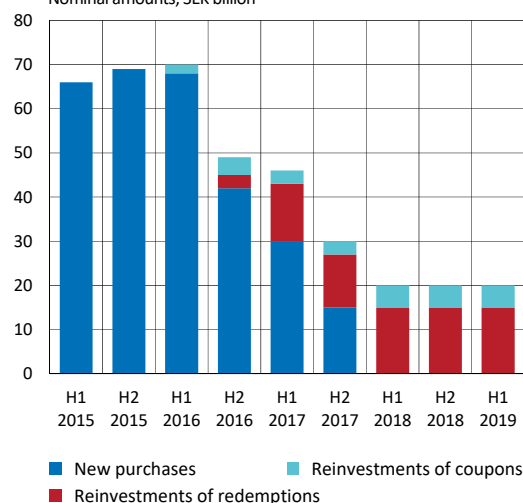
Figure 1:8. The Riksbank's holdings of government bonds
Nominal amounts, SEK billion



Note. Forecast up until June 2019, after that a technical projection with the assumption that no further reinvestments are made. The development of the holdings is also affected to a certain extent by the bonds' market prices and by which bonds the Riksbank chooses to reinvest in. The vertical line marks the shift between the forecast and technical projection.

Source: The Riksbank

Figure 1:9. The Riksbank's purchases and reinvestments
Nominal amounts, SEK billion



Note. The development for reinvestments from 2018 onwards is a forecast and refers to nominal amounts. The final amounts will depend on prevailing market prices.

Source: The Riksbank

pressures motivates beginning slow interest rate increases not until towards the end of this year. If the conditions for inflation were to change, so that it became higher or lower, the Executive Board is prepared to adapt monetary policy.

Uncertainty and risks

Forecasts of future economic developments are always uncertain, as illustrated by the uncertainty bands in Figures 1:2–1:3. In the Riksbank's forecasts, the risks of both more and less favourable development shall in principle be balanced. It is difficult, however, to assess the likelihood of future events and the consequences they might have should they occur.

Neither is it obvious how monetary policy should relate to uncertainty and risks. There are occasions on which, in monetary policy deliberations, one 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, one may need to await more information before monetary policy can be adjusted.

Uncertainty about growth abroad

Developments in the euro area, Sweden's most important trading partner, have continued to show signs of strength. There is a high level of confidence among households and companies, although this has been subdued recently. The Riksbank's previous forecasts underestimated growth in the euro area in 2017, and have gradually needed to be revised up. At the same time, many of the political uncertainty factors, which have characterised developments in recent years, diminished in strength last year.

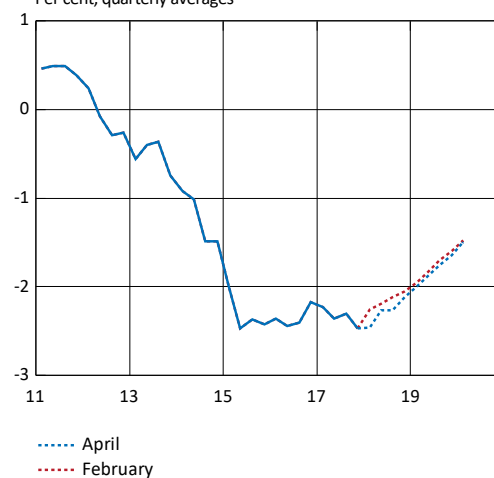
However, uncertainty remains with regard to the economic effects of the United Kingdom leaving the EU. The fact that the EU and the United Kingdom have recently agreed that the UK shall take part in the single market until the end of 2020 does provide some breathing space, but does not constitute any long-term solution to the United Kingdom's relationship with the EU.

As before, there are also several structural problems in the euro area, for instance, regarding the bank sector and weak public finances in several countries.

The introduction of tariffs on imports of steel and aluminium to the United States – and the bilateral tariffs on other products announced by the United States and China – are not assessed, in isolation, to have particularly great effects on growth abroad. But the effects can be much more negative if a larger number of counter-measures is initiated by other countries. A further source of uncertainty linked to the US economy is that the expansionary fiscal policy in the long term risks threatening the sustainability of public finances, which in a bad scenario can lead to sharply rising interest rates, large fluctuations in the USD exchange rate and clearly lower growth.

Figure 1:10. Real repo rate

Per cent, quarterly averages



Note. The real repo rate is calculated as the mean of the Riksbank's repo rate forecast for the year ahead minus the inflation forecast (CPIF) for the corresponding period.

Sources: Statistics Sweden and the Riksbank

Increased trade barriers and the Riksbank's forecast

On 23 March, the United States introduced import tariffs on steel and aluminium of 25 and 10 per cent respectively. All in all, these goods comprise less than two per cent of total imports to the United States and exemptions have been granted for several of the largest exporters to the United States, including Canada and Mexico, as well as the EU. The exemptions have a time limit until 1 May; bilateral negotiations will determine what happens after that. Even without the exemptions, however, the economic effects of the steel and aluminium tariffs are expected to be very limited. The disputes between the United States and China regarding the introduction of tariffs on a broader selection of goods have not yet resulted in any concrete measures. So far, a relatively small share of the trade between the United States and China is concerned, which indicates a limited impact on GDP growth in the two countries. Trade between these countries comprises around 3.5 per cent of global trade, and the effect on the rest of the world is thus assessed to be marginal. But if the trade conflict between the United States and China were to spread and lead to more countries establishing trade barriers, the effects will be greater. The Riksbank's forecasts have not yet been affected to any great extent by the trade conflict. The Riksbank will continue to closely monitor developments.

On top of this comes the uncertainty caused by geopolitical unease, in particular with regard to Syria.

Uncertainty about inflation abroad

The real economic risks are, of course, also linked to inflation prospects. In addition, there remains an uncertainty factor with regard to the link between inflation and resource utilisation abroad. Despite an ever-brighter economic outlook, inflation remains low. Against this backdrop, the Riksbank's forecast indicates that the rising level of resource utilisation will only gradually have an impact on inflation, which is hence projected to rise at a slow pace. But the possibility cannot be ruled out that the correlation between resource utilisation and inflation has been more permanently weakened, resulting in inflation rising even more slowly. On the other hand, were inflation to follow historically normal correlations with resource utilisation, international inflation could instead be higher than in the Riksbank's forecast.

Housing market the greatest risk to growth in Sweden

The Riksbank has for some time been discussing the risks on the Swedish housing market. Since the autumn, prices have fallen in Sweden (see Figure 1:11). The Riksbank's assessment is that prices are about to stabilise and will then rise at a moderate pace. The lower housing prices are expected to mean that housing investments and GDP growth will be subdued, particularly in 2019. These effects are forecast to be relatively limited, however.

But uncertainty over price developments on the housing market is considerable, and a greater price fall cannot be ruled out. This could dampen housing investment substantially more than in the Riksbank's forecast, and also have a significantly negative effect on household consumption.

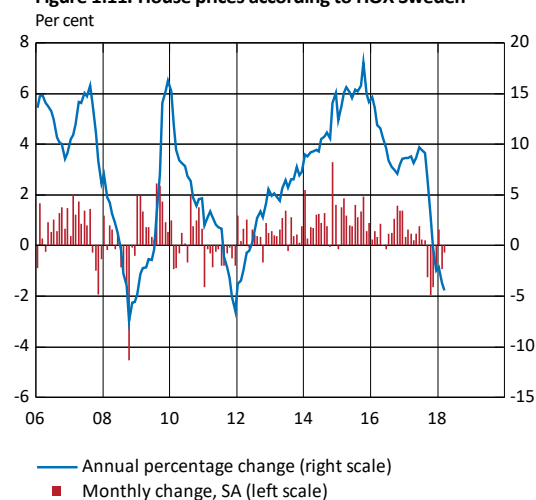
A sharp price fall on the Swedish housing market could therefore have a negative impact on domestic demand. Normally, this would slow inflation in Sweden and lead to more expansionary monetary policy. But if international confidence in the Swedish housing market and Swedish banks was to be undermined, it could lead to the krona depreciating and inflation rising higher than would otherwise be the case. How monetary policy then reacts will depend on the overall outlook for economic activity and inflation.

Uncertainty surrounding the inflation forecast

As described above, inflation abroad can be both higher and lower than in the Riksbank's forecast. Historical correlations strongly suggest that lower international inflation will also, all other factors being equal, lead to lower inflation in Sweden, and the opposite when inflation abroad rises.⁴

Changes in the krona exchange rate are as always difficult to forecast. The Riksbank's forecast predicts a gradual

Figure 1:11. House prices according to HOX Sweden



Sources: Valueguard and the Riksbank

Side-effects of monetary policy

There is apprehension that the historically unusual monetary policy conducted in recent years may lead to undesirable side-effects. The Riksbank continuously analyses the effects of the negative repo rate and the extensive government bond purchases.

One possible side-effect of low interest rates is that they can create incentives for substantial risk-taking in the economy. Assets may become overvalued, risk being incorrectly priced and the indebtedness of various agents may increase in an unsustainable manner. The increase in Swedish household indebtedness has long been a cause for concern. Several years of rapidly rising housing prices and heavily increased indebtedness have made households sensitive to both price falls on the housing market and rising interest costs. It is therefore important that to increase households' resilience in different ways and limit the risks of their high indebtedness.

Another possible side-effect is that the functioning of the financial markets could be impaired by a negative repo rate and government bond purchases. In general, however, the markets have so far been able to manage negative interest rates relatively smoothly. As regards government bond purchases, the Riksbank's purchases mean that a relatively large share of the stock is not available for trading on the market and there are signs that this is contributing to a slight delay in performing transactions. But the interest in participating in both the Riksbank's and the Swedish National Debt Office's auctions has on the whole been substantial and the overall assessment is that the Riksbank's bond purchases do not constitute any major problem on the market. The Riksbank is closely monitoring developments by, for example, having regular contacts with the various participants.

Neither do the negative interest rates seem to have led to an increased demand for cash; on the contrary, demand for cash has continued to decline. It is still only a small portion of deposits that are placed at negative interest rates and then only by some companies and parts of the public sector.

Moreover, banks' profitability could decrease as a result of low and negative rates, something which could ultimately counteract the intended effect of monetary policy if lending rates were to go higher and credit supply was to diminish. The profitability of Swedish banks has in recent years been high and stable, however.

The Riksbank's overall assessment is that the side-effects of a negative policy rate and government bond purchases have so far been manageable.

⁴ See, for instance, J. Lindé and A. Reslow, "Do Swedish forecasters properly account for Sweden's international dependence?", *Economic Review* No. 2 2017, Sveriges Riksbank.

strengthening of the krona. A faster appreciation of the krona would subdue import prices further, making it more difficult to stabilise inflation around the target. The problems could be particularly serious if confidence in the inflation target were to once again weaken through falling inflation expectations. The krona could also turn out weaker than in the Riksbank's forecast, as has been the case since February. This could then contribute to higher import prices and higher inflation than in the Riksbank's forecast.

The slowdown in the rate of increase in service prices recently illustrates the uncertainty surrounding the strength of underlying inflation. Wage development in the Swedish economy has also been weak in relation to the economic situation in recent years.⁵ The Riksbank and other analysts have been overestimating wage growth for a relatively long time. It cannot be ruled out that the factors holding back wage increases in recent years are more permanent and that wage growth in the period ahead will not increase in the way the Riksbank expects.

All in all, the Riksbank's forecast means that the rate of wage increases is expected to be relatively moderate in the years ahead, and lower than historical correlations with resource utilisation indicate. If wage development weakens even further, it is likely that company costs will also be more subdued, which will push down inflation. But cost pressures in terms of unit labour costs also depend on productivity growth. Weak productivity growth counteracts the effect of cost developments on low wage increases. This happened last year, when unit labour costs increased by 2 per cent in Sweden, despite low wage increases.

Resource utilisation is deemed to be higher than normal throughout the forecast period and there is a risk that this will lead to a stronger upturn in wages and inflation than is projected by the Riksbank – more in line with historical correlations.⁶

There are also signs that wages in the euro area and particularly in Germany are beginning to increase at a faster pace now.⁷ The parties in the Swedish manufacturing industry place great emphasis in their wage bargaining on competitiveness and cost developments abroad. To the extent that wages are increasing unexpectedly quickly abroad, this may also have an impact on wage formation in Sweden.

There are thus a number of factors that could lead to both lower and higher inflation than is now being assumed, and the Riksbank is prepared to adapt monetary policy to ensure inflation is close to the target of 2 per cent. The risks of too low inflation merit particular attention, as at the prevailing interest rate levels this is more difficult to manage than inflation that is too high.

Risks of excessively low inflation

The expansionary monetary policy has a clear focus:

Stabilising inflation around the target of

2 per cent. The inflation target has been an important condition for the, in many ways, favourable developments in the Swedish economy since the early 1990s. With a shared perception of how prices will develop in the future, it is easier for economic agents to plan for the long term and the coordination of expectations lays the foundation for efficient price-setting and wage formation.

Persistently below-target inflation increases the risk of economic agents adjusting their expectations and starting to assume that inflation will not return to the target even in the longer term. This would have an adverse effect on wage formation, for instance. With an inflation rate and inflation expectations that are more permanently below target, the nominal interest rate will also be lower on average. This will in turn increase the risk of the repo rate reaching its lower bound, in the same way as if the target were to be lowered. This reduces the Riksbank's scope for cutting the repo rate in the future if inflation becomes low or economic activity wavers. Moreover, too low an inflation rate can make it more difficult to adapt real wages between individuals in a company and between different industries, as nominal wages usually rise and are rarely lowered. This can impair the functioning of the labour market and lead to higher unemployment.

Figure 1:12. Housing prices and lending to households



Sources: Statistics Sweden, Valueguard and the Riksbank

⁵ See the article "Strong economic activity but subdued wage increases" in Monetary Policy Report, July 2017.

⁶ See also the article, "Is activity in the Swedish economy too high?" in the Monetary Policy Report.

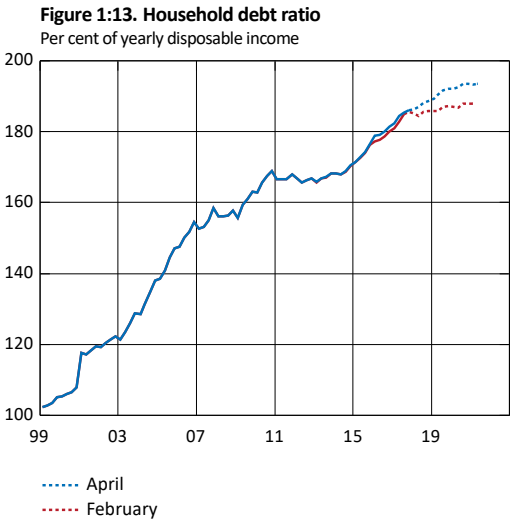
⁷ See the box, "Signs of rising rate of wage increase abroad" in Chapter 4 of this report.

Tighter amortisation requirements welcomed, but the main problem is a poorly functioning housing market

Households’ high indebtedness makes their demand sensitive to falling housing prices and rising interest rates.⁸ Several different measures are needed to strengthen households’ resilience. New statistics indicate that lending has continued to increase at a more or less unchanged rate in recent months (see Figure 1:12). As the forecast in the February Monetary Policy Report assumed some slowdown in lending, debts are now assessed to increase somewhat faster (see Figure 1:13).

Finansinspektionen’s decision on tighter amortisation requirements came into force in March. The Riksbank assesses that this will help bolster the resilience of households somewhat.

At the same time, the fundamental causes of the high household indebtedness still remain. These are associated with long-term structural problems on the Swedish housing market. It is therefore a matter of urgency for the Government to take targeted housing and tax policy measures to mitigate the risks associated with household indebtedness. Politicians need to take a holistic approach and review issues such as the rent-setting system, the taxation of capital gains from housing property sales as well as property tax and tax relief on interest expenditure.



Note. Households’ total debts as a share of their disposable income totalled over the past four quarters.
Sources: Statistics Sweden and the Riksbank

⁸ See the article “How are households affected by rising interest rates?” in the December 2017 Monetary Policy Report.

CHAPTER 2 – Financial conditions

Since the Monetary Policy Report in February, expectations about future policy rates have risen in the United States, but fallen in the euro area and in Sweden. Short-term government bond yields have followed approximately the same pattern as policy rate expectations while longer-term government bond yields have fallen in Sweden and Europe but risen slightly in the United States. Developments on the financial markets since February have been characterised by greater general unease. This has periodically led to falls on equity markets and caused volatility on both equity and bond markets to remain on a higher level than previously. The Swedish krona has weakened since the Monetary Policy Report in February. Some of this depreciation has occurred in connection with a downward revision in market expectations about the repo rate, but most of it has occurred during periods of heightened international unease and volatility. In Sweden, households and companies continue to meet low interest rates while credit growth remains high.

International developments

Central banks are in different phases

In conjunction with its monetary policy meeting in March, the European Central Bank (ECB) left policy rates unchanged. Net asset purchases will continue at least until the end of September 2018, with EUR 30 billion a month. Market participants' expectations of the policy rate level in the years ahead have fallen since February. This can be partly attributed to communication from the ECB indicating that the normalisation process, in the form of rate rises and reduced holdings of financial assets, should occur very slowly. Some outcomes for macroeconomic variables, such as confidence indicators and inflation, which have come in lower than market participants had expected, have also contributed to this development. According to market pricing, an initial increase in the deposit rate is expected around the end of June 2019 (see Figure 2:1).

The US Federal Reserve raised the interval for the policy rate by 0.25 percentage points at its monetary policy meeting in March. At the same time, the tapering of the Federal Reserve's asset holdings, which began in October last year, continues. The median forecast of the members of the monetary policy committee indicated, according to the decision in March, further two rate rises by 0.25 percentage points this year, three next year and two in 2020. Expectations of the future policy rate in the United States, according to market pricing, have risen and indicate, roughly in line with the Federal

Table 2:1.

Developments on the financial markets since the Monetary Policy Report was published in February
Market participants' expectations of future policy rates have risen in the United States but fallen in the euro area and in Sweden.
Short-term government bond yields have risen in the United States and in the United Kingdom but have fallen in Sweden and are unchanged in Germany. Long-term government bond yields have fallen both in Sweden and Europe but have risen slightly in the United States.
The krona has weakened.
Stock market indices have risen in Europe and Sweden but fallen in the United States and emerging economies.
Lending rates for households and companies are unchanged.
Credit growth among households remains high.
Borrowing by non-financial companies has increased.

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 yields. Government bond yields act as an anchor for other types of bond yields, which in turn affect banks' funding costs. This ultimately affects the lending rates for households and companies.



Reserve's assessment, three rate rises this year but somewhat fewer rate rises thereafter (see Figure 2:1).

In connection with the monetary policy meeting in March, the Bank of England held the policy rate unchanged and emphasised as before the need for slow rate rises. Expectations of the future policy rate have fallen somewhat since February, particularly in the longer run, partly as a result of the inflation outcome in April being lower than market expectations. The communication from the Bank of England regarding the next raise has contributed to this. According to market pricing, a policy rate increase is expected this year and a further increase each year after this (see Figure 2:1).

In summary, market expectations of policy rate rises from the larger central banks have risen in the United States but fallen in the Europe since February. The ECB continues to increase its asset holdings while the Federal Reserve slowly reduces its holdings. In other words, central banks find themselves in different phases and according to market pricing, this difference has recently increased. However, market participants' overall assessment is that the normalisation of monetary policy will occur slowly and that global monetary policy will therefore remain expansionary in the years ahead.

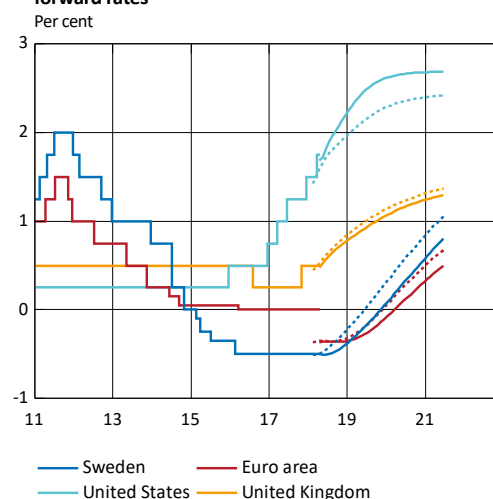
Mixed development for government bond yields

Since the Monetary Policy Report in February, developments abroad for short-term government bond yields have reflected expectations about future policy rates in different countries. Overall, short-term government bond yields are unchanged in Germany while they have risen in the United States and the United Kingdom (see Figure 2:2).

In the United States, the supply of short-term government securities has also increased. The availability of safe investment options has therefore increased and this may have reduced the demand for unsecured investments on the interbank market. A sign of this is that interest rates on the US interbank market have risen more than is justified by changed expectations about the future policy rate. Many market participants think that public financial requirements are squeezing out private ones. Another factor driving up short market rates is the new tax rules which have increased the incentives for companies to take home profits to the United States instead of investing them in loans or debt instruments linked to interbank rates.

Longer-term government bond yields, which increased sharply in January, have fallen in Europe and risen slightly in the United States since the Monetary Policy Report in February (see Figure 2:3). According to various market analysts, several factors may have contributed to the lower government bond yields with longer maturities, for example changes in long-term policy rate expectations and greater demand for long-term government bonds in connection with greater unease and volatility on financial markets.

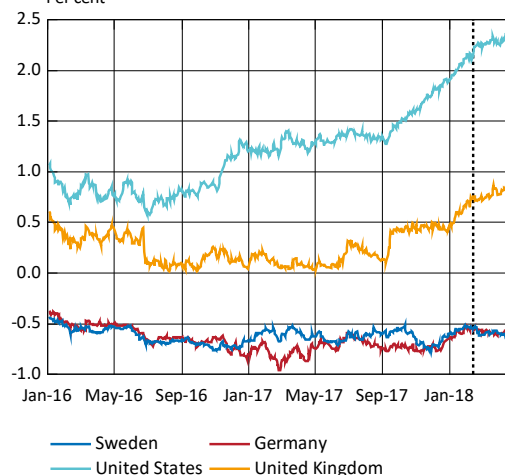
Figure 2:1. Policy rates and rate expectations according to forward rates



Note. Forward rates describe the expected overnight rate, which does not always correspond to the policy rate (the main refinancing rate for the euro area). Unbroken lines are estimated on 24 April 2018, broken lines are estimated on 9 February 2018.

Sources: The national central banks, Macrobond and the Riksbank

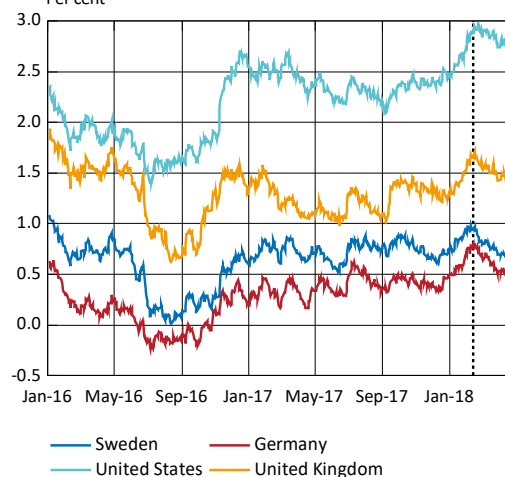
Figure 2:2. Government bond yields with 2 years to maturity



Note. Implied zero-coupon yields from government bonds. The vertical line indicates the Monetary Policy Meeting in February.

Sources: The national central banks and the Riksbank

Figure 2:3. Government bond yields with 10 years to maturity



Note. Implied zero-coupon yields from government bonds. The vertical line indicates the Monetary Policy Meeting in February.

Sources: The national central banks and the Riksbank

Increased unease on the financial markets

Equity markets, which developed strongly at the beginning of the year, have been volatile since the end of January (see Figure 2:4). The expected volatility of equity and bonds has also followed roughly the same pattern and has on average been higher than levels in the second half of 2017 (see Figure 2:5). The downturns on equity markets and increased volatility at the end of January were driven by concerns that wage inflation in the United States would rise rapidly, with increased government bond yields as a result. Since the Monetary Policy Report in February, other factors have also provided impetus, such as unease about the consequences of a potential trade war. The downturns have, however, been offset by continued good growth prospects and profits for companies. On the credit markets, yield spreads over government bonds have increased slightly since February.

Greater unease with higher volatility on both equity and bond markets has also characterised foreign exchange markets since the Monetary Policy Report in February. The US dollar has appreciated, primarily against smaller currencies, as it is seen as a safer investment option, even during periods of uncertainty surrounding US trade policy. In trade-weighted terms, the US dollar has appreciated by about one per cent since the Monetary Policy Report in February. Expected future policy rates have also contributed to movements on foreign exchange markets since the Monetary Policy Report. In trade-weighted terms, for example, the British pound and the Norwegian krona have appreciated because of expectations about a rate rise this year (see Figure 2:6).

Financial conditions in Sweden

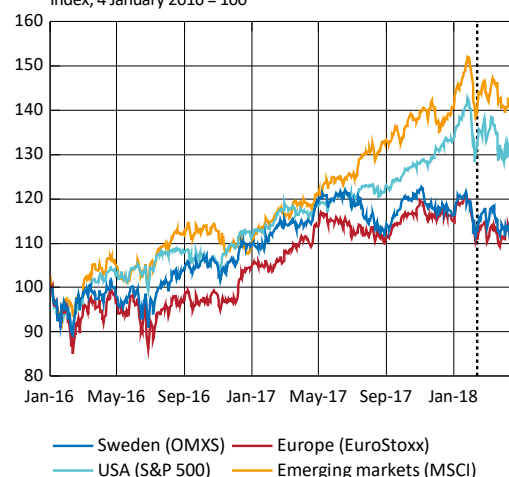
Repo rate path in line with market expectations

Market participants' repo rate expectations, measured via both surveys and market pricing, are in line with the repo rate path in the near term (see Figure 2:7). According to market pricing, expectations have fallen since the Monetary Policy Report in February (see Figure 2:1). Market participants' interpretation of the minutes from the Monetary Policy Meeting in February and the unexpectedly low inflation outcomes for the period January to March have contributed to this development. By contrast, market participants' policy rate expectations according to surveys have not changed significantly since February and are in line with the repo rate path over the coming years.

Lower yields and volatile equity prices

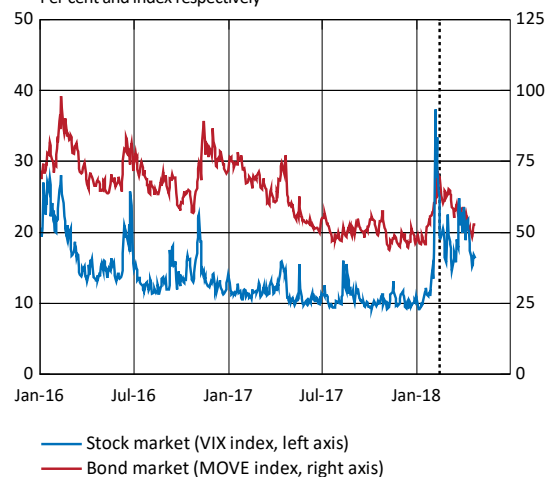
Since the monetary policy meeting in December, Swedish government bond yields have fallen overall in line with German yields (see Figures 2:2 and 2:3). On the credit markets, yields on covered bonds and corporate bonds have developed roughly as government bond yields, in contrast with the international development, in which the spreads between credit yields and

Figure 2:4. Stock market movements in local currency
Index, 4 January 2016 = 100



Note. The vertical line indicates the Monetary Policy Meeting in February.
Sources: Macrobond and the Riksbank

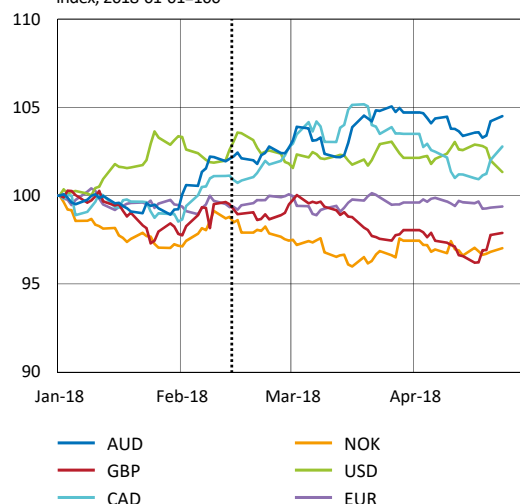
Figure 2:5. Volatility Indices
Per cent and index respectively



Note. Volatility Index (VIX) shows the expected volatility on the US stock market based on options prices. Merrill Lynch Option Volatility Estimate (MOVE) Index is a measure of the expected volatility of US government bonds based on options prices. The vertical line indicates the Monetary Policy Meeting in February.

Sources: Chicago Board Options Exchange and Merrill Lynch

Figure 2:6. Trade-weighted exchange rates
Index, 2018-01-01=100



Note. A value higher than 100 indicates a weaker exchange rate. The vertical line indicates the Monetary Policy Meeting in February.

Sources: Bank of England and Riksbanken

government bond yields have risen slightly. Neither do the falling housing prices in recent months appear to have led to any increased risk premium for mortgage bonds (see Figure 2:8).

The Swedish stock exchange has mostly followed international developments with upturns and downturns and has risen since the Monetary Policy Report in February (see Figure 2:4).

The Riksbank's bond purchases have worked well

Since they were initiated in February 2015, the Riksbank's bond purchases have functioned well. The interest in participating in the Riksbank's auctions has generally been good and the Riksbank has, on average, received offers that clearly exceed the volume that the Riksbank has offered to purchase. The Riksbank's bond purchases have helped push down both government bond yields and other market rates. The purchases have thus contributed towards the expansivity of monetary policy.

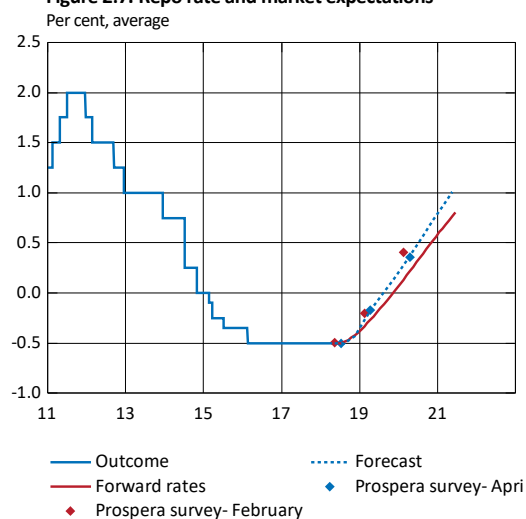
In December 2017, the decision was taken to reinvest bonds that mature in 2019 as early as 2018. This has meant that the Riksbank has continued to purchase bonds for significant amounts, at approximately the same rate as the Swedish National Debt Office issues them. Overall, the volume of bonds available for trading on the markets has continued to decrease somewhat. The Riksbank carefully tracks how the government bond market and adjacent markets are functioning, both by analysing data and through regular contact with market participants. Market participants say that it now takes longer to trade large blocks of government bonds than it did a number of years ago but that the functioning of the market has not changed significantly compared to last year. The overall assessment is that the Riksbank's continued bond purchases have not notably affected the functioning of the market.

The krona has weakened

Since the Monetary Policy Report in February, the krona has weakened. Compared with the forecast in February for the second quarter this year, the krona is now approximately six per cent weaker, according to the competition-weighted krona index (KIX) (see Figure 1:4). Some of this weakening has occurred in connection with a downward revision in repo rate expectations, but above all, it has occurred during periods of heightened international unease and volatility.

Some of the krona depreciation occurred between the end of February and the middle of March at the same time as expectations about future rate rises in Sweden fell back according to market pricing. This indicates that changes in expectations about the Riksbank's monetary policy have had some bearing on the development. The weakening of the krona since the end of March is probably linked primarily to greater unease and volatility on international financial markets. The circumstances contributing to this increased unease and

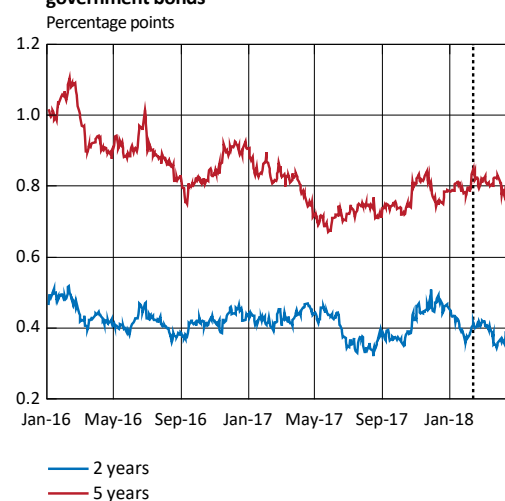
Figure 2:7. Repo rate and market expectations



Note. The forward rate is estimated on 24 April 2018 and is a measure of the expected repo rate. The survey responses show the average for money market participants in 31 January 2018 and 27 March 2018, respectively.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

Figure 2:8. Yield spread between mortgage bonds and government bonds



Note. Yields on mortgage bonds and government bonds are zero coupon yields calculated using the Nelson-Siegel method. The vertical line indicates the Monetary Policy Meeting in February.

Sources: Macrobond and the Riksbank

volatility include the fact that the currency of a small country tends to weaken in connection with increased volatility on financial markets. The krona depreciated nearly one per cent in connection with equity market falls following the US administration's announcement of the introduction of customs tariffs on certain Chinese goods at the end of March.

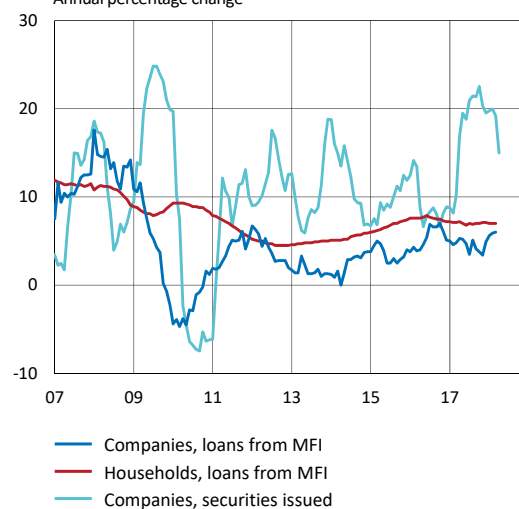
Corporate and household indebtedness are rising

The good economic growth and continued expansionary monetary policy have contributed towards a favourable development in banks' funding terms and profitability. The conditions for households and companies to obtain credit therefore remain good. Household bank loans continue to increase at a fast rate and more rapidly than income, despite the recent downturn in housing prices. Household credit growth has been 7 per cent on average since last year, compared with a rate of increase in disposable income (in current prices) of about 4 per cent in 2017.

Bank loans still constitute the primary source of funding for Swedish companies, even if securities issues are increasing rapidly and now corresponds to about one-third of total corporate borrowing. The most important driving forces behind the increased securities issues are good demand from investors and better financing conditions compared with bank loans. The annual growth rate in securities issues has been 18 per cent on average since last year and was primarily driven by property companies. The growth rate for bank borrowing was around 5 per cent over the same period (see Figure 2:9).

Since the repo rate entered negative territory for the first time in February 2015, lending rates to households and companies have also fallen, albeit slightly less so than the repo rate. The average actual mortgage rate for new agreements has averaged about 1.6 per cent since mid-2015. Since the turn of the year, new participants on the housing market have listed competitive mortgage rates and some established participants have also lowered their rates. The Riksbank carefully follows developments on the mortgage market and so far the lower listed rates have not had a broad impact on average actual mortgage rates. The average interest rate for new bank loans to non-financial companies has amounted to about 1.4 per cent (see Figure 2:10). Average deposit rates for households and companies have remained largely unchanged since the middle of 2015 and are close to zero.⁹ Overall, the impact of the repo rate on deposit and lending rates has been in line with the Riksbank's expectations.

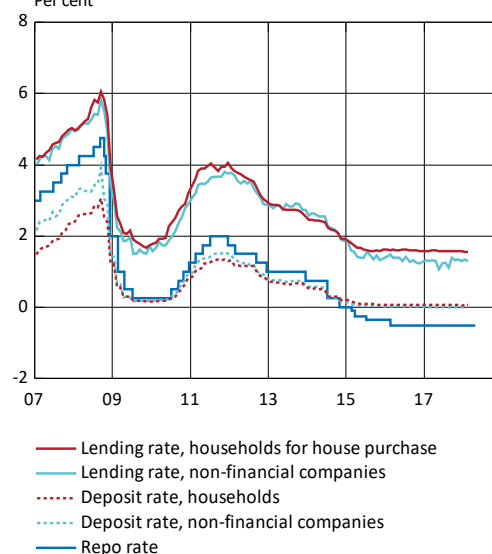
Figure 2:9. Bank lending to households and companies
Annual percentage change



Note. Lending by Monetary financial institutions (MFI) to households and non-financial corporations adjusted for reclassifications and bought and sold loans, according to financial market statistics. The data extends until the end of February 2018. Securities issued by non-financial corporations have been adjusted for currency impact and extend until the end of February 2018.

Source: Statistics Sweden

Figure 2:10. Repo rate together with the average deposit and lending rate to households and companies, new contracts
Per cent



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

Sources: Statistics Sweden and the Riksbank

⁹ Most financial undertaking corporations and some non-financial corporations and municipalities are experiencing negative deposit rates. For technical reasons, however, the negative deposit rate is usually reported as a charge and is therefore not always visible in the figures from Statistics Sweden. Despite this, deposits at negative rates form a small portion of total deposits from non-financial corporations. See the article "Perspectives on the negative repo rate" in Monetary Policy Report July 2016.

CHAPTER 3 – The current economic situation

Confidence indicators have softened slightly but remain higher than normal both abroad and in Sweden. The Swedish economy is strong even though GDP growth is expected to be slightly lower in the period ahead. The development in the labour market is good and unemployment fell unexpectedly sharply during the first quarter. In March, CPIF inflation was in line with the forecast from February. Energy prices increased rapidly and if these are excluded, inflation was slightly lower than expected. In the coming months, CPIF inflation will remain close to 2 per cent. Inflation measured in terms of the CPIF excluding energy is at the same time expected to be around 1.5 per cent, which is a slightly lower rate of increase than was forecast in February.

Inflation in Sweden

CPIF inflation 2.0 per cent in March.

In March, CPIF inflation amounted to 2.0 per cent (see Figure 3:1). This is in line with the inflation target and the forecast in February. Energy prices have increased unexpectedly rapidly. Adjusted for these, CPIF inflation was 1.5 per cent, slightly lower than expected.

Recently, prices for services have increased at an ever-slower rate. The rate of increase was affected last year by a new calculation method for foreign travel, which led to a temporarily higher rate of increase during the summer months.¹⁰ However, even disregarding foreign travel prices, the rate of increase in prices for services has recently diminished (see Figure 3:2).

Different measures of underlying inflation have fallen in recent months and are now around 1.5 per cent (see Figure 3:3). Wage growth also continues to be subdued.

Seen in a longer-term perspective, however, underlying inflation has shown a rising trend since 2014. In recent years, consumer prices have risen more rapidly and roughly in line with unit labour costs. The rise in inflation is also partly a consequence of the weaker krona.

Inflation measured in terms of the CPIF excluding energy around 1.5 per cent in the months ahead

Adjusted for energy prices, the annual rate of increase in the CPIF is expected to amount to about 1.5 per cent also in the months ahead. Expectations of price rises among retail-trading companies are largely in line with the historical average,

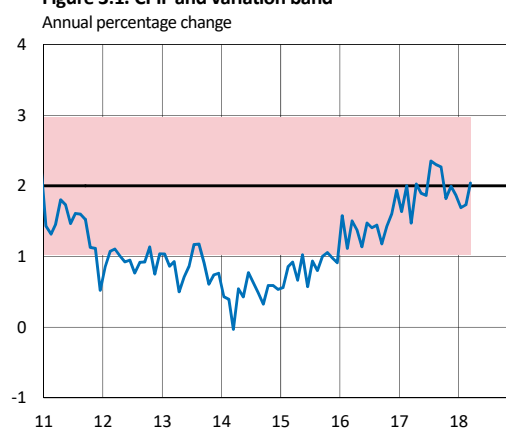
¹⁰ As from 2017, Statistics Sweden uses a new method for calculating charter travel indices that weigh 1.2 per cent in the CPIF. The new method follows the recommendations from Eurostat and mainly means that prices of trips not sold during certain periods of the year will not have an impact on the index during those periods. Prior to 2017, the most recently noted price for a trip was instead used in the index calculations even during the months that this trip could not be made. This involves a change in the seasonal pattern for the price level. The first year (i.e. 2017), the new method therefore affected the annual change in the CPIF. In coming years, the annual rate of change will not be affected by the new seasonal pattern, as the twelve-month comparisons will then be based on the same method. The model forecasts have been adjusted for the method change.

Table 3:1.

Expected development in February MPR	Actual development
CPIF inflation 2.0 per cent in March.	In line with the forecast. CPIF inflation was 2.0 per cent.
GDP growth 4.1 per cent in fourth quarter.	Slightly lower than forecast. GDP growth was 3.5 per cent.
Unemployment 6.5 per cent in first quarter.	Lower than forecast. Unemployment was 6.2 per cent.
GDP growth in the euro area 2.7 per cent in first quarter.	Indicators suggest lower growth than the forecast.
GDP growth in the US 2.7 per cent in first quarter.	Indicators suggest a development in line with the forecast.

Note. MPR refers to the Monetary Policy Report. Inflation refers to the annual percentage change. GDP growth refers to the seasonally-adjusted quarterly change in per cent, calculated at an annual rate. Unemployment refers to percentage of the labour force.

Figure 3:1. 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.

Sources: Statistics Sweden and the Riksbank

according to the Economic Tendency Survey. At the same time, the rate of increase in producer prices for consumer goods according to the home market price index has risen over the past twelve months and is higher than normal. The rate of price increase in producer prices for imported consumer goods has fallen, however, and is now below its historical average.

The Riksbank's short-term models, which summarise the information in a large number of indicators, imply that the rate of increase in the CPIF excluding energy will remain around current levels in the coming months (see Figure 3:4). The Riksbank's overall assessment is in line with the model forecasts.

The forecast for the CPIF excluding energy in the short term has been revised downwards compared with the assessment in February, primarily because inflation has been slightly lower than expected in recent months. However, the forecast for energy prices has been revised upwards, due in part to the cold weather contributing to higher electricity prices. This means that the forecast for the rate of increase in the CPIF has instead been revised upwards slightly. The recent depreciation in the krona is expected to contribute to a higher rate of inflation primarily in the slightly longer term as the krona affects prices of food and other goods with a certain time lag.

Inflation expectations close to target

In TNS Sifo Prospera's survey, inflation expectations fell slightly in April. Five years ahead, money market participants expect CPI inflation to be 2.0 per cent. Long-term inflation expectations for the CPIF are marginally lower and amounted to 1.9 per cent in April. The pricing of financial instruments also indicates that long-term inflation expectations have fallen slightly in recent times.

Short-term inflation expectations are affected by the most recently measured inflation rate. One year ahead, CPI inflation is expected to amount to 1.8 per cent, which is slightly lower than what was expected at the end of last year (see Figure 3:5).

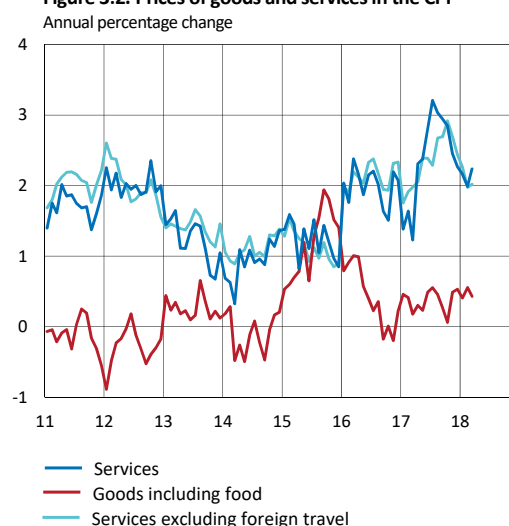
Global and Swedish economic activity

Growth abroad is high.

Economic activity abroad is continuing to strengthen and the upturn is broad in terms of both countries and sectors. Both the US economy and the economy in the euro area are relatively close to normal resource utilisation. In the United States, unemployment is somewhat lower than what is regarded as a long-term sustainable level by the members of the Federal Reserve's FOMC. In the euro area, broader measures of unemployment, which also include involuntary part-time work, for example, indicate instead that there is still a certain degree of spare capacity. Global trade continued to grow in January, but at a slower rate than towards the end of last year. There are some signs of slightly slower economic activity in the first quarter, which can partly be explained by temporary effects.

GDP growth was just under 3 per cent in the United States and just above 2.5 per cent in the euro area during the fourth

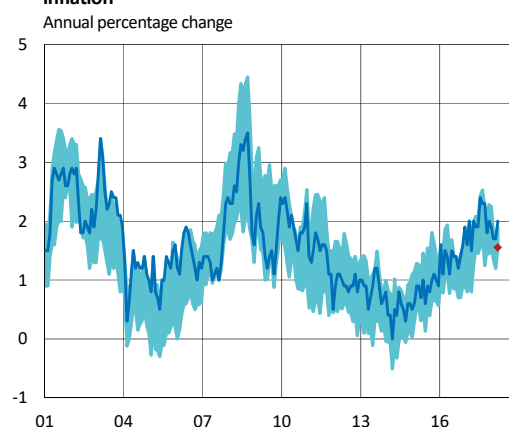
Figure 3:2. Prices of goods and services in the CPI



Note. Goods including food is a combination of the aggregate goods and food in the CPI. Together, these account for 45 per cent of the CPI. Service prices account for 45 per cent of the CPI.

Sources: Statistics Sweden and the Riksbank

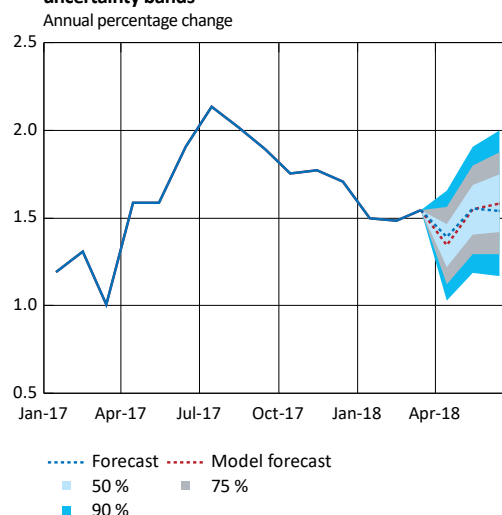
Figure 3:3. The CPIF and different measures of underlying inflation



Note. The field shows the highest and lowest outcomes among different measures of underlying inflation. The measures included are the CPIF excluding energy, the CPIF with constant tax, UND24, Trim85, HICP excluding energy and unprocessed food, persistence-weighted inflation, factors from principal component analysis and weighted mean inflation. The red dot represent the median in March 2018 for all different measures of underlying inflation.

Sources: Statistics Sweden and the Riksbank

Figure 3:4. CPIF excluding energy, model forecast with uncertainty bands



Note. The uncertainty bands are based on the models' historical forecast errors. The model forecasts are adjusted with regard to the new seasonal pattern following on from method changes in the calculation of the price index for package holidays.

Sources: Statistics Sweden and the Riksbank

quarter compared with the third quarter and calculated in annualised terms. Statistics in recent months have been slightly more positive in the United States than in the euro area and even though growth is expected to slow slightly in the first quarter, it is still higher in the United States than in the euro area. In the euro area, the retail trade has developed slightly weaker in recent months. Industrial production has also slowed there, while continuing to rise in the United States. Optimism among households and companies is still high in both the euro area and the United States. However, both households and companies in the euro area have grown slightly less optimistic since the beginning of the year.

Low inflationary pressures abroad

Despite high growth and falling unemployment, inflationary pressures continued to be low in the countries that are most important for the Swedish economy. In the euro area, underlying inflation in March, measured in terms of the HICP excluding energy and food, amounted to only 1.0 per cent while total HICP inflation rose to 1.3 per cent. In the United States, underlying inflation, measured in terms of the consumption deflator excluding energy and food, was 1.6 per cent in March (see Figure 3:6). US CPI inflation amounted to 2.4 per cent in March.

Swedish GDP growth subdued

Exports increased rapidly in the fourth quarter of last year. At the same time, falling investments meant that final domestic demand contributed less to growth than it had done earlier in the year. Swedish GDP increased by 3.5 per cent in the fourth quarter, compared with the third quarter and calculated in annualised terms. For 2017 as a whole, GDP rose by 2.4 per cent, which is close to the historical average.

Overall, the confidence indicators for the household and corporate sector remain stronger than normal even though household confidence in particular has fallen in recent months (see Figure 3:7). The signals from the companies included in the Riksbank's business survey also suggest continued strong economic activity.¹¹ Monthly demand statistics indicate, however, that the retail sector and household consumption have developed weakly since the beginning of the year. A possible reason is that households have been slightly more cautious with their spending in the wake of recent weaker developments on stock and housing markets.

The Riksbank's short-term model forecasts, which summarise information from a large number of indicators, suggest slightly subdued GDP growth in the first quarter. The model forecasts indicate on average that GDP has grown by 2.6 per cent during the first quarter of 2018, compared with the last quarter of 2017 and calculated in annualised terms (see Figure 3:8). The Riksbank's forecast is close to the model forecast for the first

Figure 3:5. Inflation expectations among money market participants

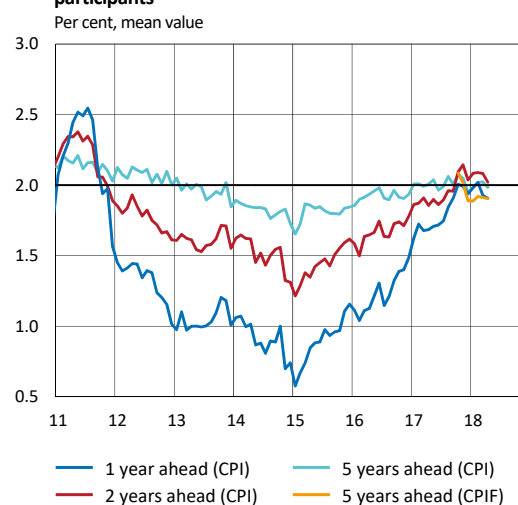


Figure 3:6. Underlying inflation abroad

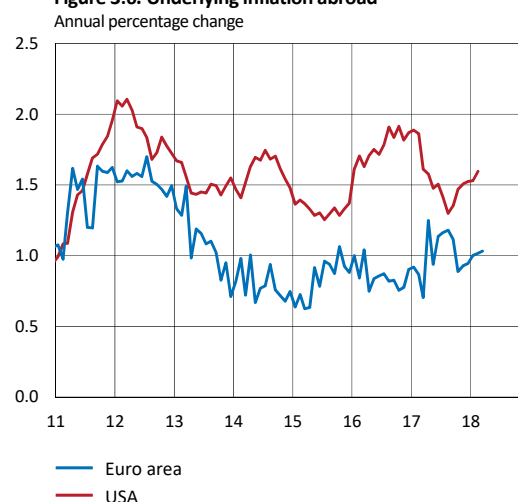
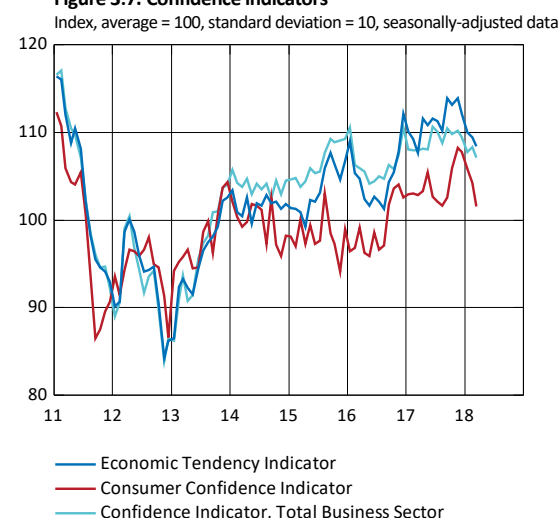


Figure 3:7. Confidence indicators



¹¹ See the Riksbank's Business Survey, February 2018.

quarter. During the second quarter of 2018, GDP is expected to increase by 2.3 per cent.

Decline in housing prices subduing construction

Housing prices according to the price index HOX fell by 0.3 per cent in March compared with February, in seasonally adjusted terms (see Figure 1.11). The price fall that began in the autumn has therefore continued. The price fall coincides with a sharply increased supply of new tenant-owned apartments, especially in Stockholm. The price fall for detached and semi-detached houses in the country as a whole has not been as sharp, which can also be seen in, for example, the Statistics Sweden Real Estate Price Index (see Figure 1.12).

The slightly lower housing prices are expected to lead to lower housing investment but affect GDP growth mainly in the slightly longer term.¹² However, a certain slowdown can already be detected in construction (see Figure 3:9). At the same time, confidence in the construction sector is still high and companies are more optimistic than normal about construction in the months ahead.

Continued high demand for labour

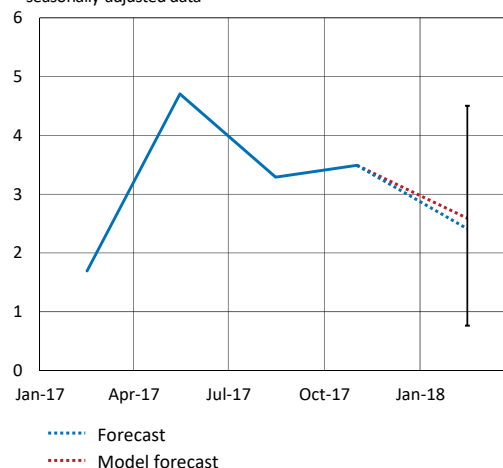
In January, both the number of persons employed and the number persons in the labour force developed relatively weakly and unemployment according to the Labour Force Survey (LFS) remained unchanged on 6.5 per cent in seasonally-adjusted terms. In February, however, the number of persons employed rose very rapidly and unemployment fell sharply. Individual monthly outcomes are uncertain, however, and should be interpreted with caution. In March, unemployment returned to a higher level of 6.2 per cent. Overall, unemployment during the first quarter was lower on average than the forecast in February. Unemployment according to the Swedish Public Employment Service has not declined to the same extent. The downturn in the first quarter according to the LFS is assessed to be partly temporary and unemployment is expected to be somewhat higher in the second quarter (see Figure 3:10).

There are still major differences between the labour market situations for foreign-born and Swedish-born persons respectively. Among foreign-born persons, unemployment was 3.8 per cent during the first quarter while it amounted to almost 15 per cent among Swedish-born persons. The decrease in unemployment in recent years has, above all, been due to unemployment declining among those born in Sweden (see Figure 3:10). Part of the reason for unemployment among those born abroad not declining more is that there has been a large inflow into the population and labour force in recent years. As unemployment among those born in Sweden is already very low, unemployment among those born abroad needs to come down so that unemployment as a whole can decrease more substantially from the current level.

¹² See the article "Reduced housing construction is subduing GDP growth" in the February 2018 Monetary Policy Report.

Figure 3:8. GDP, model forecast and uncertainty band

Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data

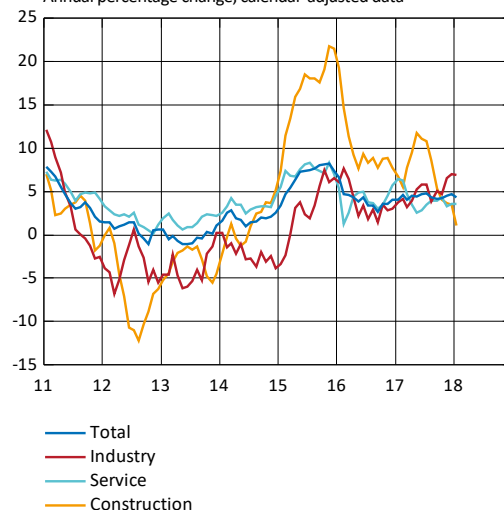


Note. The model forecast is an average of forecasts from different statistical models. The vertical line refers to a 50 per cent uncertainty band based on the models' historical forecast errors.

Sources: Statistics Sweden and the Riksbank

Figure 3:9. Monthly indicators for production

Annual percentage change, calendar-adjusted data

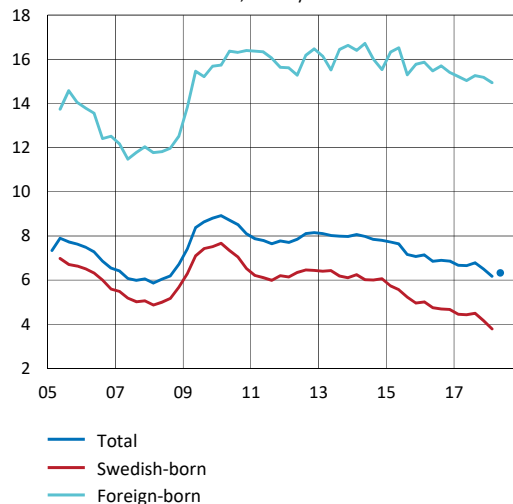


Note. Production value index with three-month moving average.

Source: Statistics Sweden and the Riksbank

Figure 3:10. Total unemployment, and unemployment among Swedish-born and foreign-born

Per cent of the labour force, 15–74 years



Note. The dot refers to the forecast for unemployment.

Sources: Statistics Sweden and the Riksbank

Forward-looking indicators suggest however that the demand for labour will continue to be good even in the period ahead. According to the Economic Tendency Survey, recruitment plans in the business sector were unchanged in March after having fallen in February. Recruitment plans are still on a very high level indicating rapid employment growth in the short term (see Figure 3:11). The number of newly registered job vacancies registered at the Swedish Public Employment Service (Arbetsförmedlingen) increased in March and is also still on a high level.

Resource utilisation in the economy higher than normal

The amount of spare capacity in the economy normally affects the development of wages and prices with a certain time lag. Resource utilisation in the economy is not directly observable, however, but must be assessed based on a number of different indicators and statistics.

According to the Economic Tendency Survey, companies have stated over the past twelve months that there is a major shortage of labour. The shortages are high in all industries within the business sector. Other indicators also point to a small amount of spare capacity in the labour market. Among other things, the vacancy rate, which measures the proportion of vacancies that need to be filled immediately, is at a high level, and the average recruitment time in the business sector is long. Capacity utilisation in the manufacturing sector is also high in a historical perspective (see Figure 3:12).

All in all, the Riksbank deems that resource utilisation in the economy is higher than normal, something that is also supported by the Riksbank's resource utilisation indicator, which is clearly higher than normal.

Slightly increasing wage growth

Since the last Monetary Policy Report was published, preliminary outcomes for National Mediation Office short-term wage statistics have been published up until the end of December 2017 for the entire economy and up until the end of January for the public sector. The outcomes indicate that wage growth was 2.5 per cent last year, which is in line with the forecast in February. Preliminary wage growth indicates that wages rose more rapidly last year in the public sector than in the business sector. In the public sector, it is primarily wage development in the municipalities that has been high, while wage growth in the retail sector has contributed towards restraining business sector pay. Compared with the strong economic situation, overall wage growth has been moderate. The Riksbank expects wages both in the business sector and in the public sector to rise slightly in early 2018.

The National Accounts' hourly wages and labour costs, that is, wages plus social security contributions, also developed relatively weakly in 2017. At the same time, however, weak productivity growth led to unit labour costs developing in line with their historical average.

Figure 3:11. Employment and recruitment plans

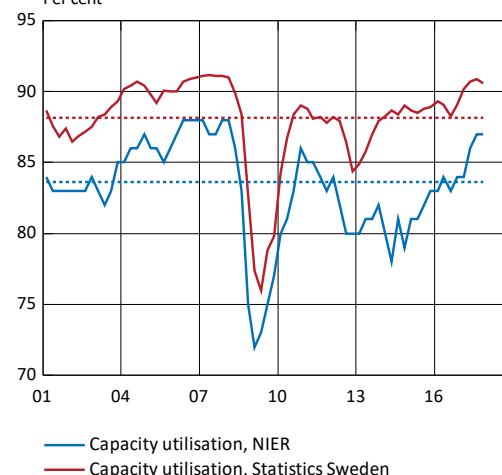
Annual percentage change and net figures respectively, seasonally-adjusted data



Note. Recruitment plans refer to expectations of the number of employed in the business sector three months ahead, moved forward one quarter. Recruitment plans for Q1 2018 refer to an average of the monthly outcomes for January–March 2018.

Sources: National Institute of Economic Research, Statistics Sweden and the Riksbank

Figure 3:12. Capacity utilisation in manufacturing industry
Per cent



Note. Both the NIER's and Statistics Sweden's measure of capacity utilisation is seasonally adjusted. With regard to Statistics Sweden, the series is also calendar-adjusted. The mean value since 1996.

Sources: National Institute of Economic Research, Statistics Sweden and the Riksbank

CHAPTER 4 – The economic outlook and inflation prospects

Economic activity abroad continues to strengthen. In advanced economies, resource utilisation will continue to rise in the years ahead with gradually increasing wages and inflation as a result. The economic situation in Sweden is also strong and growth has been high for several years. The decline in housing prices is leading to lower housing investment, however, and overall GDP growth will be subdued in the coming years. The situation on the labour market is favourable but spare capacity is deemed sparse, which is expected to lead to gradual wage growth in the period ahead. Recent outcomes indicate that underlying inflationary pressures are slightly lower and the forecast for the CPIF excluding energy prices has been revised downwards for this year. At the same time, the krona has weakened, which implies that inflation will temporarily increase slightly more rapidly from the end of the year and next year. High resource utilisation, due to increased labour costs and margins, and slightly higher inflation abroad will at the same time make a positive contribution to the development of inflation in the period ahead. As in February, CPIF inflation is expected overall to amount to just below 2 per cent in the year ahead and then be close to 2 per cent.

International developments

Increasingly strong international economic activity

Growth in most countries strengthened in 2017 and global GDP is expected to have increased by 3.7 per cent last year, the fastest growth rate since 2011. Both industrial production and investment grew at a rapid rate last year, which also led to a rise in global trade.

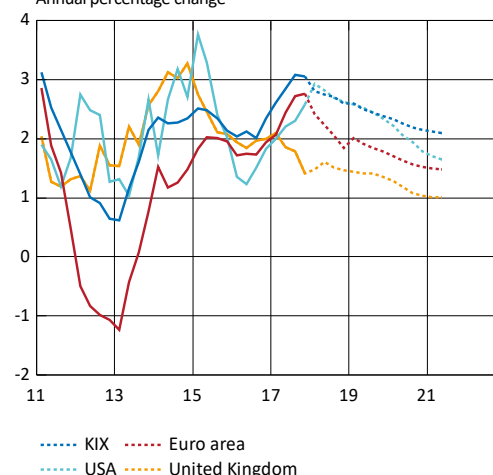
The economic upswing abroad is expected to continue (see Figure 4:1). In advanced economies, unemployment has declined in recent years (see Figure 4:2). As resource utilisation continues to rise and monetary policy becomes less expansionary, GDP growth abroad (aggregated with the weights in the krona index, KIX) is expected to slow down gradually, from almost 3 per cent this year to just over 2 per cent in 2020. GDP growth in emerging economies is expected to remain high, however, which will push overall global GDP growth up to almost 4 per cent on average in 2018-2020.

Strong economic activity in the United States

Growth in the United States has been relatively strong in recent years. Both households and companies are optimistic, indicating that growth will remain high in the near term. This picture is also supported by the strong labour market. Recent decisions on tax cuts and increased public expenditure are expected to increase growth this year and next year. Financial conditions continue to be favourable for growth, even if they become less expansionary when the Federal Reserve continues to raise the interest rate and reduce its asset holdings. All in all, growth in the US is expected to increase to almost 3 per cent this year and then slow down to just over 2 per cent per year in 2019 and 2020.

Figure 4:1. GDP in various countries and regions

Annual percentage change

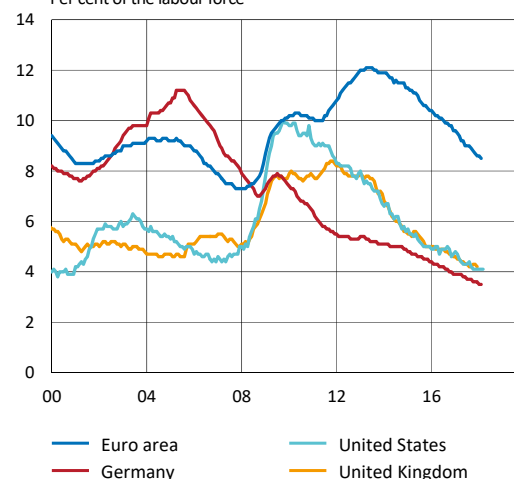


Note. KIX is an aggregate of countries that are important to Sweden's international transactions.

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

Figure 4:2. Unemployment abroad

Per cent of the labour force



Source: OECD

There are question-marks surrounding developments in the US, however. The expansionary fiscal policy is expected to lead to weaker public finances and higher national debt, which may subdue growth in the long term. In a bad scenario, with sharply rising interest rates and large fluctuations in the US dollar, the effects may be substantial. It is the Riksbank's assessment that the announced and partly introduced tariffs have limited the impact on growth.

High growth in emerging economies

Growth is still high in emerging economies, especially in Asia and eastern Europe. Commodity-exporting countries, such as Russia and Brazil, have benefited from the rise in both the oil price and the price of several other commodities since the summer of 2017 (see Figure 4:4). The US has recently imposed new sanctions on Russia, causing turbulence on the Russian financial markets. These sanctions may pose a risk to the ongoing recovery in the Russian economy.

In China, growth amounted to nearly 7 per cent last year. Like last year, the government has growth target of around 6.5 per cent for 2018 and the readjustment towards of more consumption- and service-driven growth continues. All in all, growth is expected to be gradually lower in the period ahead and amount to about 6 per cent in 2020. However, the high credit growth since the financial crisis poses risks to growth in China in the long term. In line with the assessment for the US, the announced and partly introduced tariffs are expected to have limited the impact on growth.

Good growth in the euro area, but slowing down in United Kingdom

Confidence among both households and companies in the euro area has declined slightly in recent months but remains on a high level. Despite a weak retail trade and industrial production at the beginning of the year, the high confidence indicates above-normal GDP growth for the whole of 2018. In the coming years, growth is expected to be driven by higher investment and exports to a greater extent. As resource utilisation increases and the unmet needs of consumption and investment are satisfied, growth will slow (see Figure 4:1). Monetary policy in the euro area will continue to be expansionary and not until later in the forecast period are monetary policy and the financial conditions expected to become less so.

Growth in the UK has slowed gradually in recent years (see Figure 4:1). This is probably partly due to the decision to leave the EU. The sharp depreciation in the pound in connection with the referendum has admittedly benefited exports, but this has been offset by weaker growth in domestic demand coupled with subdued household consumption and investment. The fact that the EU and the United Kingdom have recently agreed that the UK shall remain within the single market until the end of 2020 provides some breathing space, but does not constitute a

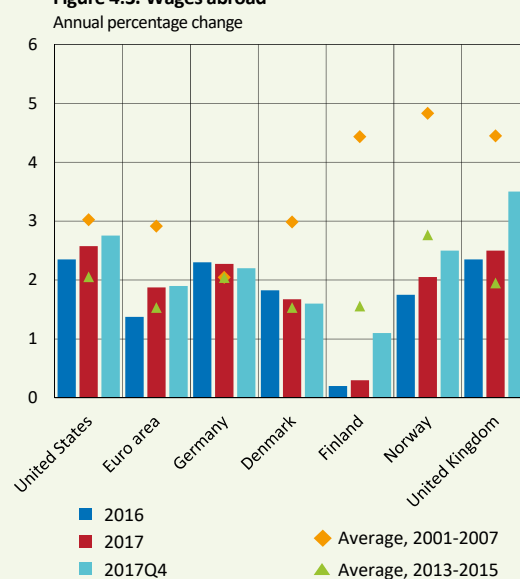
Signs of rising wage growth abroad

In relation to unemployment, wage growth in many advanced economies has been subdued after the financial crisis, particularly in recent years when unemployment has fallen. To a varying degree, the development can be explained by factors such as low productivity growth, spare capacity on the labour market in addition to unemployed persons (involuntary part-time work, for example), and low inflation expectations (see, for example, Chapter 2 "Recent wage dynamics in advanced economies" in World Economic Outlook October 2017, IMF).

However, there are signs that wage development abroad is on the way up (see Figure 4:3). In the United States, the rate of increase in wages has shown an upward trend for several years and the development has increased recently. Overall, wage development in the euro area is still weak, but has risen since 2016. The new wage agreements in the German manufacturing industry also indicate higher wage growth going forward. The agreements have acted as a guide for the new wage agreements in the public sector and they will probably provide guidance for agreements in other sectors in Germany. Recent figures from the United Kingdom also indicate rising wage growth.

Developments in neighbouring Nordic countries are not unequivocal, however. In Denmark, wage growth has basically been unchanged on a relatively low level for several years. In Norway, wage growth has primarily been weak since the fall in the oil price in 2015, which contributed to a worse development in the Norwegian economy. Thereafter, wage growth has picked up slightly and the expectations of social partners in Norway indicate stronger wage development this year. In Finland, wage growth was very weak in recent years, partly as a result of the competitiveness agreement concluded last year, which included zero agreements. New agreements concluded for the coming years in Finland are higher, but still indicate relatively low wage growth.

Figure 4:3. Wages abroad



Note. Refers to wages per hour in the business sector.

Sources: Bureau of Economic Analysis and Eurostat

solution to the United Kingdom's future relationship with the EU. Growth is expected to slow further in the years ahead.

Slowly rising inflation abroad

In 2016 and 2017, CPI inflation abroad increased, mostly due to the rise in oil prices (see Figures 4:4 and 4:5). Underlying inflation has developed relatively weaker, however.

In the euro area, underlying inflation has been basically unchanged over the past twelve months. There are indications, however, that cost pressures are on the way up (see the box entitled "Signs of rising wage growth abroad"). Inflation in the euro area is expected to rise gradually as resource utilisation and wage growth increase further, but underlying inflation is still expected to remain relatively moderate. Inflation in the UK, on the other hand, has been high in the past year as a result of the earlier depreciation of the pound, but is expected to recede this year as the effects of the depreciation wane. In the US, underlying inflation is showing signs of a slight increase. This development is expected to continue against the backdrop of increasingly strained resource utilisation.

All in all, underlying inflation abroad is expected to rise slightly, although remain relatively moderate.

Weak krona at the beginning of 2018

The krona exchange rate has weakened since the start of the year, in both nominal and real terms (see Figure 4:6). To a certain extent, this is due to changes in expectations about future monetary policy in Sweden in relation to other countries, but also to other factors, in particular increased unease and volatility on the financial markets. The Riksbank's forecast is based on the premise that these other factors will subside in the period ahead. The development of the exchange rate over the coming years will among other factors depend on how competitive the Swedish economy is and how monetary policy is formulated in Sweden and abroad. The strong development in the real economy in Sweden compared to other countries suggest that the krona in the longer term should be stronger than the current level. Overall, the krona is expected to strengthen over the coming years. How rapidly this will occur is uncertain, however, and compared with the forecast in February, the krona is expected to be slightly weaker even in the long term.

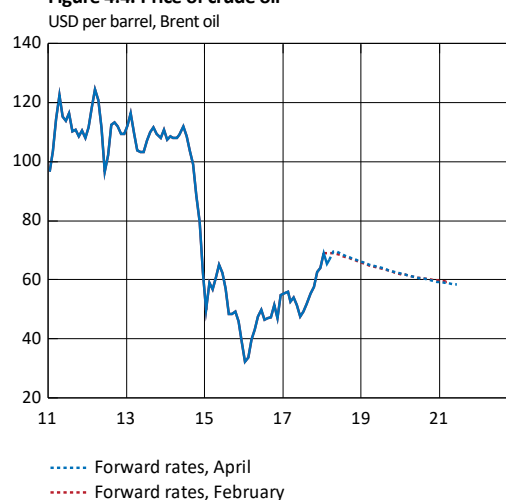
Sweden

Strong economic activity but waning growth

The Swedish economy has developed strongly for several years. Growth slowed slightly last year and was relatively normal in relation to population growth (see Figure 4:7).¹³ The development in recent years can be partly explained by a high

¹³ GDP per inhabitant of working age is used here as the labour force, which is closely associated with the size of the working-age population, is a key factor of production. Total GDP per capita growth has been weaker in recent years, primarily due to a rise in the proportion of older people in the population and the demographic dependency burden.

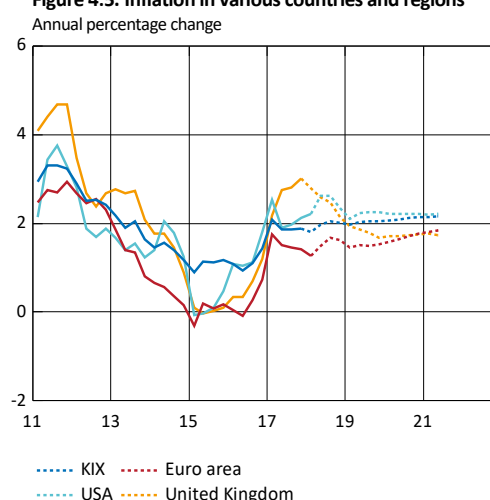
Figure 4:4. Price of crude oil



Note. Forward rates are calculated as a 15-day average. The outcome refers to monthly averages of spot prices.

Sources: Macrobond and the Riksbank

Figure 4:5. Inflation in various countries and regions

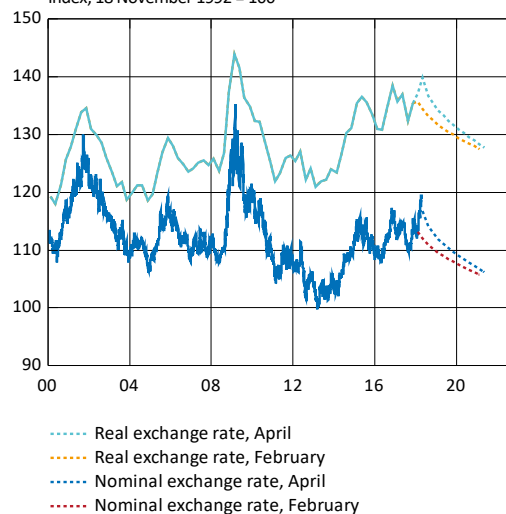


Note. KIX is an aggregate of the countries that are important to Sweden's international transactions.

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

Figure 4:6. Real and nominal exchange rate, KIX

Index, 18 November 1992 = 100



Note. The real exchange rate has been calculated with the CPI for Sweden and the CPI for the rest of the world. Outcomes are daily data for the nominal exchange rate, outcomes for the real exchange rate and forecasts refer to quarterly averages. The KIX is an aggregate of 32 countries that are important for Sweden's international transactions.

Sources: National sources, Statistics Sweden and the Riksbank

level of housing investment and a recovery in Swedish export markets (see Figure 4:8). Overall, this has resulted in increased resource utilisation, which is deemed higher than normal.

This year, growth is expected to be relatively high, partly because exports are increasing more rapidly but also because the government, with decided and announced measures in the spring budget bill, is expected to implement reforms that will contribute to increased public consumption. Growth will then slow slightly, due in part to the weaker price developments on the housing market contributing to a reduction in housing investment. All in all, Swedish GDP is expected to increase by 2.6 per cent this year, after which the growth rate will slow to around 2 per cent per year in 2019 and 2020.

Higher demand for Swedish exports

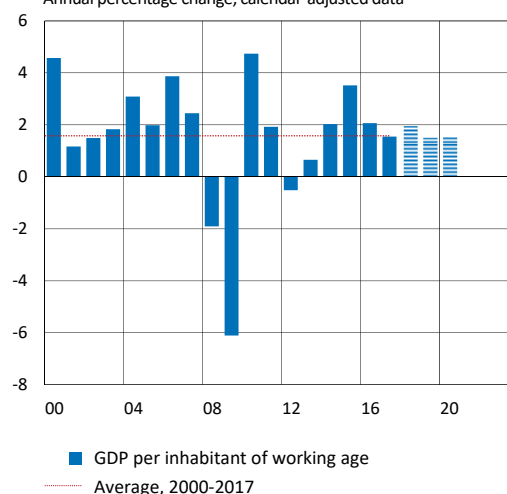
In an historical perspective, the growth on Swedish export markets is not particularly strong. This is partly due to the decline in trend growth in many countries around the world.¹⁴ The improved economic situation on Sweden's export markets is nevertheless contributing to higher demand for Swedish exports (see Figure 4:9). While international demand is expected to increase, capacity utilisation within the Swedish manufacturing sector will be on a high level (see Figure 3:12). This will result in the business sector needing to increase its investment to be able to satisfy the increased demand, which will make a positive contribution to GDP growth.

Developments on the housing market subduing growth

Housing investment has increased very rapidly in recent years and there were about 64,000 new housing starts last year, a historically high level of construction. The very rapid upturn in housing supply, especially in certain segments of the market, is deemed to have contributed to the downturn in housing prices since the autumn of 2017. The demand for housing is nevertheless expected to remain strong as a result of rising employment and continued low interest rates, among other factors. As supply is also expected to grow more slowly in the period ahead, housing prices are projected to stabilise this year and then rise at a moderate rate. Even though the price fall is expected to be relatively moderate, it will nevertheless lead to a reduction in housing investment, which will slow GDP growth (see Figure 4:8). Compared with the forecast in February, housing investment will be slightly weaker.¹⁵

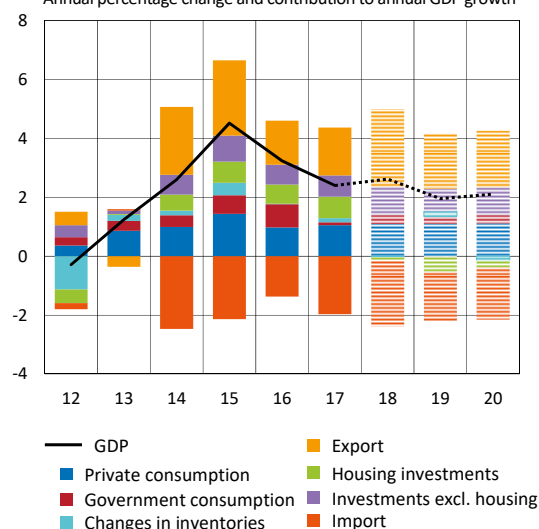
The effects of lower housing prices on household consumption are expected to be moderate. This year, fiscal policy will contribute to relatively healthy growth in household income, due in part to an increase in child support and a tax reduction for

Figure 4:7. GDP per inhabitant of working age, 15–74 years
Annual percentage change, calendar-adjusted data



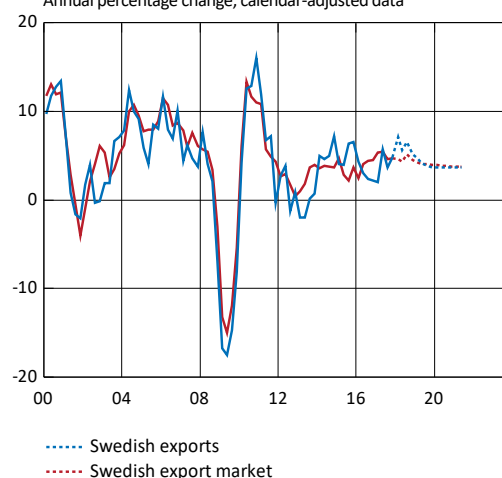
Sources: Statistics Sweden and the Riksbank

Figure 4:8. Contribution to GDP growth
Annual percentage change and contribution to annual GDP growth



Sources: Statistics Sweden and the Riksbank

Figure 4:9. 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 imports in the countries included in KIX and covers around 85 per cent of the total Swedish export market.

Sources: Statistics Sweden and the Riksbank

¹⁴ In many advanced economies, potential growth already started to slow before the financial crisis, primarily as a result of lower productivity growth. After the financial crisis, the slowdown has been more accentuated and in advanced economies has also been driven to a greater extent by demographic developments, see the chapter "Where are we headed? Perspectives on potential output" in *World Economic Outlook April 2015*, IMF.

¹⁵ For a discussion on the development of housing investment, see the article "Reduced housing construction is subduing GDP growth" in the Monetary Policy Report February 2018.

pensioners. For some time and to an ever-increasing extent, households have increased their saving, instead of consuming, and the so-called saving ratio has therefore risen significantly (see Figure 4:10).¹⁶ In the period ahead, households are expected to save less in order to continue to increase their consumption at a historically normal rate when their income grows more slowly as a result of declining employment growth and rising mortgage rates.

Household debt continues to increase

Historically, weaker development in housing prices has led to a slower increase in household debt. The expectation that debt is nevertheless expected to continue to rise is in part due the fact that someone buying a home today is on average paying a significantly higher price than before. The loans that help fund housing purchases today can therefore be expected to be higher than an average mortgage among existing homeowners. The turnover of homes will thereby contribute to a rise in household debt. As new construction is on a historically high level, the number of homeowners with mortgages will also rise comparatively quickly.

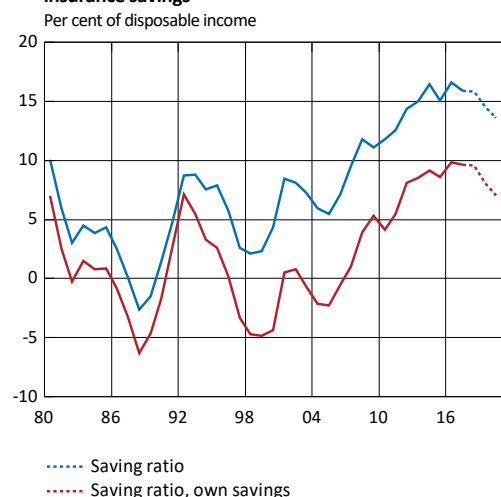
Overall, household debt is expected to grow more rapidly than their disposable income and the debt-to-income ratio will increase further to just over 190 per cent during 2021 (see Figure 1:13). New statistics indicate that lending has continued to increase at a more or less unchanged rate in recent months. This has led to the assumption that debt will rise slightly more rapidly than in the forecast in February.

Subdued growth in labour supply

Developments on the labour market have been very strong for several years and both the labour force participation rate and the employment rate have risen to historically high levels. This is a result of both supply-stimulating reforms and high demand, as well as improved health and longer average life expectancy. Among Swedish-born persons, the labour force participation rate is now very high. In the 25–54 age-group, it amounted to just over 93 per cent last year (see Figure 4:11). The labour force participation rate has also risen among foreign-born persons, but is still lower than among Swedish-born persons (see the fact-box “Greater labour force participation rate among foreign-born persons”). Even if the participation rate continues to rise among foreign-born persons, overall growth in the labour supply and employment is expected to slow in the coming years. This is a consequence of the decline in population growth among people of working age (see Figure 4:12) and of the labour force participation rate and employment rate in many groups already being at historically high levels.

¹⁶ Total household savings include collective insurance savings. The former definition, which was also termed ‘total household saving’, excluded collective insurance savings and the savings are the difference between income and consumer expenditure.

Figure 4:10. Household savings with and without collective insurance savings



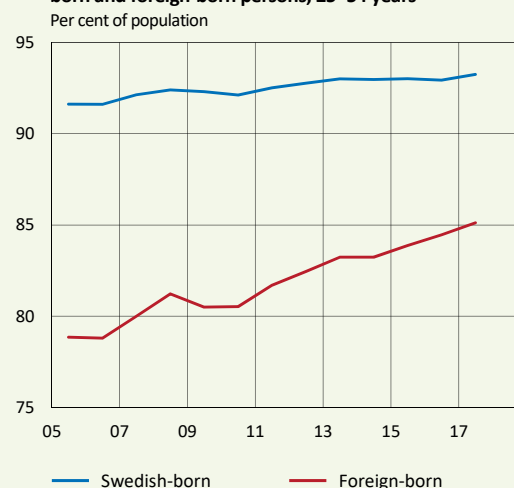
Sources: Statistics Sweden and the Riksbank

Greater labour force participation among foreign-born persons

The labour force participation rate has shown a rising trend among both Swedish-born and foreign-born persons. It is admittedly still lower among foreign-born persons than among Swedish-born persons in individual age-groups, but the labour force participation rate among foreign-born persons has come closer to the labour force participation rate among Swedish-born people over time (see Figure 4:11). The difference in relation to Swedish-born persons has decreased among persons born both in and outside Europe, but above all among men. The labour force participation rate among women born in Europe has come closer to the rate among Swedish-born women, while the development among women born outside Europe has progressed more slowly. There, the difference in relation to Swedish-born women is still very substantial.

The labour force participation rate among foreign-born persons will probably continue to rise and come closer to the rate among Swedish-born persons, partly due to the expectation that the inflow of new arrivals will be lower in the coming years and because the participation rate, historically speaking, increases the longer migrants stay in the country. The pace and extent to which this will occur is, of course, uncertain, but the Riksbank assumes that the development will continue, albeit at a slightly slower pace than over the last ten years. Compared with the assessment in February, this is a slightly more rapid pace and the trend development in the number of hours worked has therefore been revised upwards somewhat.

Figure 4:11. Labour force participation rate among Swedish-born and foreign-born persons, 25–54 years



Source: Statistics Sweden

Resource utilisation higher than normal in the years ahead

As the employment rate has risen and unemployment fallen, it has become increasingly difficult for companies to find the staff they are looking for. For example, the percentage of companies reporting a labour shortage in the Economic Tendency Survey is on a very high level. The high level of resource utilisation is also reflected in the fact that a large share of recruitments now occur among those who already have a job. This is expected to affect local wage formation and bring about rising wage increases over and above central agreements.

Although unemployment is still relatively high, the composition of the non-employed group has changed and currently consists to a greater extent of people who, historically speaking, have had difficulty finding a job. It is therefore the Riksbank's assessment that unemployment will not fall significantly more in the period ahead (see Figure 4:13). At the same time, it is assumed that the employment rate could rise further from what is already a very high level as a result of the expectation that labour supply will continue to increase. The reduction in housing investment will, however, push down resource utilisation slightly in the coming years, although it will still be higher than normal (see Figure 4:14).

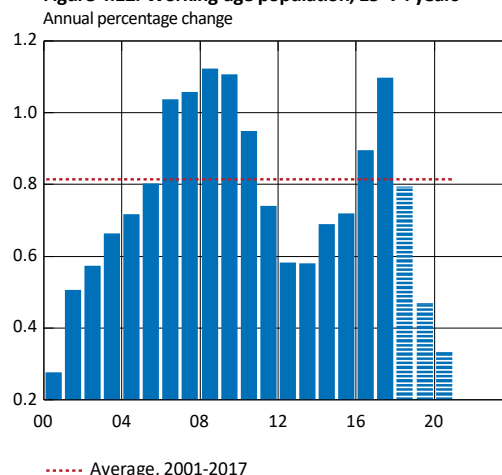
Tighter labour market will lead to wages rise faster

Three-year collective agreements, concluded last year, with agreed wage increases of 2.1 per cent per year on average, apply to a significant part of the labour market. The next major round of collective bargaining will begin during the second half of 2019 and will continue through much of 2020.

In the coming years, the high level of resource utilisation in the labour market is expected to contribute to a gradual increase in the rate of increase in wages over and above central agreements, and thereby in total wage growth (See Figure 4:15). Another indicator that the rate of wage increase will rise in the coming years is that wages abroad are now rising at a somewhat faster pace (see the fact box "Signs of rising wage growth abroad"), a trend that is expected to continue.¹⁷ In addition to wages, companies also pay statutory employer's contributions and other payroll taxes for their employees. For several years, these have increased more rapidly than wages, but during the forecast period, labour costs per hour, i.e. wages, employer's contributions and payroll taxes added together, will rise at approximately the same pace as wages (see Figure 4:15).

The link from wages to inflation goes mainly via cost pressures, measured as unit labour costs. This means that even relatively low wage growth can be inflationary if productivity growth is concurrently weak. Last year, both wages and

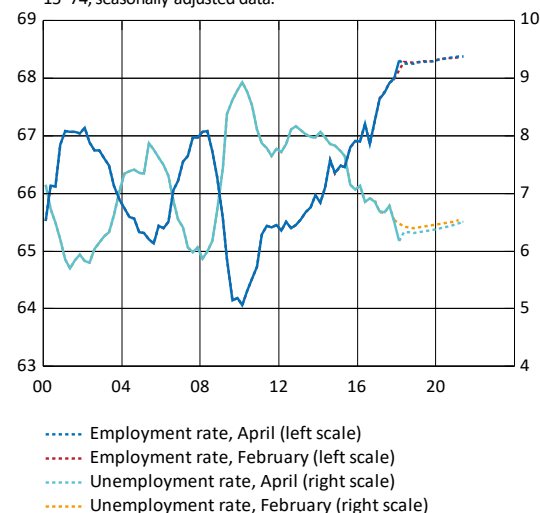
Figure 4:12. Working-age population, 15–74 years



Sources: Statistics Sweden and the Riksbank

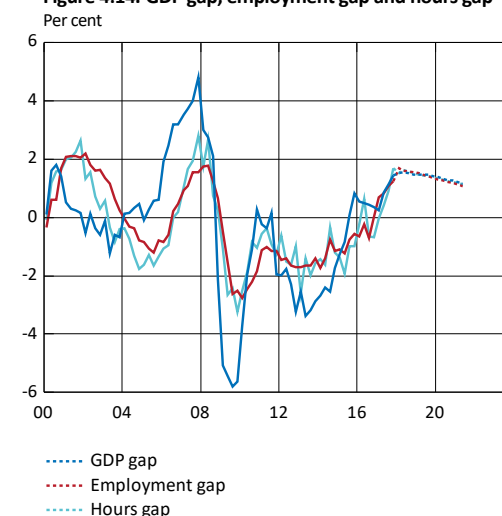
Figure 4:13. Employment rate and unemployment rate

Percentage of the population and the labour force, respectively, aged 15–74, seasonally-adjusted data.



Sources: Statistics Sweden and the Riksbank

Figure 4:14. GDP gap, employment gap and hours gap



Note. The gaps refer to the deviation in GDP, the number of those employed and the number of hours worked from the Riksbank's assessed trends.

Sources: Statistics Sweden and the Riksbank

¹⁷ When the latest industrial agreement was concluded, the parties identified competitiveness and cost developments abroad as two important factors, see "AVTAL 2017 - Industrins konkurrenskraft avgör" (AGREEMENTS 2017 - Competitiveness in the industrial sector the deciding factor), In Swedish only, Teknikföretagen (Association of Swedish Engineering Industries), 2016 and "Ekonomiska bedömningar Hösten 2016" (Economic assessments Autumn 2016), In Swedish only, Facken inom industrin (Swedish Unions within Industry), 2016.

productivity rose rather modestly, leading to an increase in cost pressures of just over 2 per cent (see Figure 4:16). Unit labour costs are also expected to rise by about 2 per cent per year over the coming years, which is a relatively normal rate of increase, historically speaking.

Inflation just under 2 per cent in the year ahead

Adjusted for energy prices, the rate of increase in the CPIF has been somewhat subdued since the middle of last year and amounted to 1.5 per cent in March. However, there has been trend increase in inflation since 2014. The upturn is deemed to be due to an increase in resource utilisation in the economy, which has both led to rising labour costs and made it easier for companies to raise their prices. The increase is also partly due to earlier krona depreciations that have pushed up prices for imported goods and services. Recently, energy prices have also risen and the rate of increase in the CPIF amounted to 2.0 per cent in March.

In recent months, the krona has weakened further, fuelling expectation that inflation will temporarily increase slightly more rapidly from the end of the year and next year. The krona is expected to strengthen from its current level, and thus gradually subdue the development of inflation. While the krona strengthens, however, the high level of resource utilisation is expected to continue to contribute to higher labour costs and rising inflation. Unit labour costs, which affect inflation with a certain time lag, have increased relatively quickly over the past two years and are expected to continue to rise by about 2 per cent per year in the years ahead (see Figure 4:16). The high level of resource utilisation enables companies to increase their margins, however, and the profit share in the business sector are therefore expected to rise slightly in the period ahead (see Figure 4:16).¹⁸ At the same time, inflation abroad will also rise slightly. All in all, it is the Riksbank's assessment that CPIF inflation will amount to just under 2 per cent in the year ahead and then be close to 2 per cent (see Figure 4:17). When the repo rate, and hence mortgage rates, begin to rise, household interest expenditure will increase more quickly, leading to higher CPI inflation than CPIF inflation.

Downwardly revised forecast for CPIF excluding energy prices this year

As in the Monetary Policy Report in February, resource utilisation is expected to continue to be high while the view of inflation abroad is largely unchanged. The view of the development of unit labour costs is also close to the forecast in the Monetary Policy Report in February.

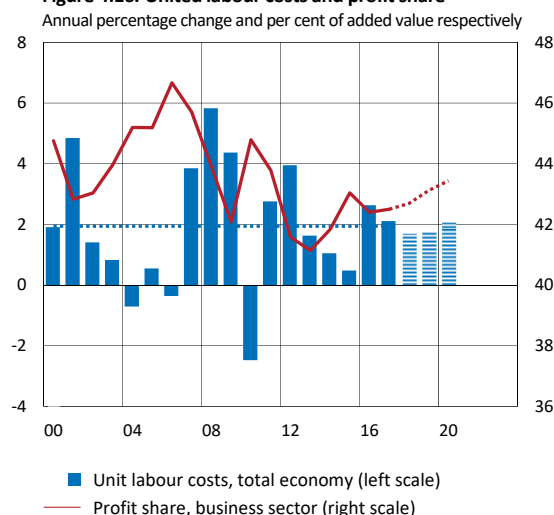
¹⁸ The fact that the profit share are still relatively low is due in part to a change in the composition of the business sector towards a greater share of production in labour-intensive industries, see "Strukturmöndling bakom nedgången i vinstandelen" (Structural transformation behind downturn in profits), in Swedish only, in *Wage Formation Report 2016*, National Institute of Economic Research.

Figure 4:15. Wages and labour costs in the whole economy
Annual percentage change



Source: Statistics Swede and the Riksbank

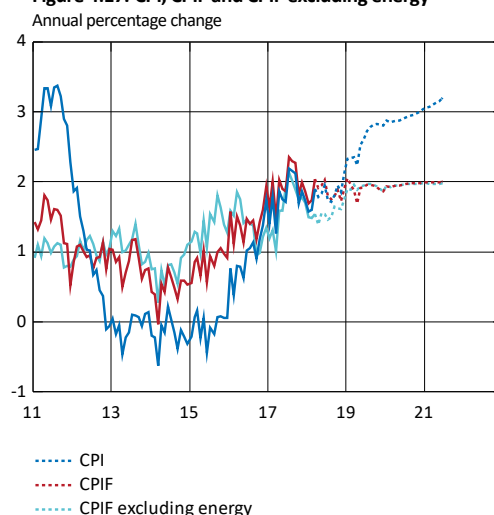
Figure 4:16. United labour costs and profit share



Note. Profit share refers to operating surplus as a percentage of total value added in the business sector. The broken line refers to the average rate of increase in unit labour costs (entire economy) since 1994.

Sources: Statistics Sweden, the NIER and the Riksbank

Figure 4:17. CPI, CPIF and CPIF excluding energy



Sources: Statistics Sweden and the Riksbank

Compared with the forecast in February, however, the latest outcomes for the CPIF excluding energy prices have been lower than expected. This downturn is mostly attributed to the upturn in prices for services and the underlying inflationary pressures are deemed to be slightly lower. This has led to the projection that inflation measured in terms of the CPIF excluding energy prices will increase slightly more slowly this year. The krona has been weaker than in the assessment in February, however, and even though the depreciation is deemed temporary to a certain extent, the krona is still expected to remain weaker in the period ahead. This will contribute to a slightly faster increase in the CPIF excluding energy prices from the end of this year and next year. As a result of the cold weather at the beginning of the year, electricity prices have also increased to a surprising degree and will contribute to slightly higher CPIF inflation this year. Fuel prices have also increased more rapidly than expected due in part to the weaker krona. As electricity prices are not expected to be as high next year, they will contribute to a slightly lower rate of increase in the CPIF next year. Overall, these factors have led to CPIF inflation being marginally revised during the forecast period. As in February, inflation is expected to amount to just below 2 per cent in the year ahead and then be close to 2 per cent.

ARTICLE – The exchange rate and inflation

Since the Monetary Policy Report in February, the krona exchange rate has depreciated by around 5 per cent. The exchange rate is affected by both more long-term structural factors and factors of a more temporary nature. An example of a more temporary factor is if many market participants begin to look less positively on how the Swedish economy will develop cyclically and therefore expect a more expansionary monetary policy in Sweden than abroad. But the krona can also weaken in times of unease if market participants prefer to choose assets in larger, more secure currencies than the Swedish krona. What lies behind a change in the exchange rate and how long this change is expected to last can have an impact on inflation. It is not the exchange rate's development per se, but rather how it affects inflation and economic activity, which are the focus of the Riksbank's monetary policy.

The exchange rate in the short and long term

Many different factors affect the exchange rate. Some of these are of a structural nature and therefore affect the exchange rate over a long period of time. For example, a faster productivity growth trend in Sweden in relation to the rest of the world or a more permanent improvement in the Swedish terms of trade (the relationship between Swedish export prices and Swedish import prices) should contribute to a stronger exchange rate in the long term. Another structural factor that can affect the exchange rate over a long period of time is a demographically driven change in the current account. With a large percentage of the population at ages with a high level of savings, the surplus on the current account is normally larger. This is compatible with a weak exchange rate. When savings then decline in the future, the exchange rate strengthens. Structural changes normally affect developments in the economy only gradually and therefore rarely give rise to large and rapid changes in the exchange rate.

Other determinants affect the exchange rate over a shorter period of time.¹⁹ If, for instance, participants in the financial markets change their views of the economic outlook and inflation prospects in Sweden in relation to the rest of the world, this may affect their views on monetary policy and the exchange rate over a period of time. Moreover, increased unease and volatility on the financial markets usually mean that the krona weakens against other, larger and more liquid, currencies for a period of time. The Riksbank assesses that most of the weakening of the Swedish krona since February is due to changes in expectations of monetary policy and unease and volatility on the financial markets.

No simple correlation between the exchange rate and inflation

The link between exchange rate movements and changes in inflation depends on what causes the change in the exchange rate.²⁰ If, for instance, cost pressures in the economy are developing weaker than expected, resulting in lower inflation, this can lead to expectations of a more expansionary monetary policy and thereby a weaker krona. The krona can then weaken at the same time as inflation is lower than before. If, on the other hand, the exchange rate weakens as a result of increased financial unease or other factors that have less to do with the Swedish economy, inflation may instead be higher going forward as a weak krona will not then be counteracted by other effects that push down inflation. In both cases a weaker krona contributes to higher inflation, but in the first example the overall effect is lower inflation.

The way inflation is affected when the krona weakens also depends on how long the weakening is expected to last.²¹ A weakening that is expected to continue for a longer period of time means that Swedish companies are expecting higher costs for imported input goods over a fairly long period to come. To avoid a fall in profit margins over a long period of time, companies will probably want to pass on the cost increases to their customers in Sweden. Moreover, demand for Swedish exports increases more if the krona is weak over a longer period of time, which causes resource utilisation and ultimately cost pressures in Sweden to rise. Such a weakening may therefore have a relatively large impact on inflation. A weakening that is expected to be more short-lived can instead get companies to wait before implementing price increases and to allow profit margins to

¹⁹ This reasoning actually concerns the real exchange rate, that is, the relative price level in a joint currency. For the sake of simplicity, it is assumed in this article that all variations in the real exchange rate are caused by changes in the nominal exchange rate. This is probably a good approximation, at least in a short-term perspective.

²⁰ See the article "The impact of the exchange rate on inflation" in the Monetary Policy Report December 2016.

²¹ See Monetary Policy Report July 2013, Chapter 2.

decline for a period of time, to retain their market shares. Then the effect on inflation may be more moderate.

How a weaker exchange rate is linked to inflation should thus depend on a number of different factors. And as these factors may be difficult to observe, there is always a high degree of uncertainty in the assessment of the correlation between the exchange rate and inflation.

Several reasons for a weaker krona since the February MPR

Since the February Monetary Policy Report, the krona has depreciated by around 5 per cent, and this weakening has been against several different currencies (see Figure 4:18). During the same period, market expectations of monetary policy in Sweden have shifted in a more expansionary direction (see Figure 2:1). In certain other economies, expectations have also shifted in a more expansionary direction (for instance, in the euro area), but not as much as in Sweden. And in other countries the changes in market expectations have been minor or have gone in the opposite direction (for instance, the United States).

Monetary policy expectations in Sweden changed, for instance, when inflation in January was lower than the Riksbank had expected, and when the minutes of the monetary policy meeting in February published. Both of these events were interpreted to mean that the Riksbank would conduct a more expansionary monetary policy than that signalled in the February Monetary Policy Report. On both of these occasions the krona weakened (see Figure 4:19).

However, the krona has also weakened in connection with the increase in volatility on the international financial markets. One example is when the US administration announced at the end of March that import tariffs would be introduced on certain Chinese goods, and this led to stock market falls in many countries. It is not unusual for the krona to weaken when unease increases on international financial markets, as market participants will in these situations to a greater extent choose assets in larger, more liquid currencies.

The weakening since the Monetary Policy Report in February is therefore due to several different factors. However, it is difficult to assess how much each respective factor has contributed to the weakening of the krona, and the overall consequences for inflation going forward are uncertain.

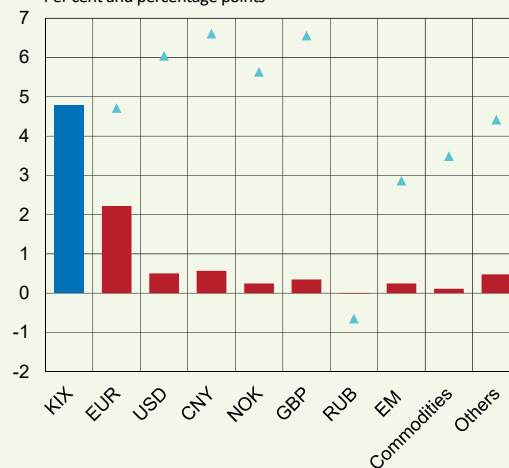
Krona expected to be weaker than forecast earlier in the coming years

The Riksbank's forecast means that the krona is expected to recover some of the depreciation in recent months during the spring and then gradually continue to appreciate over the coming years. Compared with the previous forecast, however, the krona is assessed to be weaker throughout the forecast period. This contributes to the assessment that

inflation will be somewhat higher than was previously forecast, especially in 2019. But the assessment is very uncertain, and the impact on inflation can be both greater and smaller than in the forecast.

The Riksbank's assessment that the krona should be stronger in the longer run than its current level is shared by

Figure 4:18. Changes to KIX exchange rates
Per cent and percentage points

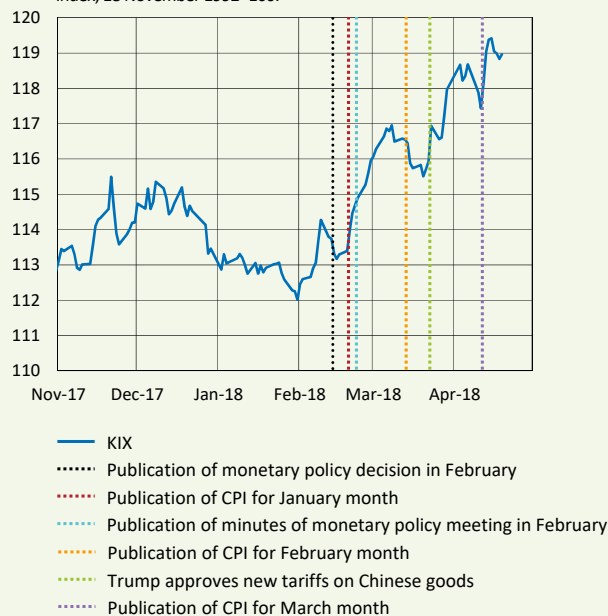


■ Percentage change in the KIX
■ Contribution to change in the KIX in percentage points
▲ Percentage change in other currencies

Note. The figure shows changes in KIX and contributions from different currencies between 14 February 2018 and 24 April 2018. EM refers to Brazil, Hungary, India, Mexico, Poland and Turkey. Commodities refer to Australia, Canada and New Zealand. Other refers to Czech Republic, Denmark, Iceland, Japan, South Korea and Switzerland.

Sources: Thomson Reuters and the Riksbank

Figure 4:19. Developments of the krona linked to some events
Index, 18 November 1992=100.



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

Sources: National sources and the Riksbank

many other analysts. However, it is also uncertain how quickly the krona will appreciate and what level it is reasonable to expect in the longer run. But it is not the exchange rate's development per se, but rather how it affects inflation and economic activity, that comprises the focus of the Riksbank's monetary policy.

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 2017	Q1 2018	Q2 2018	Q2 2019	Q2 2020	Q2 2021
Repo rate	−0.50	−0.50 (−0.50)	−0.50 (−0.50)	−0.13 (−0.02)	0.42 (0.49)	1.01

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2016	2017	2018	2019	2020
CPIF	1.4	2.0	1.9 (1.8)	1.9 (1.9)	2.0 (2.0)
CPIF excl. energy	1.4	1.7	1.6 (1.7)	1.9 (1.9)	2.0 (2.0)
CPI	1.0	1.8	1.8 (1.7)	2.6 (2.6)	2.9 (3.1)
HICP	1.1	1.9	1.8 (1.7)	1.9 (1.8)	1.9 (1.9)

Note. The CPIF is the CPI with a fixed mortgage rate. 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

	2016	2017	2018	2019	2020
Repo rate	−0.5	−0.5	−0.5 (−0.4)	−0.1 (0.0)	0.5 (0.6)
10-year rate	0.5	0.7	0.9 (1.2)	1.7 (2.0)	2.4 (2.6)
Exchange rate, KIX, 18 November 1992 = 100	111.7	112.9	114.5 (111.6)	110.8 (108.7)	108.1 (106.9)
General government net lending*	1.2	1.1 (1.2)	0.9 (0.9)	0.9 (0.9)	0.8 (0.8)

* Per cent of GDP. The outcome for general government net lending in 2017 was revised up to 1.3 per cent in connection with Statistics Sweden's publication of the EDP-statistics in March. In order for the statistics to be consistent with other forecast variables, the outcome pertains to that published in connection with the national accounts in February.

Sources: Statistics Sweden and the Riksbank

Table 4. International conditions

Annual percentage change, unless otherwise stated

GDP	PPP-weights	KIX-weights	2016	2017	2018	2019	2020
Euro area	0.11	0.48	1.8	2.5	2.1 (2.4)	1.9 (1.8)	1.6 (1.6)
USA	0.15	0.09	1.5	2.3	2.8 (2.6)	2.5 (2.2)	2.0 (2.1)
Japan	0.04	0.02	0.9	1.7	1.3 (1.4)	0.8 (0.8)	0.4 (0.3)
China	0.19	0.09	6.7	6.9	6.6 (6.4)	6.2 (6.1)	6.1 (6.1)
KIX-weighted	0.75	1.00	2.1	2.9 (2.9)	2.7 (2.7)	2.5 (2.4)	2.2 (2.2)
World (PPP-weighted)	1.00	—	3.2	3.7 (3.7)	3.9 (3.8)	3.8 (3.7)	3.7 (3.7)

Note. Calendar-adjusted growth rates. The PPP weights refer to the global purchasing-power adjusted GDP weights for 2018, according to the IMF. KIX weights refer to weights in the Riksbank's krona index (KIX) for 2018. 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	2016	2017	2018	2019	2020
Euro area (HICP)	0.2	1.5	1.5 (1.6)	1.5 (1.5)	1.7 (1.7)
USA	1.3	2.1	2.5 (2.5)	2.2 (2.3)	2.2 (2.2)
Japan	−0.1	0.5	1.1 (1.0)	1.4 (1.5)	1.9 (2.0)
KIX-weighted	1.1	1.9	2.0 (2.1)	2.0 (2.1)	2.1 (2.2)

	2016	2017	2018	2019	2020
Policy rates in the rest of the world, per cent	−0.1	−0.1	0.1 (0.1)	0.3 (0.3)	0.7 (0.8)
Crude oil price, USD/barrel Brent	45.1	54.8	67.8 (68.0)	64.1 (63.9)	60.7 (60.8)
Swedish export market	3.9	5.0 (4.7)	4.6 (4.5)	4.1 (3.9)	3.9 (3.8)

Note. Policy rates in the rest of the world refer to a weighted average of USA, the euro area, 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

	2016	2017	2018	2019	2020
Private consumption	2.2	2.4 (2.5)	2.5 (2.9)	2.5 (2.5)	2.5 (2.5)
Public consumption	3.1	0.4 (0.4)	1.2 (1.4)	1.0 (1.0)	1.2 (1.2)
Gross fixed capital formation	5.6	6.0 (7.4)	3.3 (4.0)	0.9 (1.2)	2.8 (2.0)
Inventory investment*	0.0	0.1 (–0.1)	0.0 (–0.1)	0.2 (0.0)	–0.1 (0.0)
Exports	3.3	3.7 (3.6)	5.9 (5.1)	4.1 (3.8)	4.1 (4.1)
Imports	3.4	5.0 (5.1)	5.5 (5.0)	4.0 (3.8)	4.2 (4.2)
GDP	3.2	2.4 (2.5)	2.6 (2.8)	2.0 (1.8)	2.1 (2.1)
GDP, calendar-adjusted	3.0	2.7 (2.8)	2.7 (2.9)	2.0 (1.9)	1.9 (1.8)
Final domestic demand*	3.1	2.6 (3.0)	2.2 (2.6)	1.6 (1.7)	2.1 (1.9)
Net exports*	0.1	–0.3 (–0.4)	0.4 (0.3)	0.2 (0.2)	0.2 (0.1)
Current account (NA), per cent of GDP	4.7	4.0 (4.6)	4.0 (4.5)	4.0 (4.5)	3.9 (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

	2016	2017	2018	2019	2020
Population, aged 15–74	0.9	1.1	0.8 (0.8)	0.5 (0.5)	0.3 (0.3)
Potential hours worked	1.0	0.9 (0.8)	0.8 (0.7)	0.6 (0.6)	0.5 (0.5)
Potential GDP	2.2	2.2 (2.2)	2.1 (2.1)	2.0 (2.0)	2.0 (1.9)
GDP, calendar-adjusted	3.0	2.7 (2.8)	2.7 (2.9)	2.0 (1.9)	1.9 (1.8)
Number of hours worked, calendar-adjusted	2.1	1.9 (1.8)	1.6 (1.6)	0.5 (0.5)	0.4 (0.4)
Employed, aged 15–74	1.5	2.3	1.4 (1.4)	0.5 (0.5)	0.4 (0.4)
Labour force, aged 15–74	1.0	2.0	1.0 (1.1)	0.6 (0.5)	0.5 (0.5)
Unemployment, aged 15–74 *	6.9	6.7	6.3 (6.4)	6.4 (6.4)	6.4 (6.5)
GDP gap	0.5	0.9 (0.9)	1.5 (1.7)	1.4 (1.6)	1.3 (1.5)
Hours gap	–0.2	0.7 (0.6)	1.6 (1.5)	1.4 (1.4)	1.3 (1.4)

* Per cent of the labour force ** Deviation from the Riksbank's assessed trends

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

	2016	2017	2018	2019	2020
Hourly wage, NMO	2.4	2.5 (2.5)	2.8 (2.8)	3.1 (3.1)	3.4 (3.4)
Hourly wage, NA	2.2	2.7 (2.9)	2.8 (2.9)	3.1 (3.2)	3.4 (3.4)
Employers' contribution*	0.7	0.0 (0.0)	0.0 (0.0)	0.1 (0.1)	0.1 (0.1)
Hourly labour cost, NA	3.0	2.8 (2.8)	2.8 (2.9)	3.2 (3.3)	3.5 (3.5)
Productivity	0.9	0.8 (0.9)	1.1 (1.3)	1.5 (1.3)	1.5 (1.4)
Unit labour cost	2.6	2.1 (2.0)	1.7 (1.6)	1.7 (1.9)	2.1 (2.1)

* Contribution to the increase in labour costs, 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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