

Monetary Policy Report

February 2017



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 14 February 2017. 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 specified this as a target for inflation, according to which the annual change in the consumer price index (CPI) is to be 2 per cent.
- 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. It thus 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.
- 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, the most important factors, however, are effective regulation and supervision. 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

Recent outcomes and indicators point to a brighter economic outlook in the period ahead, both abroad and in Sweden. Against this backdrop, the global recovery is expected to continue and inflation abroad to increase further, in line with previous forecasts. Major political uncertainty prevails in several countries around the world, however, increasing the risks of setbacks.

In Sweden, the Riksbank's expansionary monetary policy has contributed to high growth, falling unemployment, rising inflation and long-term inflation expectations that are compatible with the inflation target. In December, CPIF inflation was close to 2 per cent although the recent increase has been primarily driven by temporarily rising energy prices. Excluding energy prices, inflation is still low. For inflation to stabilise around 2 per cent, a continued strong level of economic activity and a krona that does not appreciate too rapidly are required. The political uncertainty is enhancing the need for monetary policy to remain expansionary. The Executive Board has therefore decided to hold the repo rate unchanged at –0.50 per cent. The Executive Board has also taken a decision to extend the mandate that facilitates a quick intervention on the foreign exchange market. The repo rate path reflects the fact that there is still a greater probability that the rate will be cut than that it will be raised in the near future, and that slow increases will not begin until the start of 2018. Purchases of government bonds will continue according to the plan adopted in December. The expansionary monetary policy underlines the Riksbank's aim to safeguard the role of the inflation target as anchor for price-setting and wage formation.

Global recovery with the risk of setbacks

The international recovery is proceeding at a moderate pace. Forward-looking indicators, such as the Purchasing Managers' Index and consumer confidence, have strengthened, and development in the near term looks slightly stronger. Continued expansionary monetary policy and to some extent also more expansionary fiscal policy will support the recovery.

The political situation in several countries around the world, including the United States, is making it more difficult to predict economic and political developments. After the US presidential election in November 2016, long-term global interest rates and equity prices increased although the upturn slowed before the turn of the year. The optimism on the financial markets during the autumn can be linked to several aspects including expectations of fiscal policy stimulation in the US that would make a positive contribution to economic activity and to higher inflation in the years ahead. Recently, however, growing uncertainty regarding the formulation of US economic policy has been reflected in developments on financial markets in the form of, among other things, a clear depreciation of the US dollar. As in December, the Riksbank's forecast is based on the expectation that certain tax cuts and infrastructure investments will be implemented but that the positive effects of the policy will be partly counteracted by increased protectionism. GDP growth in

Table 1:1.

Important factors for monetary policy
The global recovery is expected to continue. Political uncertainty is increasing the risk of setbacks, however.
Central banks around the world are in different phases with their monetary policy. The Federal Reserve is expected to continue to increase the policy rate this year while the ECB continues with its asset-buying programme.
Swedish economic activity is increasingly strong but excluding energy prices, inflation is still low.
Long-term inflation expectations are back close to 2 per cent.
The krona weakened in 2016, but has strengthened since December. A slow appreciation is expected in the period ahead.
Conclusion: For inflation to stabilise around 2 per cent, a continued strong level of economic activity and a krona that does not appreciate too rapidly are required. The repo rate is retained at –0.50 per cent and purchases of government bonds will continue in accordance with the plan adopted in December 2016. The mandate that facilitates a rapid intervention on the foreign exchange market, if necessary, is being extended.

the United States is expected to be 2.3 per cent in 2017 and then gradually decline.

In a longer-term perspective, an overly expansionary fiscal policy can lead to public sector indebtedness in the US reaching levels that instead threaten growth. A more protectionist trade policy and stricter immigration laws in the United States and other countries would also have negative effects on world trade and global growth.

In Europe, elections will be held in France, the Netherlands and Germany in 2017. The election results will have an important bearing on whether the development towards a more introvert economic policy is further reinforced. At the same time, the risks linked to the European banking sector remain, as it still has a large share of non-performing loans and poor profitability.

Uncertainty about political developments abroad is giving rise to major uncertainty regarding economic development and increasing the risk of setbacks. At the same time, strong outcomes and positive indicators show that the global recovery is continuing, in line with the previous assessment. Global growth is expected to increase from 3.1 per cent in 2016 to 3.7 per cent in 2019. The forecast for GDP growth in the countries that are most important for the Swedish economy (KIX-weighted) is expected to rise from about 2.0 per cent in 2016 to just over 2.2 per year in 2017 to 2019. Gradually higher resource utilisation abroad and rising energy prices are pushing up inflation. Inflation (KIX-weighted) is expected to amount on average to about 2 per cent during the forecast period.

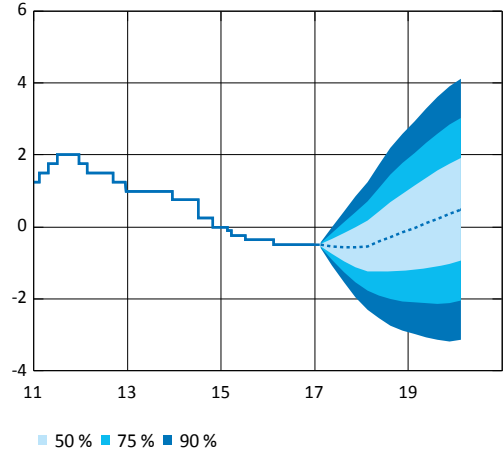
The Federal Reserve left monetary policy unchanged in February after having increased the interval for its policy rate by 0.25 percentage points to 0.5–0.75 per cent in December. The median of the forecasts made by the members of the monetary policy committee indicates three more 0.25 percentage point rate rises in 2017, while the market’s expectations are that the rate will be raised twice. The ECB decided in December to extend its asset purchase program up until the end of December 2017. At the meeting in January, monetary policy was left unchanged. The fact that these two central banks are in different monetary policy phases is illustrated by, among other aspects, the strengthening of the dollar against the euro in recent years.

Economic activity in Sweden increasingly strong

Swedish economic activity is good and expected to strengthen further during the forecast period, although there are risks of setbacks linked to the political uncertainty abroad. Resource utilisation is currently above its normal level according to several indicators. Over the coming years, with a growth rate faster than normal, resource utilisation is expected to rise further.

Swedish GDP growth has been strong for some time (see figure 1:2). Confidence measures show that optimism among both companies and households has increased and that export orders have strengthened recently. This suggests that GDP growth increased in the fourth quarter of 2016 and the growth forecast has been revised upwards slightly in the near term.

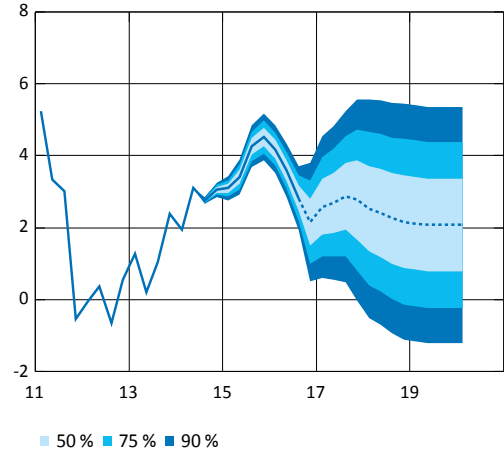
Figure 1:1. Repo rate with uncertainty bands
Per cent



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

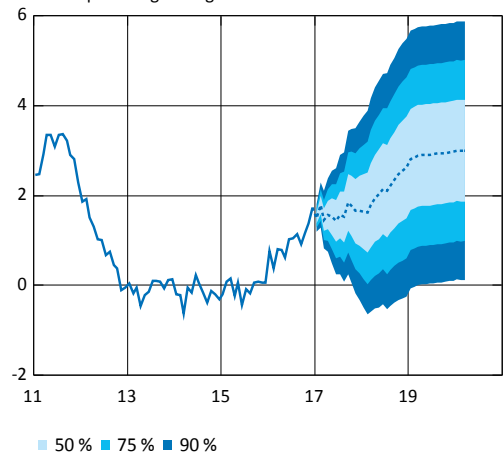
Figure 1:2. GDP with uncertainty bands
Annual percentage change, seasonally-adjusted data



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. CPI 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

Economic recovery abroad is expected to increase demand on many of Sweden's most important export markets in the coming years. This will contribute to higher exports and an increase in the investment needs of Swedish companies. The strong economic situation means that the demand for labour is expected to remain high going forward. But the employment rate is already high, particularly in certain groups, and both the proportion of companies reporting a shortage of labour and the share of job vacancies that need to be filled immediately are at a high level. Employment growth is therefore expected to slow in the period ahead. Overall, GDP is expected to grow by 2.5 per cent this year, and by an average of 2.2 per cent per year in 2018–2019.

Good conditions in place for rising inflation

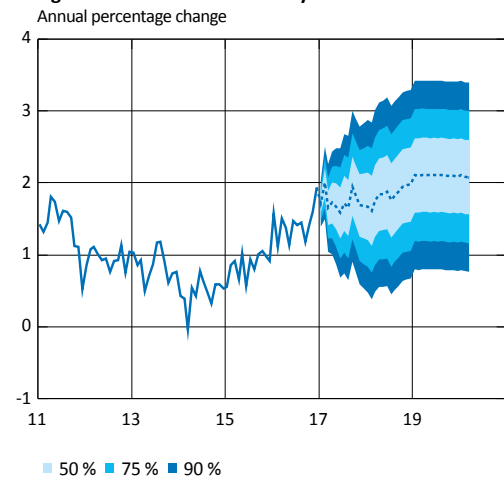
Inflation has shown a rising trend since 2014. Recently, energy and food prices in particular have picked up and boosted the inflation figures further. In December, CPI inflation was 1.7 per cent and CPIF inflation was 1.9 per cent (see figure 1:3 and figure 1:4). The upward trend in the CPIF excluding energy has softened in 2016, however, and amounted to only 1.3 per cent in December (see figure 1:5). However, the Riksbank assesses that the conditions are good for the upturn in inflation to continue, even after the price increases on energy have slowed to more normal levels. An important reason for this is that continually rising resource utilisation in the economy contributes to higher inflation, albeit with a certain time lag.

The exchange rate is also important for the development of inflation. Since the monetary policy meeting in December, the krona's exchange rate has appreciated, after having depreciated during the previous six months. In the period ahead, the krona is expected to appreciate, albeit slowly. International price pressures are then expected to rise and contribute to rising inflation. The picture of slowly increasing inflation remains (see figures 1:5–1:7). CPIF inflation is expected to stabilise around 2 per cent at the end of 2018.

Current monetary policy

For a long time, the environment in which monetary policy in Sweden operates has been characterised by low inflation, considerable uncertainty over international economic developments and low global interest rates. The aim of the expansionary monetary policy is to push up inflation and stabilise it around the target of 2 per cent and to keep inflation expectations in line with the target. High confidence in the inflation target is creating the conditions for efficient price-setting and wage formation, thereby contributing to good economic development. Given these circumstances, the Riksbank has cut the repo rate to -0.50 per cent and carried out extensive purchases of government bonds.

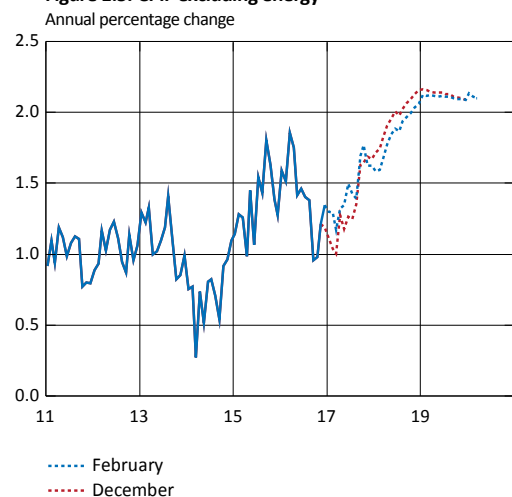
Figure 1:4. CPIF with uncertainty bands



Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

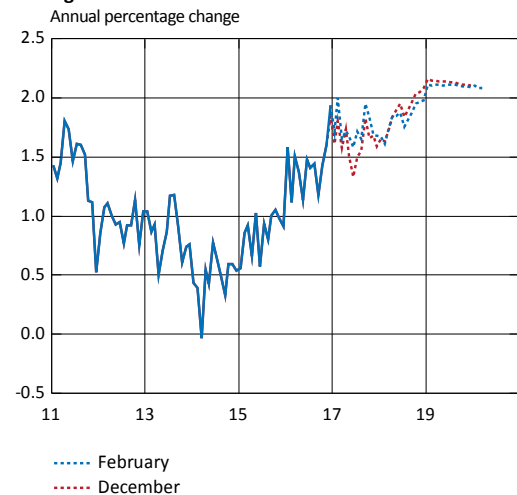
Figure 1:5. CPIF excluding energy



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

Sources: Statistics Sweden and the Riksbank

Figure 1:6. CPIF



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

Sources: Statistics Sweden and the Riksbank

Continued expansionary monetary policy is required for inflation to stabilise around 2 per cent

In recent years, the Swedish economy has developed positively with high growth, falling unemployment and rising inflation. By pushing down interest rates, the Riksbank’s expansionary monetary policy has contributed to this positive development. The fact that long-term inflation expectations are back at levels that are compatible with the inflation target is a sign that confidence in the monetary policy has increased. The latest measurements from Prospera show that market participants expect inflation, both two and five years ahead, to be close to 2 per cent (see figure 1:8).

In several countries in the world, considerable political uncertainty prevails, creating risks for the recovery in the international economy. But recent outcomes and indicators point to brighter prospects in the near term in economies that are important for Sweden’s exports. Since the Monetary Policy Report in December, real economic development abroad has on the whole been in line with the Riksbank’s forecast. The picture of a moderate recovery therefore remains.

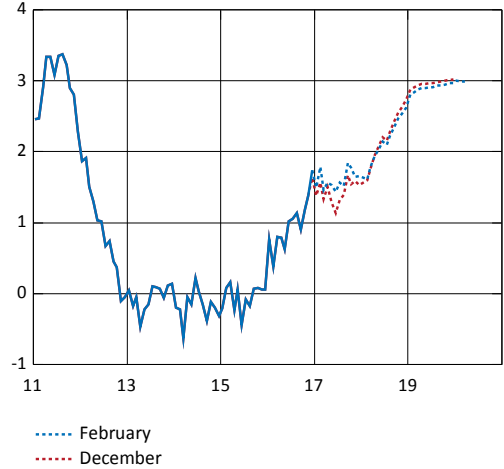
In the Swedish economy, sentiment is still optimistic, growth is deemed to be higher than normal and the labour market is increasingly strained. In the near term, the economic outlook is slightly stronger, although the forecasts have only been marginally revised compared to the assessment in December. The overall picture remains, with strong Swedish economic activity that is expected to continue to improve in the coming years, and this also requires inflation to keep on rising.

In recent years, inflation has shown a rising trend and the increasingly strong economic activity means that the conditions are good for a continued rise. However, in recent months the upturn has largely been driven by higher energy prices. Once these do not contribute as much, CPI inflation is expected to fall back slightly. This will take place during the first six months of 2017. CPI inflation excluding energy is still low, and has recently shown only a marginal increase. Not until the end of 2018 does the Riksbank expect inflation to stabilise around 2 per cent.

The krona exchange rate continues to create uncertainty about the development in inflation. During much of 2016, the krona was weaker than in the Riksbank’s forecasts although it has been significantly stronger than expected since December (see Figure 1:9). In the Riksbank’s current forecast, the recent rapid appreciation is not expected to continue. Instead, the exchange rate is expected to appreciate slowly in the period ahead as economic activity improves. For the upturn in inflation, it is important that the appreciation is slow. If the krona strengthens too rapidly, it could lead to prices of imported goods and services increasing more slowly and to a decline in the demand for Swedish exports. Such a development would make it more difficult for the Riksbank to bring up inflation.

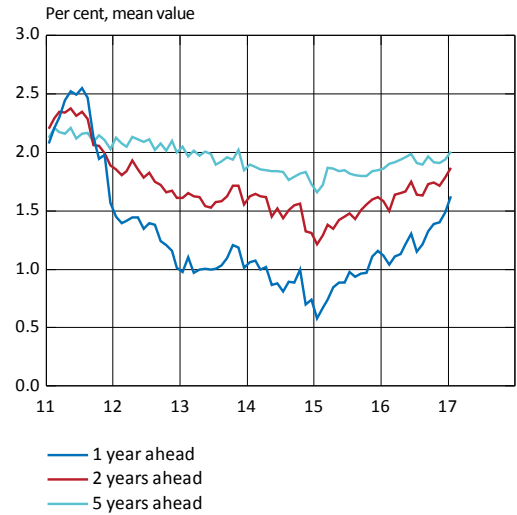
Inflation has been low for a long time and continued strong economic activity and a krona that does not appreciate too rapidly are required for inflation to stabilise around the inflation

Figure 1:7. CPI
Annual percentage change



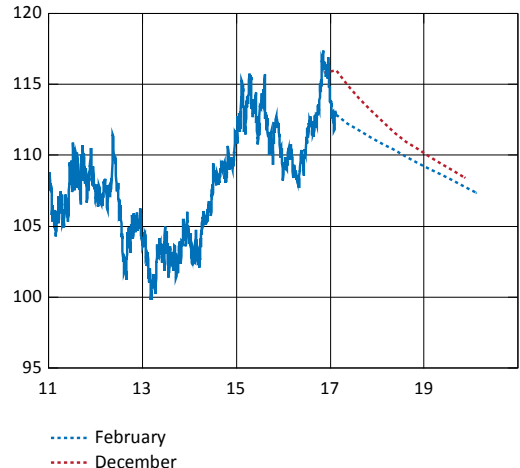
Sources: Statistics Sweden and the Riksbank

Figure 1:8. Inflation expectations among money market participants
Per cent, mean value



Source: TNS Sifo Prospera

Figure 1:9. KIX-weighted nominal exchange rate
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

target. Monetary policy therefore needs to remain very expansionary. Political uncertainty around the world, which can ultimately have a negative impact on the Swedish economic outlook and inflation prospects, also underlines the importance of a continued expansionary monetary policy. The Executive Board has therefore decided to hold the repo rate unchanged at -0.50 per cent. The repo rate path reflects the fact that there is still a greater probability that the rate will be cut than that it will be raised in the near future, and that slow increases in the repo rate will not begin until the start of 2018 (see figure 1:10). The forecast means that, in the years ahead, the repo rate will be much lower than the long-term normal level (see also the article “The repo rate in the long run”) Purchases of government bonds will continue for the first six months of 2017, as decided in December 2016. The Executive Board has therefore also taken a decision to extend the mandate that facilitates a quick intervention on the foreign exchange market. The extension of the mandate, until October 2017, is justified by the major uncertainty surrounding the development of the krona exchange rate and the consequences this may have for inflation.

Until further notice, maturities and coupon payments will be reinvested in the government bond portfolio. During 2017, these maturities and coupon payments will amount to around SEK 30 billion and reinvestments are planned to continue until the end of the year. In the middle of 2017, the purchases will amount to SEK 275 billion, excluding reinvestments (see figure 1:11).

Just as in many other countries in the world, Swedish monetary policy is thus very 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 1:12).

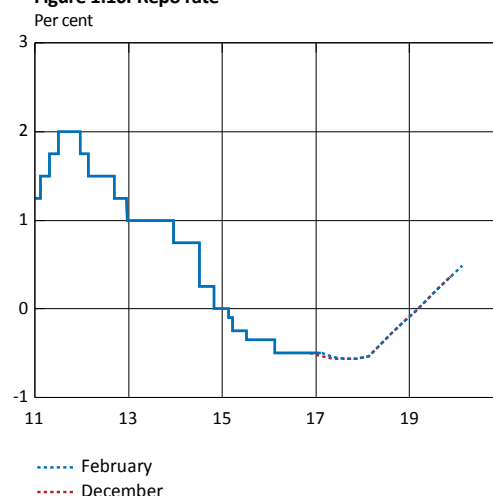
Although the Swedish economy is currently well-equipped, negative surprises can occur in the future that make it necessary to adapt monetary policy. The Riksbank therefore is still prepared to make monetary policy more expansionary if the upward trend in inflation were to be threatened and confidence in the inflation target weakened. All of the tools that the Riksbank has described earlier, most recently in the September Monetary Policy Report, can as always be used if necessary.

Uncertainty and risks

Forecasts of future economic developments are always uncertain, as illustrated by the uncertainty bands in figures 1:1–1:4. In the Riksbank’s forecasts, the risks of both more and less favourable development shall 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 the uncertainty and risks. There are occasions on which, in the 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

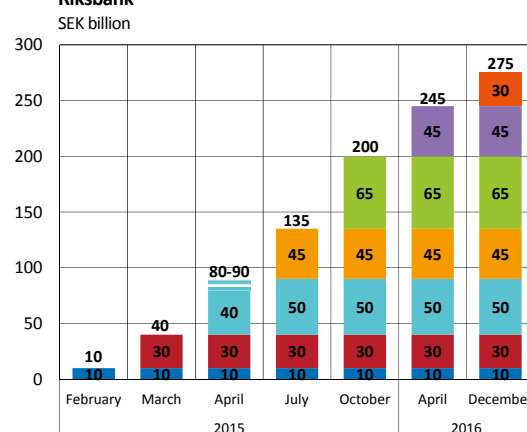
Figure 1:10. Repo rate



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

Source: The Riksbank

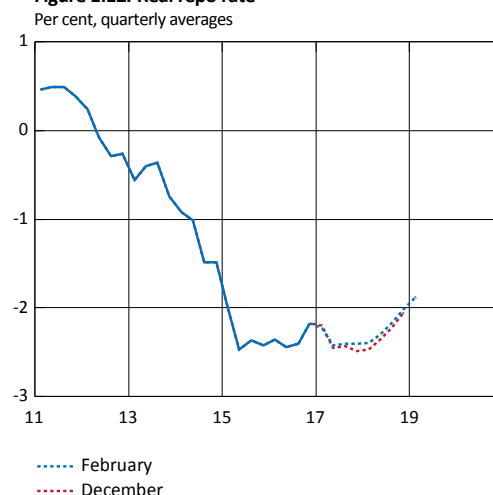
Figure 1:11. Purchases of government bonds decided by the Riksbank



Note. Purchases of government bonds, excluding reinvestments, will continue until mid-2017.

Source: The Riksbank

Figure 1:12. Real repo rate



Note. The real repo rate is a mean value 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

occasions, one may need to await more information before monetary policy can be adjusted.

Uncertainty surrounding the inflation forecast

Outcomes and indicators have generally developed positively since December but the political situation in several countries around the world, including the United States, is making it more difficult to predict economic and political developments. The policies announced by the US president will increase the risk of less trade with other countries and less migration into the United States. Such a global development would entail lower global economic growth, primarily in the slightly longer run. More protectionism and thereby higher import costs and lower competition would at the same time lead to higher inflation. The United Kingdom's decision to leave the EU will have similar consequences but the effects on the rest of the world will probably be more limited. In Europe, elections will be held in France, the Netherlands and Germany in 2017. These elections will have an important bearing on whether the development towards a more introvert economic policy is further reinforced. The increased uncertainty this entails is illustrated by, among other factors, the larger gaps between government bond yields in Europe recently. For example, the difference between French and German 10-year government bond yields is at its highest since 2012.

The US president has also announced extensive fiscal policy stimulation measures, but it is as yet unclear how these will be formulated and to what extent they will then be implemented. More expansionary fiscal policy will probably lead to an increase in demand and inflation and require monetary policy in the United States to be tightened more quickly. Major budget deficits and a growing sovereign debt could also lead the policy to be seen as unsustainable in the longer run and could thereby cause lenders to demand greater compensation for holding US government bonds. Rapidly rising interest rates in the United States would probably affect interest rates in the rest of the world and hence put a strain on governments, companies and households with large debts.

An important risk in the euro area is linked to the banking sector, which in some countries has structural problems with poor profitability and a large share of non-performing loans. These problems have recently received increased attention but there is a lack of clarity as to how they will be managed. These are just some examples of important international risks that the Riksbank and other central banks need to monitor closely, as unfavourable developments could rapidly change the conditions for monetary policy. All these risks are difficult to quantify, however.

The fluctuations in the krona over the past twelve months illustrate the very uncertain nature of exchange rate forecasts. An overly large and rapid appreciation of the krona would hold back import prices and demand, which would make it more difficult to reach the inflation target at the pace now anticipated by the

CPI, CPIF and HICP

The most common measure of inflation in Sweden is the Consumer Price Index, CPI. The CPI is the target variable for monetary policy, but the aim of the measure is also to calculate the impact of price fluctuations on households' living costs and it is used, among other things, to calculate the price base amount. The CPI includes households' mortgage costs, which are directly affected by the Riksbank's repo rate. Instead, it is therefore sometimes appropriate to use the CPIF, in which mortgage rates are held constant. The EU-harmonised inflation measure HICP is not directly affected by changes in mortgage rates either, as households' housing costs are largely excluded. In contrast to the CPI, the HICP is not intended to be a cost of living index but is instead intended to be a measure that is good for monetary policy purposes. The HICP is therefore often referred to as an inflation index and forms a target variable for monetary policy in the euro area, United Kingdom and elsewhere. The fact that the CPI, CPIF and HICP have different purposes means that they are calculated in somewhat different ways. Despite the differences in construction, there are similarities between inflation according to the HICP and according to the CPIF, while CPI inflation varies more. Further information on various measures of inflation and related issues can be found in the Riksbank Study "The Riksbank's inflation target – target variable and interval" (September 2017).

Riksbank. The problems could be particularly serious if confidence in the inflation target was to once again weaken. This risk is particularly high when inflation has been low for a longer period.

The relationship between the krona's development and inflation is largely dependent on what causes the exchange rate movements, however.² If the krona strengthens as a result of a global economic upswing, demand will then rise, which could counteract the dampening effects of the stronger krona on inflation. Identifying what drives changes in the krona exchange rate is difficult, however.

Resource utilisation is rising and is expected to be higher than normal during the forecast period. According to historical correlations, wages should therefore increase at a faster pace and inflation should become higher going forward. But it is difficult to know how quickly resource utilisation will affect the rate of wage increase and inflation, and this creates uncertainty in the forecasts for wages and inflation.³

Inflation may also rise faster than in the forecast. Recently, the real economy has strengthened relatively quickly both abroad and in Sweden. If this development were to continue, resource utilisation and thus inflation may be pushed up fairly quickly. However, inflation has been below target for a long time and, temporarily exceeding the target would not necessarily mean that monetary policy must be made less expansionary in the near future.

Risks of low inflation

When inflation expectations are well-anchored around the Riksbank's inflation target of 2 per cent, it is easier for monetary policy to attain the target. If inflation is below the inflation target for a longer time, inflation expectations risk becoming entrenched on excessively low levels. This can create uncertainty for households and companies when making financial decisions. For example, it may become more difficult for companies to assess how their own costs and revenues will develop, which may have a negative effect on investment and new recruitment.

Firmly-anchored inflation expectations are particularly important for wage formation to function smoothly. Smoothly-functioning wage formation in turn lays the foundation for a positive development on the labour market and also, ultimately, for stable price development. An overly low inflation rate can moreover make it more difficult to adapt real wages as nominal wages usually rise and are rarely lowered. This can entail higher unemployment and further downward pressure on inflation.

The expansionary monetary policy with, for instance, a negative repo rate, aims to bring inflation up to the target to 2 per cent. A less expansionary monetary policy would increase the risk of inflation being too low for a long time. If this is the

² See also the article "The impact of the exchange rate on inflation" in the Monetary Policy Report, December 2016.

³ See also the article "The relationship between resource utilisation and inflation" in the Monetary Policy Report, October 2016.

case, the interest rate will also need to be low for a longer period, and various negative side effects may thus be greater. It would then also be more difficult to counteract the effects of an economic slowdown. The current very expansionary monetary policy will thus contribute to interest rates being able to rise faster in the coming period than would otherwise have been the case. The risks of various negative side effects from low and negative interest rates can thus be expected to wane, and the scope for monetary policy to counteract future economic dips will be greater.

Risks inherent in low and negative interest rates

The central banks’ policy rates have been low and, in certain cases, negative for some time. This is primarily due to a downward global trend in real interest rates (see figure 1:13). This trend means that central banks have needed to take very strong measures to stimulate economic growth and counteract the risks of excessively low inflation (see also the article “The repo rate in the long run” in this report).

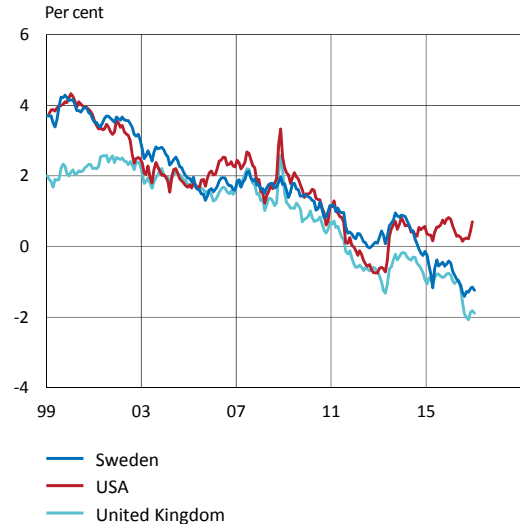
At the same time, the low interest rate environment may lead to assets becoming overvalued and to risks not being priced in full, which may increase the vulnerability of the financial system. Household debt as a percentage of disposable income will continue to increase in the coming years (see figure 1:14). At the end of the forecast period, the proportion is expected to be nearly 195 per cent, which is a historically very high level. A trend in which debts always rise faster than incomes is not sustainable. Housing prices also continue to rise, even if the rate of increase decreased in 2016 (see figure 1:15).

The Riksbank assesses that valuations in the Swedish housing market are high from a historical perspective. This, in combination with increasingly high indebtedness in the household sector and the fact that an ever-greater proportion of loans are at variable interest rates, has made both households and banks more vulnerable. High debts may be particularly problematic if economic growth should become significantly less positive than expected. Highly-indebted households may then be forced to reduce their consumption. This could further exacerbate the economic slowdown, particularly if housing prices also start to fall. Experience shows that even households with good financial margins often chose to reduce their consumption expenditure in such situations.

The risks associated with household indebtedness remain – urgent need for action

The high and increasing indebtedness could jeopardise financial and macroeconomic stability. A combination of measures in different policy areas is needed to attain a long-run sustainable development for the Swedish economy, with stable economic activity and inflation. This is particularly important as interest rates are expected to remain low for a long time (see the article “The repo rate in the long run”). Both measures to achieve a better balance between supply and demand on the housing

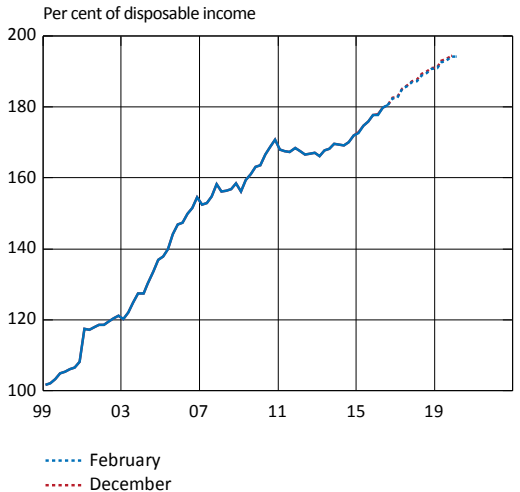
Figure 1:13. Real interest rates



Note. 10-year yield on index-linked government bonds in Sweden, the United Kingdom and the United States. Swedish real interest rate is zero coupon yields interpolated from bond prices using the Nelson-Siegel method.

Sources: Bank of England, Federal Reserve, Thomson Reuters and the Riksbank

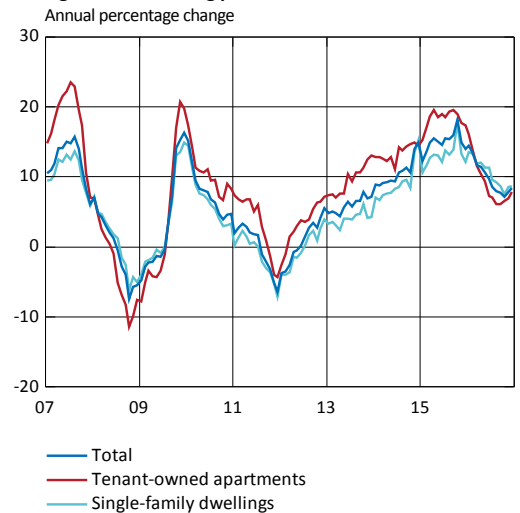
Figure 1:14. Household debt ratio



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

Sources: Statistics Sweden and the Riksbank

Figure 1:15. Housing prices

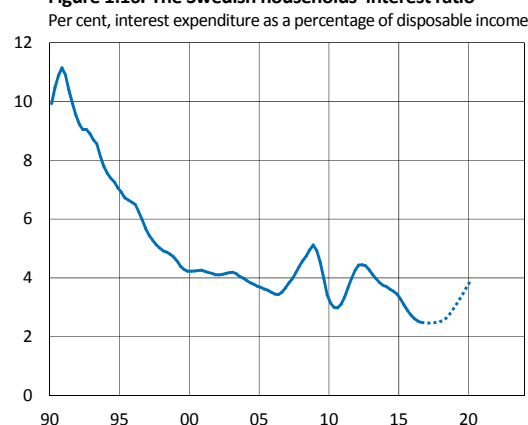


Source: Valueguard

market and tax changes aimed at reducing the willingness or ability of households to take on debt are required. Further macroprudential policy measures may also be needed, including the introduction of a debt-to-income limit that restricts how much a household may borrow in relation to its income. Another feasible measure is to review the regulatory framework to give banks a greater incentive to provide loans with long interest-rate fixation periods, and give households a greater incentive to choose such loans.⁴ The high indebtedness of households in combination with most of their loans having a variable interest rate makes households highly sensitive to interest rate changes. Their interest expenditure as a share of disposable income may change relatively substantially in the period ahead even if changes in the repo rate are relatively small (see Figure 1:16). At the end of the forecast period, the repo rate is expected to have risen by one percentage point from its current level. A greater proportion of fixed mortgage rates would make households less sensitive to interest rates.

A large increase in the repo rate would certainly slow down the build-up of debts but would also lead to higher unemployment and lower inflation. Other measures more specifically aimed at reducing the risks associated with household debt have less negative effects on the economy as a whole. Socioeconomic imbalances are expected to increase unless further measures are taken. This may ultimately be very costly for Sweden's economy.

Figure 1:16. The Swedish households' interest ratio



Sources: Statistics Sweden and the Riksbank

⁴ See also the article "Liquidity coverage ratios in Swedish kronor" in Financial Stability Report 2015:1, and Holmberg, U. et al. An analysis of the fixation period for Swedish mortgages, *Economic Commentaries No 7*, 2015, Sveriges Riksbank.

ARTICLE – The repo rate in the long run

In a small, open economy like Sweden, domestic interest rates are very much influenced by international events. In recent decades, both nominal and real interest rates have shown a falling trend all over the world. Global factors that may explain this development include structural trends that influence saving and investment, and cyclical factors linked to the financial crisis and the euro crisis. The global recovery after the financial crisis has been ongoing for a long time and inflation is rising, which raises the question of where interest rates abroad and in Sweden are heading in the long run. The structural factors that have contributed to the fall in interest rates in recent decades are, to some extent, expected to continue to hold down rates in the period ahead. The Riksbank's overall assessment is that the repo rate can be expected in the long run to be between 2.5 and 4.0 per cent, which is lower than the previously published interval. The Riksbank's forecast means, however, that the repo rate will be considerably lower than the long run normal level in the coming years.

Rates have been falling for a long time

Global interest rates have been showing a falling trend in recent decades and even though nominal rates in particular have seen a slight rise recently, both nominal rates and real rates are historically low (see figure 1:13). Some of the explanation for the current low rates can be attributed to structural trends that are not primarily affected by economic activity but other trends are cyclical and linked to the international financial crisis and the European debt crisis. Studies show that deep and long economic downturns can have long-term effects and it can therefore be difficult to distinguish structural trends from cyclical ones.

The trend in real interest rates is determined by structural factors while the trend in nominal rates is also affected by inflation expectations. Up until the mid-1990s, the decline in nominal rates was partly driven by a fall in inflation expectations in many countries. Thereafter, inflation expectations have remained relatively stable and it is instead other factors that have pushed down real rates and consequently nominal rates as well. Real rates have fallen in both advanced economies and emerging market economies, which suggests that global factors are behind the development.

It is primarily real rates that should influence investment and consumption decisions.⁵ The Riksbank and other central banks have therefore had to adapt to the falling trends in real rates and cut their policy rates to very low, and in some cases negative, levels in order to stimulate demand and push up inflation.

⁵ A household's decision to consume today or to save until a certain nominal rate in order to consume later on depends partly on the volume of goods and services it can consume at the two different junctures. In order to make this comparison, the household needs to consider expected price changes. As the real rate is defined as the nominal rate minus expected inflation, it is hence this interest rate that becomes

The low level of interest rates despite the long ongoing recovery after the financial crisis and recent rises in inflation raise the question of where interest rates abroad and in Sweden are heading in the long run. But in order to form an opinion on how interest rates will develop in the period ahead, it is important to firstly understand the factors that lie behind the decline in real rates.

What determines the interest rate in the long run?

How real interest rates develop in a longer time perspective is determined by factors that influence saving and investment. In the long run, these are factors that are beyond the control of central banks. For a small, economy like Sweden, domestic rates are largely influenced by international events, assuming, at least, that the domestic economy is in good order. Weak public finances, long-term deficits in the current account or a domestically generated financial crisis are factors that can cause domestic interest rates to deviate from those abroad for a relatively long time.

The share of global GDP made up of global saving and investment has long remained relatively unchanged (see figure 1:17). In order to explain simultaneously falling interest rates, it is therefore logical to try to find factors that have increased people's desire to save and reduce their desire to invest.

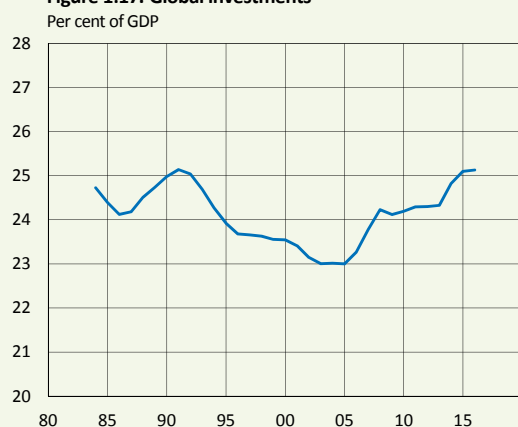
In several studies, demographic changes have been identified as an important explanation for the decline in interest rates.⁶ One argument is that saving is at its highest during the years a person is professionally active. In the world as a whole, the percentages of younger and older people in

the relevant factor in the household's decision. The same principles apply for companies choosing between making an investment or refraining from doing so.

⁶ Rachel, L. and Smith, T. (2015), "Secular drivers of the global real interest rate", Staff Working Paper No. 571. Bank of England. Carvalho, C., Ferrero, A. and Nechio, F. (2016), "Demographics and Real Interest Rates: Inspecting the Mechanism", Working

the population have declined since the end of the 1960s up until a few years ago (see figure 1:18).

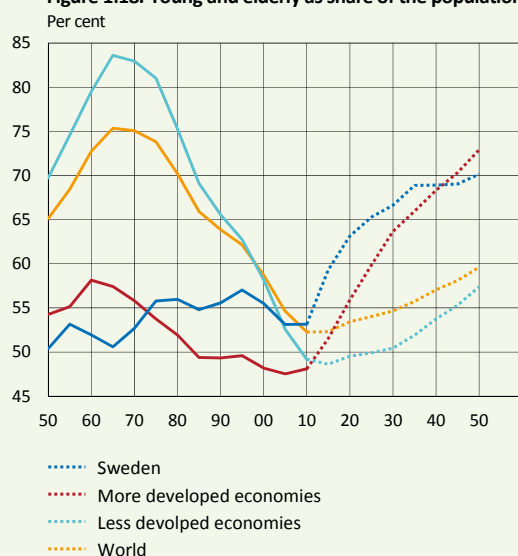
Figure 1:17. Global investments



Note. Current prices, 5 years moving average.

Source: IMF

Figure 1:18. Young and elderly as share of the population



Note. The population in age groups 0-14 years and the 65 years as a percentage of the population aged 15-64. Data is 5 year frequency and the observation for 2015 is an estimate.

Source: United Nations

This shift in the composition of the population towards a greater proportion of people in age groups that work and save has contributed to an increase in total saving propensity. The fact that people are also living longer also means that saving needs to increase during working life, assuming an unchanged retirement age. At the same time, population

growth in the world has declined as has growth in the labour force, albeit with a certain time lag. And when the labour force increases more slowly, investment in capital stock does not need to grow as rapidly as before either.

Saving is also affected by income spread within countries as individuals with higher incomes are more inclined to save than individuals with low incomes. Greater income gaps in several countries may therefore have caused an increase in total saving propensity. Income growth in emerging market economies may also have helped to increase people's scope for saving. Finally, there has also been a rise in precautionary saving in the public sector in many emerging market economies in the wake of the Asian crisis of 1997–1998, when central banks and others built up their foreign currency reserves in order to be able to cope with large capital outflows.

The decline in real rates can also be explained by various factors that dampen the desire to invest. Lower expected growth as a result of slower technological development or weaker growth in the labour force subdue the need to invest. Several other explanations have also been highlighted. The price of capital goods has fallen in relation to the price of consumption goods, which may cause investment propensity to decrease. Public sector investment as a share of GDP has been falling for a long time, which might be explained by the decline in political support for such investment. Finally, the gap between the interest rates paid by companies and government bond yields has increased. And as a result, the desire to invest at a given risk-free interest rate level has fallen.

Most international studies agree that the combination of the abovementioned factors can explain much of the decline in interest rates since the mid-1990s even if the studies differ as regards the relative significance of each individual factor.⁷

Strong indications that the long run global interest rate has fallen

Even if assessments differ, international studies consistently indicate that the long-term, more normal, level of the real interest rate is currently much lower than previously. Many studies conclude that, in the long run, the real interest rate will probably be around 1 per cent or even lower. Given inflation expectations of about 2 per cent, this would correspond to a nominal rate of around 3 per cent. This development is not limited to advanced economies. Indeed, assessments of what a long run, normal rate is have also

Paper 2016-05, Federal Reserve Bank of San Francisco. Gagnon, E., Johansson, B.-K. and Lopez-Salido, D. (2016), "Understanding the New Normal: The Role of Demographics", Finance and Economics Discussion Series 2016-080, Board of Governors of the Federal Reserve System.

⁷ Holston, K., Laubach, T. and Williams, J.C. (2016), "Measuring the natural rate of interest: international trends and determinants", Working Paper 2016-11, Federal

Reserve Bank of San Francisco. Rachel, L. and Smith, T. (2015), "Secular drivers of the global real interest rate", Staff Working Paper No. 571, Bank of England. Hamilton, J.D., Harris, E.S., Hatzius, J. and West, K.D. (2015), "The Equilibrium Real Funds Rate: Past, Present, and Future," US Monetary Policy Forum, New York. Constâncio, V. (2016), "The challenge of low real interest rates for monetary policy," Vice-President ECB speech on 15 June.

indicated a falling trend in many emerging market economies in Asia.⁸

As it is a question of a global trend in interest rates, several central banks have adjusted their assessments of their own economy's long run, normal rate downwards. The members of the US central bank monetary policy committee have successively revised their median assessment downwards from 4.25 per cent in 2012 to 3.0 per cent in December 2016.⁹ The Canadian central bank has also revised its assessment downwards from 5.25 per cent in the mid-2000s to 3.25 per cent (\pm 0.5 percentage points).¹⁰ Norway's central bank expects the "neutral nominal market rate" to be in the interval of 2.5–3.5 percent in a few years' time.¹¹

The Riksbank has reviewed its assessment a number of times in recent years

Changes are constantly occurring in the economy that affect long run interest rate developments. On a number of occasions over the last ten years, the Riksbank has therefore reviewed its interval for the long-term repo rate level. The longer-term level can, in this context, be interpreted as the level the repo rate is expected to reach in 5–10 years' time, in a situation deemed to be cyclically normal. In June 2006, an analysis based on historical real interest rates and growth in Sweden and abroad concluded that the long run repo rate would probably be within the interval of 3.5–5.0 per cent.¹² In 2010, this analysis was followed up with the conclusion that the rate would more likely be within the interval of 3.5–4.5 per cent.¹³ The question came to the fore again in 2014 when the forecast for the repo rate was significantly lower than the interval despite the Swedish economy being deemed more or less in balance at the end of the forecast period, with a CPIF inflation rate close to the target. The conclusion then was that it was still too early to determine the extent to which the low global interest rates reflected cyclical or more long run factors. But the assessment was that rates would be low for a long time.¹⁴ This assessment has been reflected in the published repo rate paths since then.

The long run repo rate in the light of historical growth and historical interest rate levels

The period since 2008 has been strongly characterised by the financial crisis and the euro crisis, which means that it is difficult to determine whether historical averages actually provide a snapshot of a normal economic situation. As is clear from table 1:1, actual average GDP growth per capita since

2008 has fallen slightly further and the decline in short-term real interest rates, which have been around 2 per cent on average since the 1960s, has been reinforced.

Tabell 1:2. Growth, and nominal and real interest rates

Per cent

	1960-2008	1998-2008	1998-2016***
GDP growth per capita			
Sweden	2.3	2.7	1.9
Abroad*	2.1	2.0	1.5
Nominal 3-month rate			
Sweden	6.8	3.3	2.2
Abroad*	6.9	4.4	3.1
Real 3-month rate**			
Sweden	1.7	1.9	1.1
Abroad*	2.4	2.2	1.1

*Average for Australia, Canada, Germany, the UK and the US. The time series for rates start at different times for the various countries.

**The rate for treasury bills with 3-month maturity minus actual inflation.

***GDP per capita data available up to 2015.

Sources: OECD, Macrobond, World Bank and the Riksbank

Market participants' view of the long run repo rate

Forward-looking information from financial markets shows that participants expect rates to remain low in the period ahead. Expectations of the repo rate level five years ahead, as expressed in Prospera's survey, have fallen from about 4 per cent at the end of 2009 to just under 2 per cent in the past year (see figure 1:19). At the same time, inflation expectations have been around 2 per cent. Of course, five-year expectations don't necessarily have to tally with even longer-term expectations.

A complement to surveys is the market's pricing of future interest rates. Nominal and real forward rates five years ahead, i.e. current market prices at overnight rates in five years' time, have continued to fall after 2009 (see figure 1:20).¹⁵ Forward rates consist of two components – an expectation of future, short-term interest rate and a forward premium. There is every indication that the forward premium has been lower than its historical average for some time and certain surveys suggest that it may even be negative.¹⁶ Estimating forward premiums is associated with major uncertainty, but adjusted for an estimation of these premiums, forward rates indicate that

⁸ Zhu, F. (2016), "Understanding the changing equilibrium real interest rates in Asia-Pacific", BIS Working Papers No 567.

⁹ Federal Reserve FOMC (2016), "Summary of Economic Projections", December.

¹⁰ Bank of Canada (2016), Monetary Policy Report, July.

¹¹ Norges Bank (2016), "The neutral real interest rate globally and in Norway", Monetary Policy Report, September. The measure refers to the "neutral market rate" which is normally slightly higher than the corresponding measure for their policy rate.

¹² Sveriges Riksbank (2006), "What is a normal repo rate?", Inflation Report 2006:2.

¹³ Sveriges Riksbank (2010), "What is a normal repo rate?" February Monetary Policy Report.

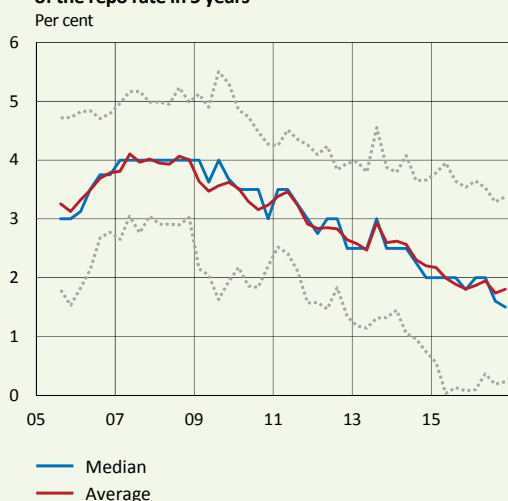
¹⁴ Sveriges Riksbank, (2014), "Lower global interest rates", October Monetary Policy Report.

¹⁵ A forward rate is the price of a contract that obliges the contracting parties to complete a purchase or sale of an interest rate asset at a predetermined interest rate, the forward rate, where the actual transaction then occurs on a predetermined date in the future. The forward rate is a contract reflecting market participants' expected interest rate level during the forward contract's maturity period but also contains a risk premium.

¹⁶ Adrian, T., Crump, R.K. and Moench, E. (2013), "Pricing the term structure with linear regressions", Journal of Financial Economics 110 no 1.

the expected short-term rate five years ahead has been around 1.5 per cent in recent years.

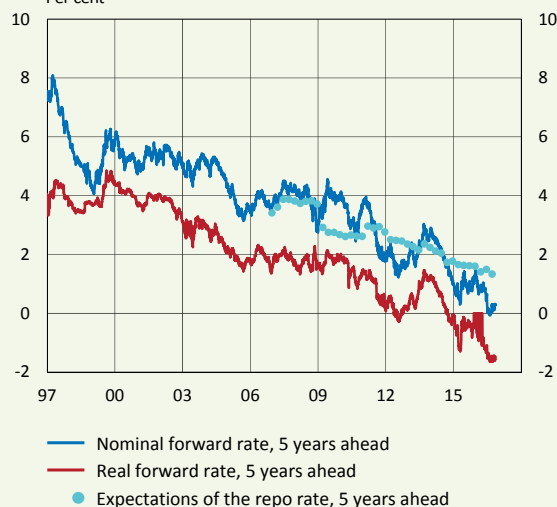
Figure 1:19. Market participants' expectations about the level of the repo rate in 5 years



Note. Survey responses between June 2005 and November 2016. Broken grey lines represent +/- 2 standard deviations and illustrates the spread of the responses.

Sources: TNS Sifo Prospera and the Riksbank

Figure 1:20. Nominal and real forward rates, 5 years ahead



Sources: TNS Sifo Prospera and the Riksbank

The financial and debt crisis makes the assessment more difficult

The past few years have largely been characterised by repercussions from the financial and sovereign debt crisis. An assessment of what is a long-term normal repo rate should hence not only be based on historical growth rates and interest rate levels or forward-looking information from financial markets. It is also very difficult to know how the factors that had already subdued interest rates prior to the

financial crisis will develop. The demographic trend with an ageing population and a falling share of people of working age in the period ahead should gradually contribute to high interest rates (see figure 1:18). Opinions are divided, however, as to when this turnaround in the effect of demography on saving and interest rates may occur. Some believe that it will happen relatively soon while others think it may take a while. The latter highlight factors such as the increase in the labour force participation rate among older people, and particular among wealthy older people who normally have a relatively high propensity to save.¹⁷ Based on a thorough analysis, Rachel and Smith (2015) make the assessment that the structural factors contributing to lower interest rates will largely persist, and global long-term real rates up until 2030 are expected to be around 1 per cent on average.¹⁸

The long run repo rate interval is expected to be 2.5-4.0 per cent

As the global economy recovers and the effects of the financial and debt crisis gradually wear off, interest rates are expected to rise. However, structural factors are expected to continue to contribute to interest rates abroad, and hence also in Sweden, being lower than they were before the financial crisis. The Riksbank's overall assessment is that the repo rate can be expected in the long run to be between 2.5 and 4.0 per cent. This assessment is in line with those made by other central banks and analysts of international long-term rate levels. The Riksbank's previously published interval of 3-5-4.5 per cent was in part based on historical real interest rates and growth. An update of these factors also indicates that the long-term interest rate level has fallen by around 1 percentage point. Recent interest rate levels have been influenced by weak economic activity and may therefore provide limited guidance on future developments.

According to the Riksbank's forecast, the repo rate will be very low in the coming years (see figure 1:10). The nominal repo rate is expected to amount to 0.5 per cent at the beginning of 2020, which is much lower than the long run normal level. This is due to the expectation that, in the wake of the crises over the past ten years, the global economic recovery will be relatively slow and that monetary policy therefore needs to be expansionary for a longer period of time both abroad and in Sweden.

¹⁷ Goodhart, C. and Erfurth, P. (2014), "Demography and economics: Look past the past". Tracey, M. and Fels, J. (2016), "70 is the New 65: Demographics Still Support Lower Rates for Longer", PIMCO.

¹⁸ Rachel, L. and Smith, T. (2015), "Secular drivers of the global real interest rate", Staff Working Paper No. 571, Bank of England.

CHAPTER 2 – Financial conditions

Since the Monetary Policy Report in December, the upturn in US government bond yields with longer maturities has come to a halt and fallen somewhat. Government bond yields in Germany have remained unchanged, but risen in some other European countries, as a result of increased political and economic uncertainty. Global stock markets are basically unchanged and volatility has remained low. During the same period, the Swedish krona has appreciated more than expected. The appreciation has been against most other currencies. In Sweden, households and companies are still paying low interest rates and credit growth is high. Overall, the financial conditions in Sweden are therefore deemed to still be favourable for growth.

International developments

Since the monetary policy decision in December, international government bond yields have been characterised by uncertainty about the direction of US policy. At the same time, yields have also been affected by economic signals that have been stronger than market participants had anticipated. The upturn in US government bond yields at the end of last year has slowed and they have fallen back somewhat since December. In addition, the dollar has weakened on a broad front.

Government bond yields in Germany have remained more or less unchanged, while they have risen in countries where uncertainty over political and economic developments are substantial, such as France and Italy. Measures of market uncertainty remain at historically low levels, however, and global stock market indices remain largely unchanged. European bank equity prices remain in principle unchanged since December, but the price-setting of market instruments related to the banks' debt-servicing ability indicates less concern over developments in the European banking system.

Unchanged policy from central banks

The Federal Reserve chose to keep monetary policy unchanged at its meeting in February, while underlining the fact that both consumer and corporate sector confidence have recently increased. At the meeting in December, the Federal Reserve raised the interval for its policy rate by 0.25 percentage points to

Table 2:1.

Developments on financial markets since the December Monetary Policy Report
Yields with longer maturities are somewhat lower in the United States, but more or less unchanged in Sweden and Germany. In other European countries, yields are slightly higher again than this.
The krona is stronger. The largest appreciation has been against the dollar and sterling, which have weakened against many currencies.
Equity prices are unchanged
Continued low interest rates for households and companies.
Continued high growth in lending to households and non-financial corporations.

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 long-term government bond yields, which are also affected by foreign yields. Government bond yields act as an anchor for other types of bond yields, which in turn affect the banks' funding costs. This ultimately affects the lending rates offered to households and companies.



0.5–0.75 per cent and the median forecast from monetary policy committee members increased from two to three rate rises of 0.25 percentage points in 2017. Market expectations, as indicated by financial prices, point to two rate rises during the year (see figure 2:1).

The ECB also decided to keep monetary policy unchanged at its January meeting. In December, the bank decided to extend its bond purchases until December 2017. The decision also means that the purchases, starting in April, will take place at a slightly slower rate (from EUR 80 billion to EUR 60 billion per month). The December meeting also led to amendments to the regulations governing asset purchases. To the extent necessary, bond purchases at an interest rate that is below the bank’s own deposit rate of –0.40 per cent may be possible. At the January meeting, it was made clear that bond purchases with a yield below the deposit rate may only involve government bonds.

The ECB’s decision in January did not change the direction of monetary policy and was expected by market participants. Expectations based on financial prices indicate that market agents are assuming that the ECB will allow the rate to remain at the current levels for most of the forecast period (see figure 2:1). Monetary policy in Europe and the United States are thus in different phases, with the ECB still making monetary policy more expansionary, while the United States has begun to raise its rate.

The upturn in US government bond yields that occurred during the autumn was linked to expectations of an expansionary fiscal policy in the United States in the period ahead. This policy was expected to lead to higher inflation and a potential increase in the borrowing requirement. The increase in yields has now slowed due to uncertainty over how expansionary fiscal policy will be (see figure 2:2). Nevertheless, volatility on the bond market, which rose in conjunction with the yield upturn during the autumn, has now decreased.

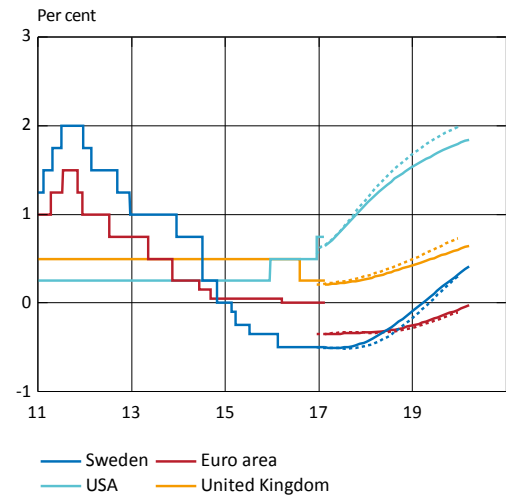
In Europe, government bond yields with long maturities have risen in several countries in connection with increased political uncertainty, partly in anticipation of the presidential elections in France. This also means that the yield differential in relation to Germany has increased (see figure 2:3).

Calm developments on equity markets with a weaker dollar

Developments on global equity markets have been calm since the Monetary Policy Report in December. Most stock market indices are in principle unchanged, with the exception of emerging market economies, where there have been upturns in many areas (see figure 2:4). Volatility on the stock market also continues to be low in a historical perspective (see figure 2:5).

The dollar strengthened during December as bond yields rose. Since the turn of the year, the dollar has weakened, however, which may be due to rising uncertainty about how US economic policy will be formulated in the period ahead (see figure 2:6). There is uncertainty of the development on the dollar, which is affected by both the political uncertainty and

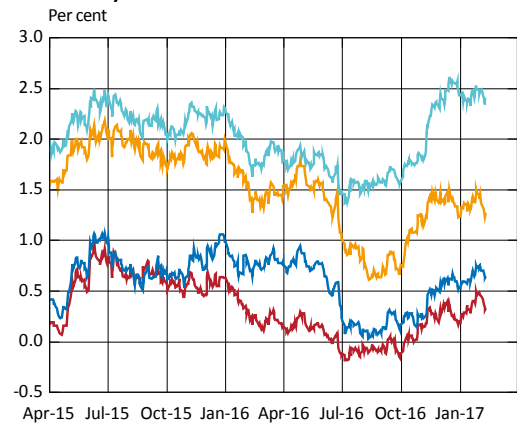
Figure 2:1. Policy rates and rate expectations according to forward rates



Note. Forward rates describe the expected overnight rate, which does not always correspond to the policy rate. There is no published overnight rate in Sweden, but it normally follows the repo rate closely. Unbroken lines are estimated on 10 February 2017, broken lines are estimated on 20 December 2016.

Sources: Macrobond and the Riksbank

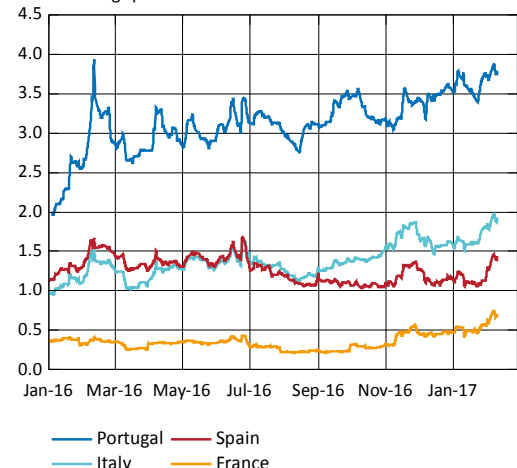
Figure 2:2. Government bond rates with 10 years left to maturity



Note. Zero-coupon rates interpolated from bond prices using the Nelson-Siegel method.

Sources: Macrobond and the Riksbank

Figure 2:3. Yield differential in relation to Germany, 10-year



Note. Yield differentials refer to 10-year benchmark bonds.

Sources: Macrobond and the Riksbank

expectations of how quickly the Federal Reserve will raise its policy rate going forward.

In most emerging market economies, both equity and foreign exchange markets have continued to recover after the declines immediately following the US presidential election. Directly after the election there were concerns that a stronger dollar and higher US interest rates would have a negative effect on these countries. The stock market indices for these economies are, however, basically back to the levels that could be observed prior to the election (see figure 2:4). The exceptions are Turkey and Mexico. In Mexico, there is considerable political uncertainty and unease regarding expectations of greater trade barriers with the United States, while Turkey is struggling with a weak economy and large dollar loans that increased in value when the Turkish currency depreciated against the dollar. In both these economies, developments have led to weaker currencies and equity prices.

On the commodity market, the upward trend in the oil price has slowed. The OPEC countries decided to limit the production of oil at the meeting in November last year and the agreement came into force from 1 January this year. At the same time, the supply of US shale-oil has increased since October. Overall, there have only been minor changes in the oil price since December.

Financial conditions in Sweden

Financial conditions in Sweden are still expansionary

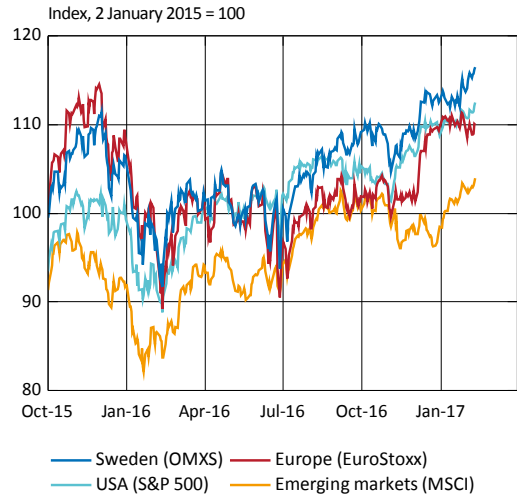
In Sweden, financial conditions have followed international developments during the autumn, with rising bond yields. However, since December these have remained more or less unchanged. At the same time, the krona has strengthened significantly since the December Monetary Policy Report.

Credit growth among households and companies continues to be high and credit terms are good. Companies and households continue to pay low lending rates. Overall, the financial conditions are therefore deemed to remain expansionary and favourable for economic growth in Sweden.

Stronger krona

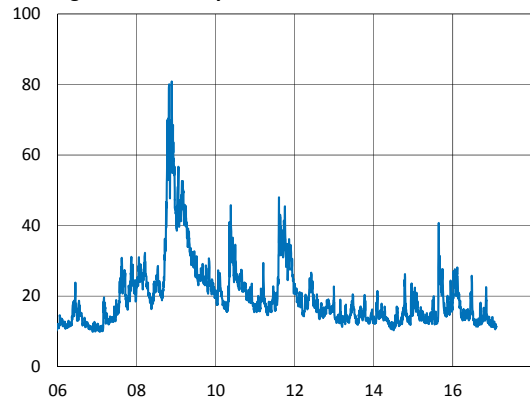
The krona weakened during the summer and up until the beginning of November. Much of this depreciation could be traced back to weaker Swedish macrostatistics although the Riksbank's monetary policy decision in October also contributed to the depreciation. Since November, the krona has strengthened and is now close to the levels that could be observed in October (see figure 1:9). Since the monetary policy meeting in December, the krona has strengthened against most other major currencies. Above all, the krona has strengthened against the dollar and sterling while the appreciation against the euro has made the largest contribution to the change in the trade-weighted exchange rate index, KIX, compared with December (see figure 2:7).

Figure 2:4. Stock market movements



Sources: Macrobond and Thomson Reuters

Figure 2:5. Volatility on the stock market, VIX-index



Source: Macrobond

Figure 2:6. Development of the dollar against the euro
USD per EUR



Source: Macrobond

Some of the strengthening can be explained by stronger Swedish economic activity. Towards the end of December and in January, most indicators for the Swedish economy have been stronger than many market analysts had expected. International indicators have also been a positive surprise. This has led to a greater belief in higher global growth in the near term, which also tends to strengthen the krona.

Some of the appreciation occurred in connection with the publication of the monetary policy decision in December when the Riksbank decided to leave the repo rate unchanged at -0.50 per cent and to increase government bond purchases by SEK 30 billion up until mid-2017. The decision itself was expected by the market but the surprising aspect was that three out of six executive board members entered reservations against the decision to increase the government bond purchases.

Long term government bond yields in Sweden unchanged

Financial prices indicate that repo rate expectations have shifted upwards slightly since December. Market expectations, measured in terms of implied forward rates, are above the Riksbank’s repo rate path in the near term while expectations according to surveys are slightly above the repo rate path, both in the short and slightly longer term (see figure 2:8).

Swedish government bond yields with longer maturities rose during the autumn in line with international developments. Swedish interest rates are now more or less unchanged in relation to December (see figure 2:2). The yield differential between Sweden and Germany has also increased since the autumn, as German yields have not risen as much as Swedish yields with equivalent maturities.

The upturn during the autumn has contributed to an increase in yields from higher-risk bonds, such as housing and corporate bonds. The upturn is limited, however, and the difference between government bond yields and higher-risk alternatives is almost unchanged.

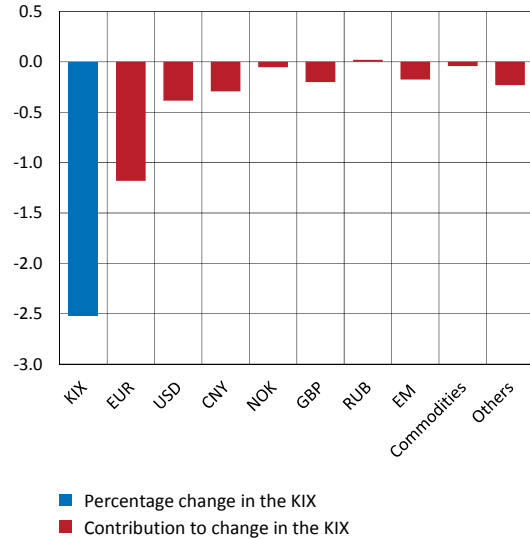
Yields with shorter maturities have increased somewhat compared with December. The yield on a treasury bill with a short maturity is still some way below the repo rate, however (see figure 2:9). One contributory factor to lower short-term interest rates is the Riksbank’s purchases of government bonds.¹⁹

The Riksbank now holds around 40 per cent of the outstanding stock of nominal government bonds in Swedish kronor. This means that a relatively large proportion of the stock is not available for trade on the market, which could influence the functioning of the market. Several indicators point to the Riksbank's bond purchases having had a limited impact on market liquidity, although the picture is not unequivocal.²⁰ The

¹⁹ See “Government bond purchases push down long and short-term rates” in the Monetary Policy Report of October 2016.

²⁰ For a discussion of the indicators of market liquidity, see Bonthron, F. Johansson, T. and Mannent, J. Market liquidity on the Swedish bond market and its importance for financial stability, *Economic Commentary no. 3*, 2016. Sveriges Riksbank.

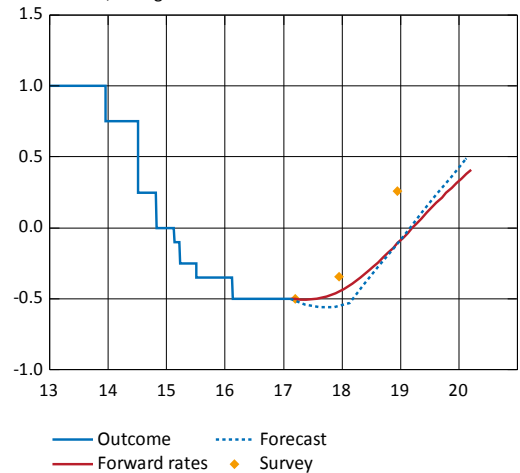
Figure 2:7. Contributions and changes to KIX exchange rates
Per cent and percentage points



Note. The figure shows change in KIX and contributions from different currencies between 21 December 2016 and 13 February 2017. EM refers to Brazil, Hungary, India, Mexico, Poland and Turkey. Commodities refer to Australia, Canada and New Zealand. Others refers to Czech Republic, Denmark, Iceland, Japan, South Korea and Switzerland.

Sources: Thomson Reuters and the Riksbank

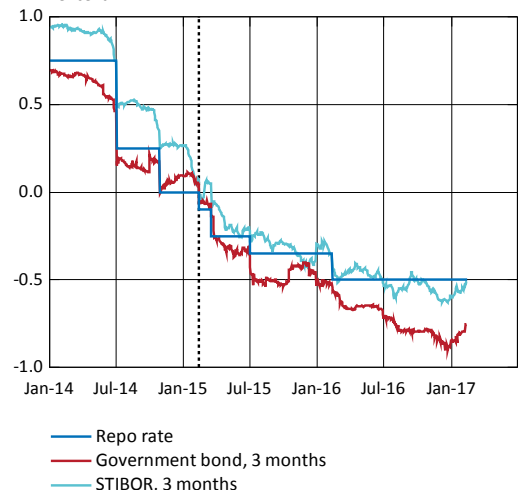
Figure 2:8. Repo rate and market expectations
Per cent, average



Note. The forward rates are estimated as of 10 February 2017 and measure the expected repo rate. The survey responses show the average for money market participants on 12 January 2017.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

Figure 2:9. Short market rates and the repo rate
Per cent



Note. The broken line refer to the start of the bond purchases.

Sources: Macrobond and the Riksbank

overall assessment is that the Swedish government bond market is still functioning relatively well.²¹

In the long term, an upturn in government bond yields contributes to generally higher interest rates in the economy. However, the Riksbank's government bond purchases mean that yields are at a lower level than would otherwise have been the case at the same time as real rates are still very low (see figure 1:13).

Credit growth among households and companies still high

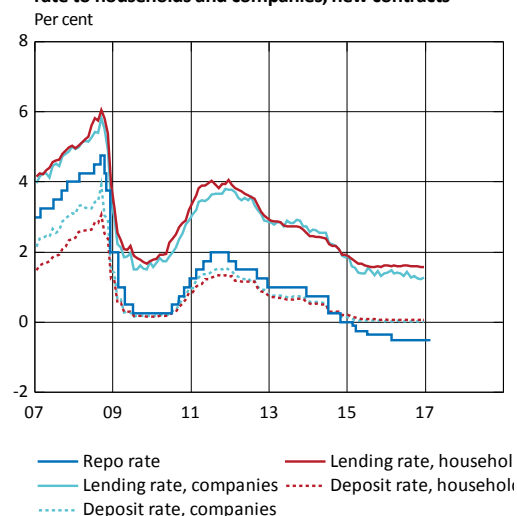
The banks' continuing good funding conditions mean that lending rates to households and companies remain on historically low levels. The average mortgage rate for new agreements remained at 1.6 per cent in December, while the average interest rate for new bank loans for non-financial corporations amounted to 1.3 per cent (see figure 2:10).

Since the repo rate entered negative territory for the first time in February 2015, lending rates to households have fallen slightly less than the repo rate while lending rates to companies have fallen slightly more. Average deposit rates for households and companies have remained largely unchanged since the middle of 2015 and are close to zero (see figure 2:10).²² Overall, the impact of the repo rate on deposit and lending rates has been in line with the Riksbank's expectations.

Credit growth among households and companies is still high, even if it has slowed down slightly (see figure 2:11). In December, the annual growth rate in bank loans to households was 7.2 per cent, which is unchanged since November. The growth rate in lending to companies fell somewhat, to 5.1 per cent. The rate of increase in corporate borrowing in securities also slowed down somewhat in December and amounted to 6.4 per cent. Surveys show that companies' funding conditions continue to be good, however.

The rate of increase in housing prices stabilised at the end of 2016, although there are still considerable regional differences. In December, housing prices rose by an annual rate of 8.6 per cent (see figure 1:15). This can be compared with growth rates around 15–20 per cent at the beginning of last year. At the same time, surveys indicate continued optimism among the general public and estate agents, and a belief that housing prices will rise going forward.

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



Note. MFIs' average deposit and lending rates for households and companies.

Sources: Statistics Sweden and the Riksbank

Figure 2:11. Bank lending to households and companies



Note. MFIs' lending to households and non-financial companies according to financial market statistics adjusted for reclassifications and traded loans since 2006.

Source: Statistics Sweden

²¹ For further information, see the Financial Stability Report 2016:2.

²² 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 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

Companies and households both abroad and in Sweden have grown more optimistic about the economic outlook. The situation on the Swedish labour market is increasingly tight and resource utilisation is deemed overall to be higher than normal and to rise further in the period ahead. CPIF inflation rose to 1.9 per cent in December. This was largely due to rising energy prices and CPIF inflation excluding energy was 1.3 per cent in December. The waning effects from energy prices will contribute to CPIF inflation falling somewhat during the first half of 2017 and then slowly beginning to rise again.

Inflation

Inflation in December strongly influenced by energy prices

CPIF inflation has been showing a rising trend since 2014, partly because resource utilisation in the economy has risen and partly because the krona has weakened. The higher energy prices have also contributed recently to a rise in CPIF inflation (see figure 3:1). In December, CPIF inflation was 1.9 per cent, its highest level since 2010. CPIF inflation excluding energy, on the other hand, has recently only shown a marginal increase and was 1.3 per cent in December. CPI inflation, which is strongly impacted by changes in households' interest expenditure, has risen gradually throughout 2016 as the downward pressure from interest expenditure has further subsided. In December, CPI inflation was 1.7 per cent.

Energy prices rising for several reasons

The rapid increase in energy prices is due to several factors. The oil price has picked up since its most recent lowest point in January 2016, the electricity price on the Nordic market has risen over the past twelve months and the krona is weaker compared with the spring of 2016. The high electricity price is partly due to the unusually low rainfall in 2016 which has led to lower-than-normal water levels at hydroelectric power plants. In the months ahead, energy prices are expected to continue to make a positive contribution to the rate of price increase.

Temporarily lower inflation at beginning of 2017

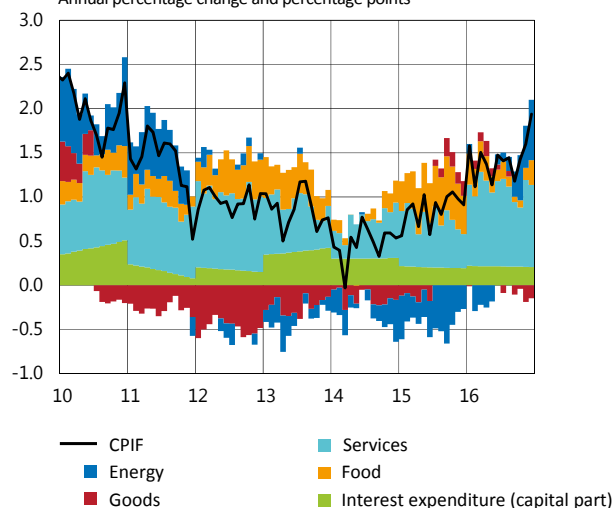
In recent months, many measures of underlying inflation have increased (see figure 3:2). Despite this, the CPIF excluding energy, among other measures, is lower than at the start of 2016. One explanation why CPIF inflation excluding energy slowed down is that prices of goods and services increased at a gradually slower pace in 2016, which is partly linked to the development of the krona (see figure 3:3). Going forward, the krona will contribute once again to prices of goods and foods increasing slightly faster. Services prices have at the same time increased slightly faster in recent years. Last year, services prices were pushed up slightly more than usual by temporary effects that will disappear this

Table 3:1.

Expected development in MPR December	Actual development
CPIF inflation 1.8 per cent in December.	Somewhat higher than forecast. Inflation was 1.9 per cent.
GDP growth 2.9 per cent in fourth quarter.	Indicators suggest a development that is in line with forecast.
Unemployment 6.8 per cent in fourth quarter.	Somewhat higher than forecast. Unemployment was 6.9 per cent.
GDP growth in the euro area, 1.7 per cent in the fourth quarter.	Slightly stronger than forecast. The preliminary outcome was 2.0 per cent.
GDP growth in the United States 3.0 per cent, fourth quarter.	Weaker than forecast. The outcome was 1.9 per cent.

Note. MPR refers to the Monetary Policy Report. The CPIF is the CPI with a fixed mortgage rate. Inflation refers to the annual percentage change. GDP growth refers to the seasonally-adjusted quarterly change in per cent, calculated as an annual rate. Unemployment refers to percentage of the labour force, seasonally adjusted.

Figure 3:1. The CPIF and contributions to CPIF inflation
Annual percentage change and percentage points



Note. The CPIF is the CPI with a fixed mortgage rate. Energy constitutes 8 per cent, goods 26 per cent, services 45 per cent, food 18 per cent and interest expenditure 4 per cent of the total CPI basket.

Sources: Statistics Sweden and the Riksbank

year and these prices are therefore expected to increase more slowly in the coming months.

The conditions for higher inflation in the period ahead are deemed to be good, as rising prices abroad, the weak krona and ever-stronger Swedish economic activity are all pulling in the same direction. During the first months of the year, there are several factors holding back inflation, however. The most important reason for CPIF inflation slowing down is that energy prices are expected to increase more slowly. At the same time, changes in taxes and subsidies are expected to contribute less to the rate of increase in the CPI in 2017 than in 2016. This includes last year's change in tax deduction for ROT work (Repairs, Conversion, Extension) which pushed up the rate of inflation in 2016 but will now disappear from the statistics. Furthermore, some prices that increased more than usual in December, including domestic air travel prices, are expected to fall back over the next few months.

Several forward-looking indicators for inflation have strengthened recently. According to the Economic Tendency Survey, the business sector's expectations of sales prices have risen significantly and the retail trade are still planning price increases that are more rapid than normal. The price of food commodities has also been rising for some time on the global market and in combination with the depreciation of the krona in 2016 has led to rising import and producer prices. This has already had an impact on consumer prices, but a further increase is to be expected in the period ahead.

One way of combining information from outcomes and indicators is to use a model. One such analysis indicates that the rate of increase in the CPIF excluding energy will be largely unchanged over the coming three months and then start to rise (see figure 3:4). The Riksbank's overall assessment is that the rate of increase in the CPIF excluding energy will be lower than the model forecast. This is partly due to the fact that the model cannot take fully into account temporary price variations as regards domestic air travel, where prices increased more than usual in December. Furthermore, Statistics Sweden changed the way charter travel prices are measured at the turn of the year, which is expected to lead to weaker price growth not captured by the model. The Riksbank's forecast has been marginally revised upwards compared with the previous Monetary Policy Report, partly as a result of the higher outcome in December and temporarily very high prices of certain vegetables at the beginning of 2017.

Long-term inflation expectations close to 2 per cent

Short-term inflation expectations have risen over the past two years as the actual level of inflation has increased. According to Prospera's monthly survey for January, inflation expectations rose among money market participants on all time horizons (see figure 1:8). One- and two-year expectations are back on levels

Methodological changes and tax effects in the CPI

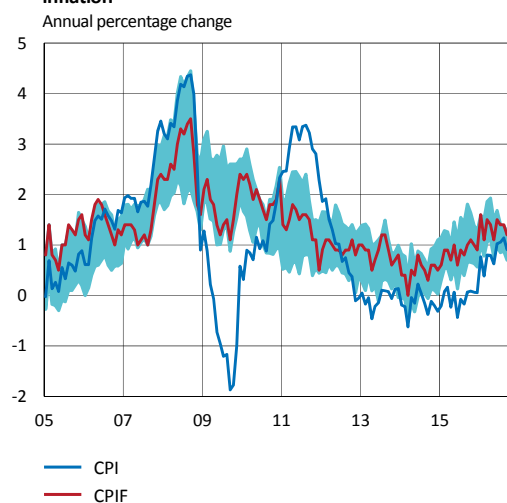
Several decisions on methodological changes for the CPI came into force in January 2017. Several taxes were also adjusted. Changes of this nature have an impact on inflation measured in terms of the CPI.²³

As regards the methodological changes in the CPI, the cost of living in tenant-owned apartments will now be calculated in the same way as living in a privately owned house, instead of being estimated based on rents for rented housing. This increases the weight for the interest expenditure index in the CPI (and the CPIF). At the same time, the tax relief on interest expenditure will be included in the calculation of the interest expenditure index, which will instead reduce the weight to approximately the same extent.

Interest expenditure is affected both by the level of mortgage rates (interest rate index) and the purchase price of private housing and, as of January 2017, the tenant-owned housing stock (capital stock index). All in all, the rate of increase in the CPI and CPIF is expected to be just under 0.1 percentage points higher during the forecast years when compared with the current calculation method. The Riksbank has taken the methodological changes into consideration in the inflation forecast since the Monetary Policy Report in July 2016 when the changes were announced. Another change that will be visible in the CPI as from January 2017 is the fact that charter travel prices will be measured in a new way. This will increase volatility in this series.

In January, several changes to taxes and subsidies also came into force, but separately, most of them only have an extremely marginal effect on inflation. Overall, inflation will be held back slightly this year as these taxes were increased more in January 2016 than in January 2017.

Figure 3:2. CPI, 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.

Sources: Statistics Sweden and the Riksbank

²³ See the memorandum "Changes in CPI as of 2017", Statistics Sweden, 12 January 2017.

last seen at the end of 2011. Since the middle of 2016, long-term inflation expectations are back close to 2 per cent. Inflation expectations as priced via financial instruments have also risen five years ahead.²⁴

Global and Swedish economic activity

Stronger economic signals abroad

Recently published international confidence indicators have on the whole been strong. So far, however, global trade has been relatively subdued despite a strong showing in the most recent outcome for November.

In the euro area, GDP strengthened slightly in the fourth quarter after moderate rates of increase in the two previous quarters. Furthermore, confidence indicators show a relatively favourable start to 2017. Not least companies in the industrial sector are reporting higher confidence, although this can so far only be seen to a lesser degree in actual outcomes.

GDP growth in the United States slowed somewhat during the fourth quarter after temporary factors had pushed up growth during the third quarter. The slowdown was mostly due to weaker exports and slightly slower growth in household consumption. On the other hand, growth in both housing investment and business investment increased. Consumer and corporate confidence have risen significantly in recent months, which, in combination with a strong labour market, points to continued relatively good growth in the near term.

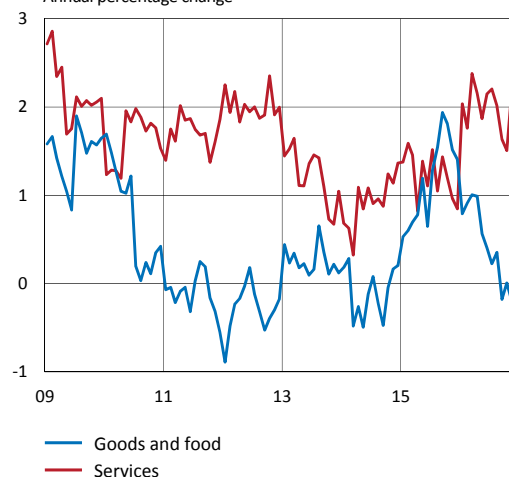
Overall, international GDP growth rose slightly in the fourth quarter and indicators and monthly outcomes suggest that growth will remain largely unchanged in the near term.

Near-term higher inflation abroad driven by energy prices

Inflation abroad rose towards the end of 2016, which was primarily due to energy prices being higher than the previous year. In the producer channel and in various surveys, such as the Purchasing Managers' Index, slightly higher price pressure is noticeable partly as a result of higher commodity prices.

The rate of inflation in the euro area increased from 1.1 per cent in December to 1.8 per cent in January, according to preliminary figures. As late as last summer, inflation was close to zero. The upturn has been primarily driven by rising energy prices, although prices of unprocessed foods, not least of vegetables, have also made a contribution in recent months. Adjusted for these components, inflation is still under 1 per cent, however, and has not moved much at all over the past year. In the United States, however, core inflation has risen in the past year even though the rate of increase in the consumption deflator, the measure to which the Federal Reserve attaches the most importance, is still under 2 per cent (see figure 3:5). Overall,

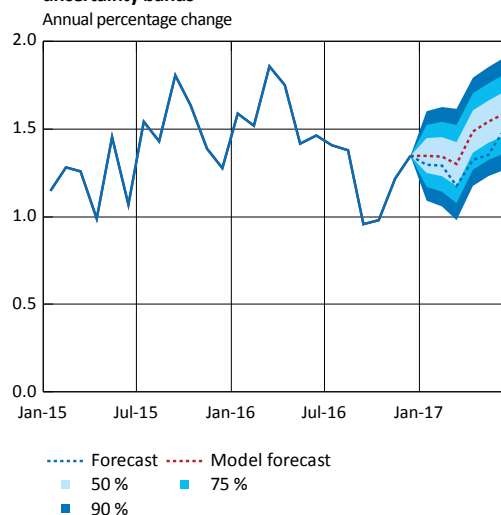
Figure 3:3. Prices of goods and services in the CPI
Annual percentage change



Note. Goods and food is a combination of the aggregate goods and food in the CPI. Together, these account for 43 per cent of the CPI. Service prices account for 45 per cent of the CPI.

Sources: Statistics Sweden and the Riksbank

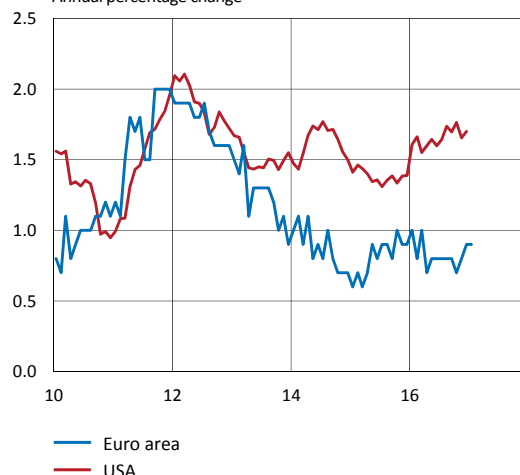
Figure 3:4. Model forecast CPIF excluding energy with uncertainty bands
Annual percentage change



Note. The uncertainty bands are based on the models' historical forecast errors. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 3:5. Underlying inflation abroad
Annual percentage change



Note. HICP excluding energy and unprocessed food is shown for the euro area and PCE excluding energy and food is shown for the United States.

Sources: Bureau of Economic Analysis and Eurostat

²⁴ This is shown in the difference between a nominal and a real government bond yield with the same maturity, where the real bond is linked to the future development of the CPI.

inflation abroad is expected to continue to rise at the start of 2017. The forecast is slightly higher than it was in December, above all as a result of higher energy prices.

High Swedish growth at the end of 2016

During last year’s first three quarters, growth in Sweden was in line with its historical average. Indicators for the fourth quarter suggest that growth picked up at the end of last year. The Economic Tendency Indicator, which consolidates sentiment among households and companies, has been on its highest level for over five years in recent months (see figure 3:6). Monthly indicators for demand and output provide a more scattered picture, but suggest overall that growth in the fourth quarter will be higher than the historical average.

Similar to global trade, Swedish goods exports increased rapidly in November. Exports fell back in December, however. Companies continue to report unusually strong export orders, which suggests that the decline in December was temporary and that exports will be strong at the start of 2017.

Consumer confidence has been higher than normal since the end of last year. Households' views of their own finances have been more optimistic than normal for a long time. Now households' views of the Swedish economy have improved and are in line with the historical average. Despite this, retail sales fell sharply in December (see figure 3:7). The downswing came after a strong start to the fourth quarter, however, and growth in consumption is on the whole considered to have been strong during the quarter. Public consumption also continues to contribute to GDP growth, but to a lesser extent than during 2015.

An important explanation for the high GDP growth in recent years is the rapid increase in housing construction. Corporate investment plans, as reported in Statistics Sweden’s investment survey, point to weak growth in other business investments in 2017.

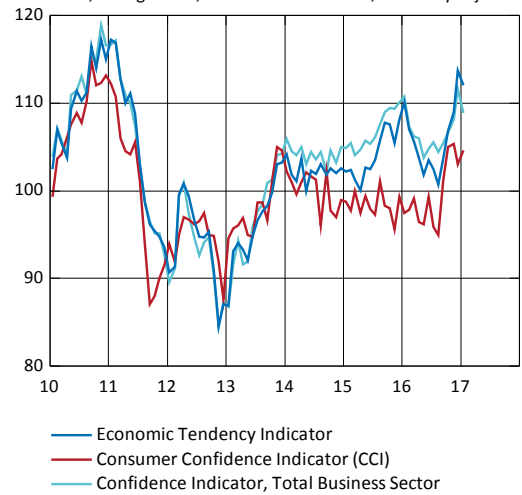
The information in a large number of GDP growth indicators in the coming quarters can be summarised with the help of statistical models. The model forecasts indicate GDP growth of 3.2 per cent during the fourth quarter, compared with the previous quarter and calculated at an annual rate (see figure 3:8). The Riksbank’s forecast is in line with the model forecast.²⁵ Even during the first quarter of 2017, growth is expected to be higher than the historical average.

Demand for labour is strong

Strong economic activity led to a tangible increase in the number of persons employed last year and the employment rate reached a historically high level. The number of persons in the labour

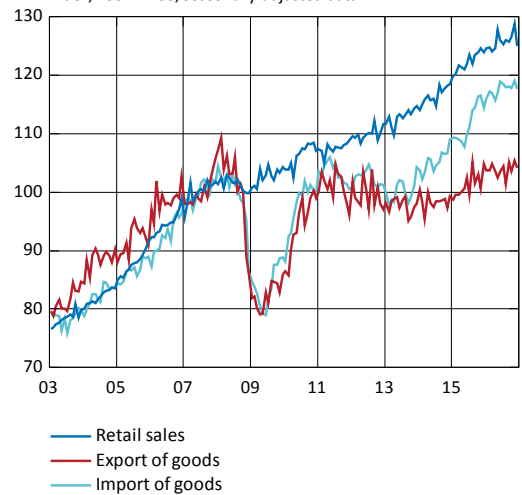
²⁵ Over the past two years, investment and trade in R&D has increased substantially in the fourth quarter and then fallen during the following quarter. If this pattern is repeated in 2016, GDP growth may be higher than the Riksbank’s forecast for the fourth quarter, but consequently also lower for the first quarter of 2017. One way of adjusting for this present-day pattern is to look at the average growth for the fourth quarter and the first quarter.

Figure 3:6. Confidence indicators
Index, average = 100, standard deviation = 10, seasonally-adjusted data



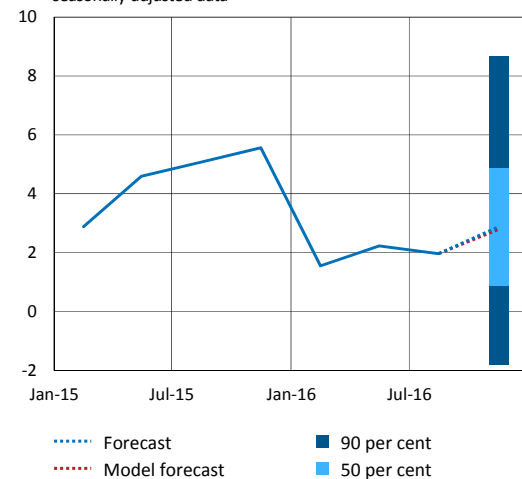
Source: National Institute of Economic Research

Figure 3:7. Indicators of demand
Index, 2007 = 100, seasonally-adjusted data



Source: Statistics Sweden

Figure 3:8. Model forecast GDP with uncertainty bands
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Note. The model forecast is an average forecasts from different statistical models. The uncertainty bands are based on the models’ historical forecast errors. One explanation for the wide uncertainty interval is the large variation in growth outcomes between different quarters.

Sources: Statistics Sweden and the Riksbank

force also increased, which led to unemployment, notwithstanding the rapid increase in employment, only decreasing slowly during 2016. In the fourth quarter, unemployment amounted to 6.9 per cent.

Forward-looking indicators point to a strong demand for labour in the period ahead, too. For example, both recruitment plans in the business sector according to the Economic Tendency Survey and the total number of job vacancies are on a high level (see figure 3:9). At the same time, however, there are increasingly clear signs of problems when it comes to matching job-seekers to vacant jobs. One reason for the matching problems is the change in the composition of the unemployed in that this group is now made up of people who are very detached from the labour market. This suggests that it will be difficult to match job-seekers and employers in the period ahead and that unemployment will only fall slowly. In the near-term perspective, however, the indicators suggest that employment will continue to rise relatively robustly at the start of 2017 and that unemployment will decline slightly further.

Resource utilisation in the economy is higher than normal

The amount of spare capacity in the economy affects both GDP growth and the development of wages and prices. However, it is not possible to observe resource utilisation. The Riksbank therefore uses a number of different indicators to make an assessment.

Capacity utilisation within the industrial sector is, according to Statistics Sweden, just above its historical average and the extensive recruitment plans indicate that companies still need to increase their workforce. At the same time, the percentage of companies reporting shortages of labour in the Economic Tendency Survey has risen to its highest level since 2007 (see figure 4:10). Shortages have also increased in the Swedish Public Employment Service’s interview survey, especially in the public sector, where they are at the highest level ever recorded. Other signs that spare capacity on the labour market is tight are that the average recruitment time in the business sector is long and that a large percentage of recruitments occur among those who already had a job (see figure 3:10). The number of latent job-seekers outside the labour force, that is, those who say that they can and want to work but have not yet applied for work, has also fallen to a low level. The number of underemployed persons, that is, employed persons who work fewer hours than they would like, has also decreased.

Despite difficulties in finding staff, wage growth is relatively subdued. But the fact that resource utilisation affects wages and inflation with a certain time lag makes it difficult to interpret the current level of resource utilisation based on the wage and inflation rates. The Riksbank’s RU indicator summarises a large amount of survey and labour market data and is intended to reflect resource utilisation in the economy. According to the RU indicator, resource utilisation increased further in the fourth

Figure 3:9. Vacancies and recruitment plans

Per cent of the labour force 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. The broken line represents the mean value since 2003.

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

Figure 3:10. Recruitment according to previous labour status

Share of total recruitments, seasonally-adjusted data

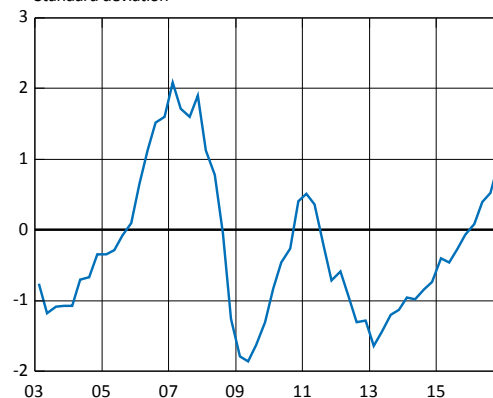


Note. Recruitment refers only to recruitment outside of the company/organisation.

Sources: Statistics Sweden and the Riksbank

Figure 3:11. RU indicator

Standard deviation



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

Source: The Riksbank

quarter (see figure 3:11). Overall, resource utilisation in the economy is deemed to be higher than normal at present.

CHAPTER 4 – The economic outlook and inflation prospects

The moderate recovery abroad is continuing and global inflation is rising. In Sweden, growth is still good and economic activity is expected to strengthen further in the coming years. Demand for labour is expected to remain strong going forward. However, employment will increase at a slower pace, as it will become more difficult for companies to find the right personnel. As resource utilisation increases, inflation is expected to attain 2 per cent at the end of 2018. The major political uncertainty abroad means that the risks of a setback have increased, both in Sweden and abroad.

International developments

Gradually stronger growth going forward

During 2016 the global economy is estimated to have grown by a moderate 3.1 per cent, which is weaker growth than in previous years. Forward-looking indicators such as the purchasing managers' index (see figure 4:1) and consumer confidence strengthened towards the end of 2016, however, and this year growth is expected to increase and global GDP to grow by 3.4 per cent. In developed countries, the recovery is mainly being driven by increasing domestic demand. Investment is expected to increase at a faster pace going forward, supported by an expansionary monetary policy. More expansionary fiscal policy in, for instance, the United States will also contribute positively to growth in developed countries in the coming years. At the same time, the political uncertainty abroad is considerable and the risks of a setback have increased. In several countries, growth is still being held back by factors such as an unfavourable demographic development, weak productivity growth and potential repercussions of the financial crisis in the form of high private and public sector debt. All in all, global GDP growth is expected to rise gradually and reach 3.7 per cent in 2019.

Growth in KIX-weighted GDP, which illustrates growth in the countries that are most important for the Swedish economy, is expected to rise from about 2 per cent in 2016 to just over 2.2 per year in 2017 to 2019 (see figure 4:2).

Faster GDP growth in the USA, but policy uncertain going forward

In the United States, consumption is expected to grow at a good pace, backed up by rising labour income among households in line with a higher rate of wage increase (see figure 4:3). At the same time, business sector investment is expected to provide an increasing contribution to domestic demand, for instance, the energy sector benefits from the oil price having risen since the beginning of last year.

There is still considerable uncertainty over the final shaping of the new President's policy proposals and to what extent they will then be implemented. As in the December forecasts, it is

Table 4:1.

The forecast in brief
Economic activity abroad will improve at a moderate pace in the years ahead.
A positive contribution from energy prices will push up inflation abroad. Rising resource utilisation will also help push up underlying inflation abroad in the period ahead. However, the upturn in slow, particularly in the euro area.
Swedish economic activity is strong and will strengthen further in the years ahead. Both domestic and international demand are contributing to this.
Unemployment will be relatively unchanged in the years ahead. A high employment rate and companies finding it more difficult to recruit are among the factors that will stop the employment rate from rising in the period ahead.
Resource utilisation is currently higher than normal and is expected to rise going forward. This will contribute to a higher rate of wage increase and help inflation reach 2 per cent at the end of 2018.

Figure 4:1. Global purchasing managers index



Source: Markit

assumed that some fiscal policy stimulation measures will be implemented. Tax cuts are expected for wage-earners and entrepreneurs, as well as investments in infrastructure, which will contribute to higher demand in the economy. The positive effects of a more expansionary fiscal policy are expected to be partly counteracted by more protectionist policy in the coming years, however. Inflation is also expected to rise as a result of increased resource utilisation and a rise in the rate of wage increase. The higher inflation is in turn expected to mean that the Federal Reserve raises its policy rate going forward.

All in all, GDP is expected to grow by 2.4 per cent in 2017. After that, growth will gradually decline and GDP is expected to grow by 2.1 per cent in 2019. The expansionary fiscal policy will contribute to the national debt increasing, which is expected to dampen growth in the longer run.

Recovery continuing in the euro area

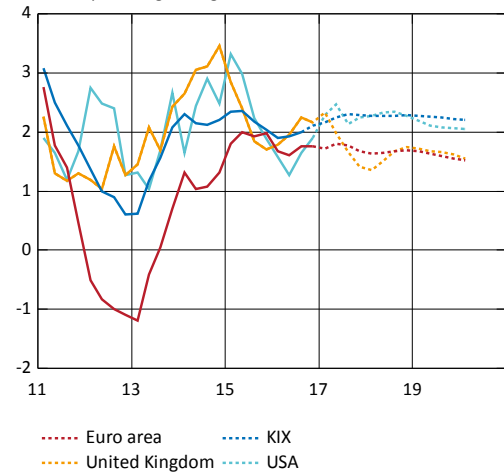
In the euro area, the expansionary monetary policy will continue to support domestic demand. Corporate investments are expected to rise somewhat faster going forward, given the rising confidence in the corporate sector, the high level of capacity utilisation, somewhat stronger international demand and a pent-up investment need after several years of low investments. Housing investments are also expected to increase somewhat as the adjustment to the housing market appears to be complete in many countries, which were earlier marked by an excess supply of property. This is illustrated by rising property prices.

Somewhat less tight fiscal policy in some countries will also contribute somewhat to growth this year. A gradual increase in demand from abroad will mean that exports rise, but imports are at the same time expected to rise even faster. At the same time, the risks linked to the European banking sector still remain, as it has a large share of non-performing loans and poor profitability. The fact that the uncertainty has increased further with regard to a more introspective policy in a number of countries is also illustrated by greater differences between government bond rates in Europe recently. All in all, GDP growth in the euro area is expected to be 1.7 per cent in 2017. After that, the growth rate will be largely unchanged until 2019.

Continuingly resilient UK economy

The referendum in June 2016 has so far not had any serious negative repercussions according to recent statistics on the development of the UK economy. On the whole, household consumption has continued to develop at a good pace. Investment has also strengthened, at least up to the end of the third quarter last year, although this could be due to investment decisions made prior to the referendum. In addition, a weaker sterling may have contributed to dampening the slowdown by benefitting exports. It is still not clear how the UK's relationship to the EU and other countries will be going forward. Following the Prime Minister's speech in January on how the government wants the withdrawal from the EU to take place, it became

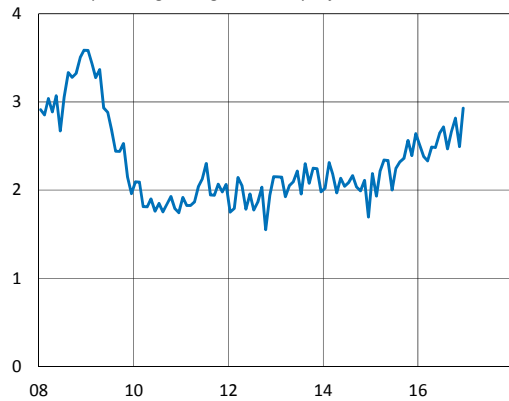
Figure 4.2. Growth in various countries and regions
Annual percentage change



Note. KIX is an aggregate of the 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 4.3. Hourly wages in USA
Annual percentage change, seasonally adjusted data



Note. Average hourly wages in private sector.

Source: Bureau of Labour Statistics

increasingly clear that the UK is expected to leave the EU single market and will thus need to negotiate new trade agreements.

Some economic effects of the EU withdrawal are expected in 2017. The uncertainty over the country's future international relations is expected to dampen investment this year somewhat and to contribute to fewer new recruitments. When developments on the labour market weaken, households' disposable incomes decline, which holds back household sector consumption. Disposable incomes will also be undermined by rising inflation this year, as a result of the weaker sterling. At the same time, the government's most recent budget indicates a less tight fiscal policy going forward. All in all, GDP growth is expected to decline from 2.0 per cent in 2016 to 1.8 per cent this year, and 1.6 per cent in 2018. In 2019, growth is expected to be 1.7 per cent. The forecast is very uncertain, however, as it is difficult to know how economic agents may react to a prolonged period of uncertainty regarding international relations.

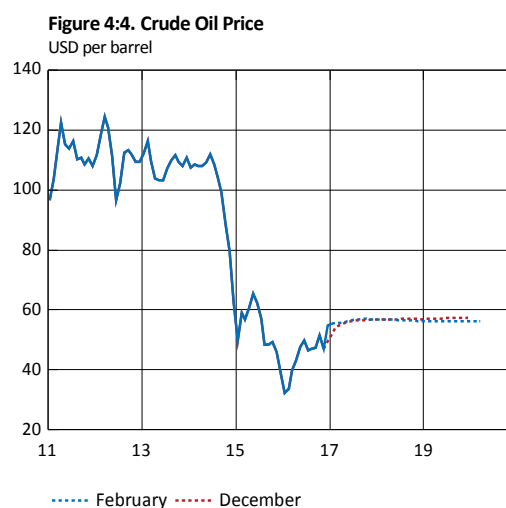
Major differences in growth in emerging markets

Developments in emerging markets are relatively divided. Last year's slowdown in Brazil and Russia, partly linked to earlier falling commodity prices, will be followed by rising growth during the forecast period. Growth in India is expected to have slowed down towards the end of 2016, as consumption was held back when the government replaced large volumes of banknotes. Going forward, however, the growth rate is expected to return to a higher level. In China, growth is continuing to slow down. The highly-indebted corporate sector still entails a risk, but an overly rapid slowdown could be counteracted by expansionary fiscal policy. GDP growth in China is expected to amount to 6.4 per cent in 2017 and then to slow down gradually to below 6 per cent in 2019. Turkey has already high inflation, a large current account deficit and a large private debt. Growth prospects for Turkey have also deteriorated recently. Political unease as well as a weakening of the Turkish currency against the US dollar have contributed to this. The latter because Turkish companies have a large share of their debts denominated in dollars.

Inflation abroad will rise somewhat going forward

Inflation abroad has risen recently and is expected to continue to rise in 2017, mainly driven by a changeover from a negative to a positive contribution from energy prices, which is particularly evident at the beginning of the year. However, according to pricing in the forward markets, the oil price is expected to remain more or less still going forward (see figure 4:4). This means that the positive contribution from energy prices to inflation is expected to wane in coming years.

In the United States, resource utilisation and unemployment have approached what several analysts claim is the long-run normal level. The rate of wage increase has risen gradually in recent years. Going forward, fiscal policy stimulation will also contribute to a higher resource utilisation. Rising energy prices



Note. Brent oil, futures are calculated as a 15-day average. Outcomes represent monthly averages of spot prices.

Sources: Macrobond and the Riksbank

and higher resource utilisation mean all in all that CPI inflation will rise from 1.3 per cent in 2016 to 2.7 per cent in 2017 and then fall back to 2.5 per cent in 2018 and 2019.

In the euro area, too, energy prices are expected to provide a clearly positive contribution to inflation, especially at the beginning of 2017. HICP inflation is expected to rise from 0.2 per cent in 2016 to 1.7 per cent on average this year. The contribution from energy prices will decline tangibly next year, whereby HICP inflation will fall back to 1.4 per cent in 2018. Domestic cost pressures will increase gradually as unemployment falls further. HICP inflation is expected to attain 1.6 per cent in 2019.

In the United Kingdom, a depreciation of sterling, in addition to the development in energy prices, is expected to contribute to inflation rising clearly in the coming year and then falling back towards the inflation target of 2 per cent.

The aggregate inflation for the KIX countries will rise up to the third quarter of 2017 and then remain around 2 per cent (see figure 4:5). In the near term, energy prices will provide a positive contribution and then a gradually higher global resource utilisation will mean that price pressures increase.

Sweden

Increasingly strong economic activity in Sweden in the coming years

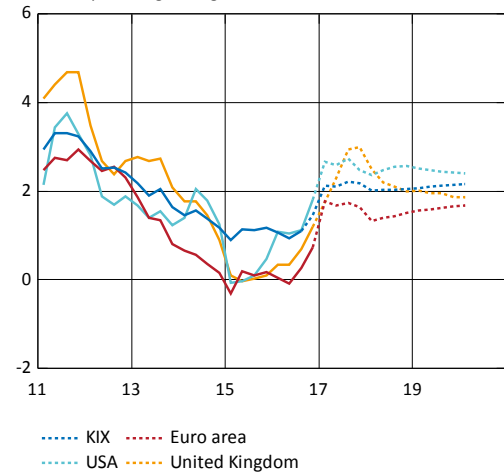
Swedish growth has been rapid in recent years, partly due to high public sector consumption, rapidly increasing housing construction and an expansionary monetary policy. Although the growth rate will slow down somewhat, economic activity is expected to continue strengthening in the coming years. Slightly higher growth abroad will to some extent compensate for housing investment and public sector consumption contributing less to growth going forward.

Growth on many of Sweden's most important export markets is modest in an historical perspective. But the recovery on Swedish export markets is continuing and supporting Swedish exports, which will increase somewhat going forward in relation to the subdued development in 2016 (see figure 4:6).

An improved economic situation with a declining amount of spare capacity will lead to new investment in the business sector. At the same time, the historically moderate development in international demand will mean that the rate of investment is somewhat lower than in earlier economic upswings. Capacity limitations also mean that investment in housing will increase more slowly in the coming years and thereby contribute less to growth. The level of housing investment will remain high, however.

The beneficial developments on the labour market in recent years have meant that households' real incomes have increased rapidly. As growth in employment slows down somewhat going forward and households' interest expenditure rises when the

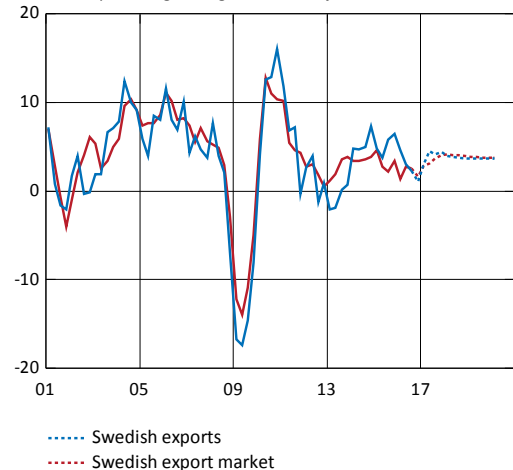
Figure 4:5. Inflation in various countries and regions
Annual percentage change



Note. KIX is an aggregate of the countries that are important to Sweden's international transactions. When calculating KIX-weighted inflation, the HICP is used for the euro area and the CPI for other countries. Inflation for the euro area is shown measured using the HICP and for the United States and the United Kingdom measured using the CPI.

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

Figure 4:6. Exports and the Swedish export market
Annual percentage change, calendar-adjusted data



Note. The Swedish export market index aims to measure import demand in the countries to which Sweden exports. This is calculated by aggregating 32 countries and covers around 85 per cent of the total Swedish export market.

Sources: Statistics Sweden and the Riksbank

increases in the repo rate begin, disposable incomes will increase at a somewhat slower pace. The fact that household consumption is nevertheless expected to grow in line with, or slightly above, its historical average is therefore based on the assumption that households will use their savings to a greater extent to finance the increased consumption (see figure 4:7). This is expected to happen when saving in the household sector is very high and the overall development in value of household assets has been favourable in recent years.

The fact that the percentage of younger and older people in the population is expected to continue increasing will contribute to a high growth in public sector consumption in the coming years. At the same time, growth will be slowed down by fewer asylum-seekers.

All in all, GDP is expected to have grown by 3.4 per cent in 2016 and this year GDP is estimated to grow by 2.5 per cent. After that, growth will slow down somewhat to on average 2.1 per cent a year 2018-2019 (see figure 4:8). The rapid growth in the population means that annual GDP growth per capita will on average be about one percentage point lower. The Swedish economy is thus expected to develop well during the forecast period, although there are risks of setbacks linked to the political uncertainty abroad.

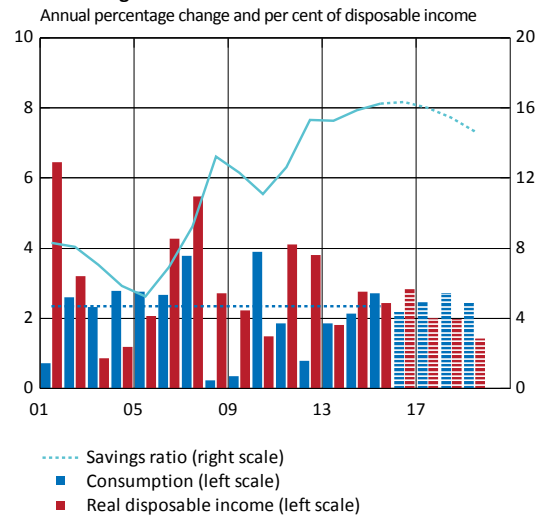
Housing prices and household debt increasing fast

The Swedish housing prices have, with the exception of some shorter periods, been rising for a very long time. The annual rate of price increase slowed down from an average of close to 15 per cent in 2015 to almost 10 per cent in 2016. The rate of price increase is expected to slow down further in the coming years, as households’ incomes show somewhat slower growth and mortgage rates are not expected to fall any further. The rapid increases in housing prices have led to an increasingly high indebtedness among Swedish households. These debts are expected to continue to increase, but at a somewhat slower pace when developments in the housing market slow down. Debt as a percentage of households’ disposable incomes is expected to rise further, however, and amount to almost 195 per cent at the beginning of 2020 (see figure 1:14).

Strong demand for labour

Demand for labour was strong last year and the number of redundancy notices was at the lowest level since 2007. This means that the employment rate increased (see figure 4:9). The fact that the labour force also increased meant that unemployment, despite the increase in employment, only declined slowly in 2016. The strong economic situation means that the demand for labour is expected to remain high going forward. However, the employment rate is already so high, especially in certain groups, that it is increasingly difficult for companies to find the staff they are seeking. Growth in employment is therefore expected to slow down in the coming years and the employment rate will level off at a high level.

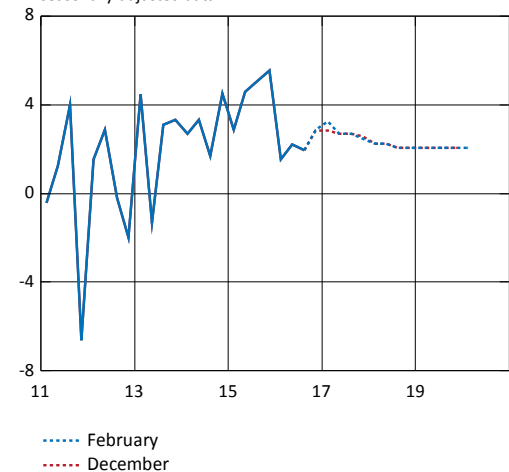
Figure 4:7. Households’ real disposable income, consumption and savings ratio



Note. The savings ratio includes collective insurance schemes. Disposable income has been deflated using the household consumption deflator. Broken line is the average of consumption between 1994 and 2015. Sources: Statistics Sweden and the Riksbank

Figure 4:8. GDP in Sweden

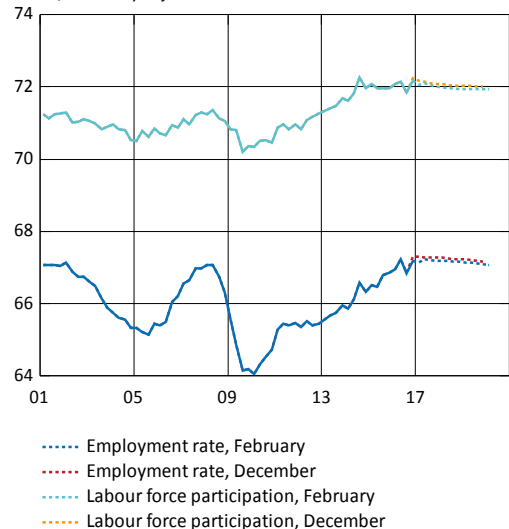
Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 4:9. Employment rate and labour force participation

Employment and labour force as percentage of the population, aged 15–74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

The large number of asylum-seekers in 2015 is now clearly visible in the statistics on the number of residence permits granted by the Swedish Migration Agency. For those who are granted residence permits and are of working age, a work introduction scheme is organised by Arbetsförmedlingen, with the aim of getting new arrivals into work or education. The addition to the labour force in the coming years is expected to largely consist of people who have only been in Sweden for a short time. As it takes time to become established in a new country, unemployment will initially be very high among new arrivals. Arbetsförmedlingen reports that a growing share of those registered as unemployed lack upper-secondary school education and as most of the jobs on the labour market require this, it indicates there will be difficulty matching employees and employers in the future.²⁶ The downturn in unemployment is expected to slow down this year and unemployment to rise somewhat in 2019 (see figure 4:10).

Increasingly strained labour market situation

As the employment rate has increased, various indicators of resource utilisation in the labour market have also risen. The percentage of companies who, according to the Economic Tendency Survey, report a labour shortage, for instance, has increased further and is at a relatively high level (see figure 4:10). At the same time, unemployment is still high among, for instance, immigrants from outside Europe and those who lack upper-secondary school education. The large shortages are a sign of imbalances on the labour market since companies are not finding the staff they are looking for, despite there still being a large number of unemployed persons.

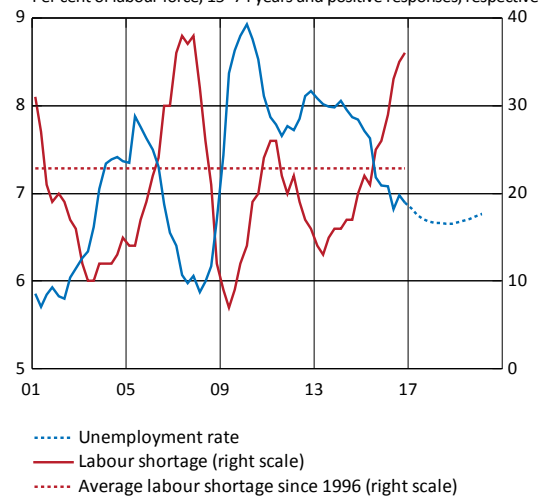
The Riksbank’s overall assessment is that resource utilisation in the economy is higher than normal at present. The continuing expansionary monetary policy means that both GDP and the number of hours worked will increase so rapidly that resource utilisation will continue to rise (see figure 4:11). As it is becoming increasingly difficult to increase the number of employed, the higher production is expected to be met to some extent by increased average working hours.

Wages increase as economic activity strengthens

The ongoing wage bargaining rounds cover around 2.4 million employees who are expected to receive new collective wage agreements this year. The Swedish Trade Union Confederation has agreed on joint demands, unlike last year. The trade unions in the manufacturing industry are demanding 2.8 per cent in wage increases this year, which is line with the previous two wage bargaining rounds. Employers in the manufacturing industry are at the same time advocating wage increases of less than 1.5 per cent. The current industrial sector agreements expire at the end of March this year and their new collective agreements

²⁶ See also the Arbetsförmedlingen report "Perspektiv på arbetslösheten i olika grupper", January 2017 (perspectives on unemployment in different groups).

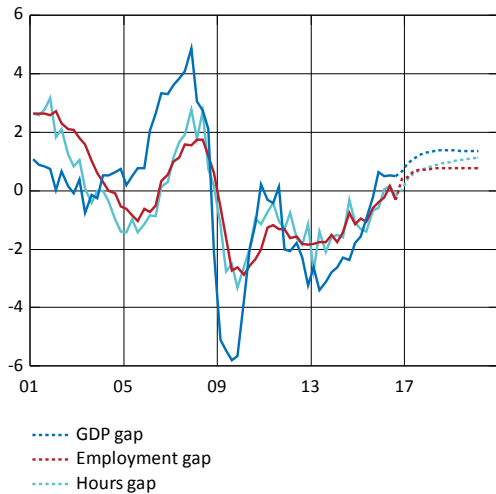
Figure 4:10. Unemployment and labour shortage
Per cent of labour force, 15–74 years and positive responses, respectively



Note. Red broken lines refer to average between 1996 and the latest outcome.

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

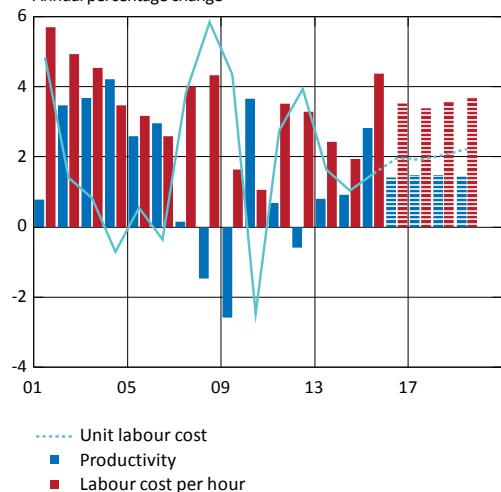
Figure 4:11. GDP gap, employment gap and hours gap
Per cent



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

Sources: Statistics Sweden and the Riksbank

Figure 4:12. Cost pressures in the economy as a whole
Annual percentage change



Sources: Statistics Sweden and the Riksbank

are expected to set the standard for other areas of the labour market.

The shortage of labour and companies' difficulties in recruiting staff are expected to mean that the rate of wage increase according to both National Mediation Office (NMO) and the National Accounts (NA) will rise during the forecast period. The difference between the NMO and NR wages is expected to be somewhat greater during the forecast period (see the box "Economic activity and the difference between two measures of wages").

According to the National Accounts, labour costs, that is, wages plus social security contributions, are expected to rise in line with hourly wages during the forecast period. Productivity growth is expected to be stable around 1.5 per cent as an annual rate of change during the forecast period (see figure 4:12). All in all, this means that growth in unit labour costs will rise somewhat faster than its historical average during the forecast period.

Slow appreciation of the Swedish krona in the period ahead

The krona's future development is uncertain and depends on factors such as how competitive the Swedish economy is and how monetary policy is formulated in Sweden and abroad. In the years to come, a gradual and slow appreciation of the krona is expected as economic activity in Sweden and abroad strengthens, at the same time as the surplus in the trade and current account balances continues to decline (see figure 4:13).

Continued upturn in inflation

CPIF inflation has shown a rising trend since 2014. Recently, energy and food prices in particular have risen and boosted the inflation figures further. Energy prices are now increasing rapidly on an annual basis, although the rate of increase is expected to decline going forward (see figure 4:14). CPIF inflation excluding energy has also been rising since 2014. However, it is still low after declining somewhat in 2016. The Riksbank assesses that the conditions are right for the upturn in inflation to continue, even after the price increases on energy and food have slowed down to more normal levels.

One factor that suggests higher inflation is the continued rise in resource utilisation in the economy. The current good economic situation has not yet had a full impact on inflation, as it is usually influenced by resource utilisation after some time lag.²⁷ Stronger economic activity leads to companies finding it easier to raise prices on their products at the same time as their costs normally rise at a gradual pace.

Another factor that affects inflation is the krona exchange rate.²⁸ Although there has been an appreciation since the last monetary policy meeting, the exchange rate is still weaker than in spring 2016 (see figure 4:13). Like resource utilisation, exchange rate fluctuations affect inflation with a time lag and thus the

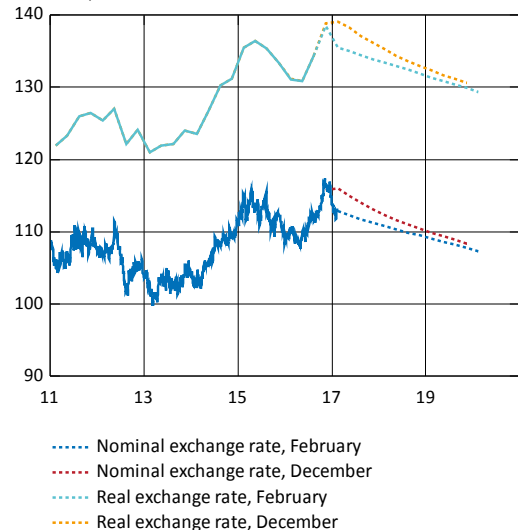
²⁷ See also the article "The relationship between resource utilisation and inflation" in the Monetary Policy Report, October 2016.

²⁸ See the article "The impact of the exchange rate on inflation" in the Monetary Policy Report, December 2016.

Economic activity and the difference between measures of wages

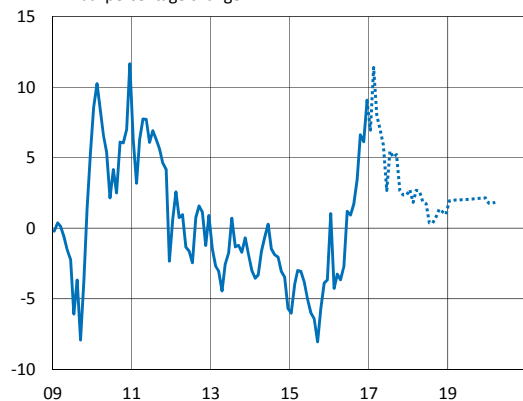
Measured since the beginning of the 1990s, there is a positive correlation between different economic indicators and the difference between wages according to NA and NMO. This is because there are several components in the NA hourly wage statistics that can be considered cyclical that do not appear in NMO wage statistics, such as taxable staff benefits, bonuses and other result-based compensation. As economic activity continues to strengthen in the period ahead, NA wages are therefore expected to increase more quickly than NMO wages, which will widen the difference in wage development between the two measures.

Figure 4:13. Real and nominal exchange rate, KIX
Index, 18 November 1992 = 100



Sources: National sources, Statistics Sweden and the Riksbank

Figure 4:14. Energy prices in CPI
Annual percentage change



Note. Energy prices in CPI are a weighted average of the price developments in electricity and fuel prices and represent 7.6 per cent in CPI.

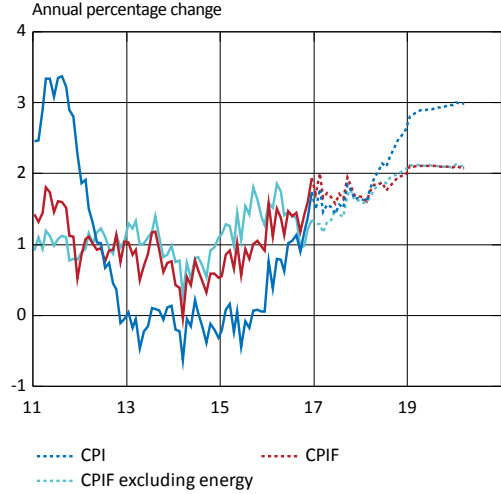
Sources: Statistics Sweden and the Riksbank

weaker krona is not considered to have had a full impact on inflation yet. In the coming years, the exchange rate is expected to strengthen slightly further and the positive contribution to inflation will therefore decline gradually. International price pressures are then expected to rise and contribute to a continued increase in inflation.

Inflation expected to stabilise around 2 per cent at end of 2018

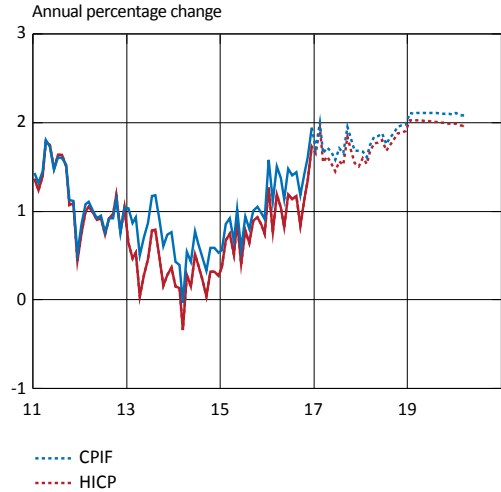
The forecast for CPIF inflation excluding energy has been revised downwards somewhat for 2018–2019, as the krona is now expected to be stronger than was predicted in the previous forecast. Moreover, the current rent negotiations have entailed a large number of agreements being signed for several years that entail only slowly rising rents in 2018. As in the previous forecast, energy prices are expected to increase unusually rapidly for some time to come, so inflation in 2017 is higher in terms of the CPIF than the CPIF excluding energy (see figure 4:15). However, the CPIF has also been revised down marginally compared with the December Monetary Policy Report (see figure 1:6). The EU harmonised measure of inflation, HICP, does not include households’ mortgage costs. As a result of the rapid rise in housing prices, the rate of increase in the HICP is therefore slightly lower than the CPIF during the forecast period (see figure 4:16). When mortgage rates gradually start to rise again in 2018, household interest expenditure will increase and the CPI will increase faster than the CPIF. CPIF inflation is expected to increase slowly and to stabilise around 2 per cent at the end of 2018.

Figure 4:15. CPI, CPIF and CPIF excluding energy



Note. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Figure 4:16. CPIF and HICP



Note. The CPIF is the CPI with a fixed mortgage rate.
Sources: Statistics Sweden and the Riksbank

Tables

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

Table 1. Repo rate forecast

Per cent, quarterly averages

	2016 kv 4	2017 kv 1	2017 kv 2	2018 kv 1	2019 kv 1	2020 kv 1
Repo rate	-0.5	-0.5 (-0.5)	-0.5 (-0.6)	-0.5 (-0.5)	0.0 (0.0)	0.5

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2015	2016	2017	2018	2019
CPI	0.0	1.0 (1.0)	1.6 (1.4)	2.1 (2.2)	2.9 (3.0)
CPIF	0.9	1.4 (1.4)	1.7 (1.6)	1.8 (1.9)	2.1 (2.1)
CPIF excl. energy	1.4	1.4 (1.4)	1.5 (1.3)	1.9 (2.0)	2.1 (2.1)
HICP	0.7	1.1 (1.1)	1.6 (1.5)	1.8 (1.8)	2.0 (2.0)

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

	2015	2016	2017	2018	2019
Repo rate	-0.3	-0.5 (-0.5)	-0.5 (-0.6)	-0.3 (-0.3)	0.2 (0.2)
10-year rate	0.8	0.5 (0.5)	1.0 (1.1)	1.8 (2.0)	2.4 (2.8)
Exchange rate, KIX, 18 November 1992 = 100	112.6	111.7 (111.7)	112.0 (114.5)	110.1 (111.3)	108.4 (109.2)
General government net lending*	0.2	0.5 (0.4)	0.2 (0.1)	0.5 (0.3)	0.8 (0.6)

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank

Table 4. International conditions

Annual percentage change, unless otherwise stated

GDP	PPP-weights	KIX-weights	2015	2016	2017	2018	2019
Euro area	0,14	0,47	1.9	1.7 (1.6)	1.7 (1.6)	1.7 (1.7)	1.6 (1.6)
USA	0,16	0,08	2.6	1.6 (1.6)	2.3 (2.5)	2.3 (2.3)	2.1 (2.1)
Japan	0,05	0,02	1.2	1.0 (1.0)	1.1 (1.0)	0.9 (0.8)	0.8 (0.8)
China	0,15	0,08	6.9	6.7 (6.7)	6.4 (6.2)	5.8 (5.8)	5.7 (5.7)
KIX-weighted	0,75	1,00	2.2	2.0 (2.0)	2.2 (2.2)	2.3 (2.3)	2.2 (2.3)
World (PPP-weighted)	1,00	—	3.2	3.1 (3.2)	3.4 (3.5)	3.6 (3.6)	3.7 (3.7)

Note. Calendar-adjusted growth rates. The PPP-weights refer to the global purchasing-power adjusted GDP-weights, according to the IMF. The Riksbank updates the weights for the KIX krona index at the start of every year with a time lag of three years. The figures in the table are based on the new KIX weights for 2014 that are used for 2017, and on an assumption that the weights will develop according to the trend of the past five years in the coming forecast years.

CPI	2015	2016	2017	2018	2019
Euro area (HICP)	0.0	0.2 (0.2)	1.7 (1.4)	1.4 (1.4)	1.6 (1.6)
USA	0.1	1.3 (1.2)	2.6 (2.7)	2.5 (2.5)	2.5 (2.5)
Japan	0.8	-0.1 (-0.1)	0.7 (0.7)	1.4 (1.5)	1.7 (1.8)
KIX-weighted	1.1	1.1 (1.1)	2.2 (2.0)	2.0 (2.1)	2.1 (2.1)

	2015	2016	2017	2018	2019
Policy rates in the rest of the world, per cent	0.1	-0.1 (-0.1)	-0.1 (-0.1)	0.0 (0.0)	0.2 (0.2)
Crude oil price, USD/barrel Brent	53.5	45.1 (44.6)	56.4 (55.7)	56.6 (56.9)	56.2 (57.3)
Swedish export market	3.2	2.1 (2.0)	3.4 (3.2)	4.1 (4.0)	3.8 (3.9)

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

	2015	2016	2017	2018	2019
Private consumption	2.7	2.2 (2.2)	2.5 (2.4)	2.7 (2.7)	2.4 (2.4)
Public consumption	2.5	3.6 (3.6)	1.6 (2.0)	1.1 (1.4)	1.1 (1.2)
Gross fixed capital formation	7.0	6.9 (7.1)	3.4 (3.5)	3.1 (2.8)	2.8 (2.8)
Inventory investment*	0.3	0.2 (0.3)	-0.1 (0.0)	0.0 (0.0)	0.0 (0.0)
Exports	5.6	3.0 (2.9)	3.6 (2.9)	3.6 (3.6)	3.6 (3.6)
Imports	5.5	4.3 (4.4)	3.4 (3.5)	4.0 (4.0)	4.0 (4.0)
GDP	4.1	3.4 (3.4)	2.5 (2.4)	2.2 (2.2)	2.1 (2.1)
GDP, calendar-adjusted	3.8	3.2 (3.2)	2.7 (2.6)	2.3 (2.4)	2.1 (2.1)
Final figure for domestic demand*	3.5	3.5 (3.6)	2.4 (2.4)	2.3 (2.3)	2.1 (2.1)
Net exports*	0.3	-0.4 (-0.5)	0.2 (-0.1)	0.0 (0.0)	0.0 (0.0)
Current account (NA), per cent of GDP	4.7	4.2 (4.2)	4.3 (3.9)	4.1 (3.7)	3.9 (3.5)

*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

	2015	2016	2017	2018	2019
Population, aged 15–74	0.7	0.9 (0.9)	1.1 (1.0)	0.7 (0.7)	0.6 (0.6)
Potential hours worked	0.8	0.7 (0.7)	0.6 (0.6)	0.5 (0.5)	0.5 (0.5)
GDP, calendar-adjusted	3.8	3.2 (3.2)	2.7 (2.6)	2.3 (2.4)	2.1 (2.1)
Number of hours worked, calendar-adjusted	1.0	1.8 (1.9)	1.2 (1.2)	0.9 (0.8)	0.6 (0.6)
Employed, aged 15–74	1.4	1.5 (1.5)	1.3 (1.3)	0.7 (0.7)	0.5 (0.5)
Labour force, aged 15–74	0.8	1.0 (1.0)	1.1 (1.0)	0.6 (0.6)	0.6 (0.6)
Unemployment, aged 15–74 *	7.4	6.9 (6.9)	6.7 (6.7)	6.7 (6.7)	6.7 (6.7)

* Per cent of the labour force

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

	2015	2016	2017	2018	2019
Hourly wage, NMO	2.4	2.5 (2.5)	3.0 (3.1)	3.3 (3.4)	3.5 (3.6)
Hourly wage, NA	3.5	2.9 (2.8)	3.4 (3.4)	3.6 (3.6)	3.7 (3.7)
Employers' contribution*	0.9	0.6 (0.6)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Hourly labour cost, NA	4.4	3.5 (3.4)	3.4 (3.4)	3.6 (3.6)	3.7 (3.7)
Productivity	2.8	1.4 (1.3)	1.5 (1.4)	1.5 (1.5)	1.4 (1.4)
Unit labour cost	1.5	2.1 (2.0)	1.9 (1.9)	2.1 (2.0)	2.2 (2.3)

* 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 divided by the seasonally adjusted total number of hours worked. Unit labour cost is defined as labour cost divided by seasonally-adjusted value added at constant prices.

Sources: National Mediation Office, Statistics Sweden and the Riksbank



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