Monetary Policy Report
April 2017

SVERIGES RIKSBANK

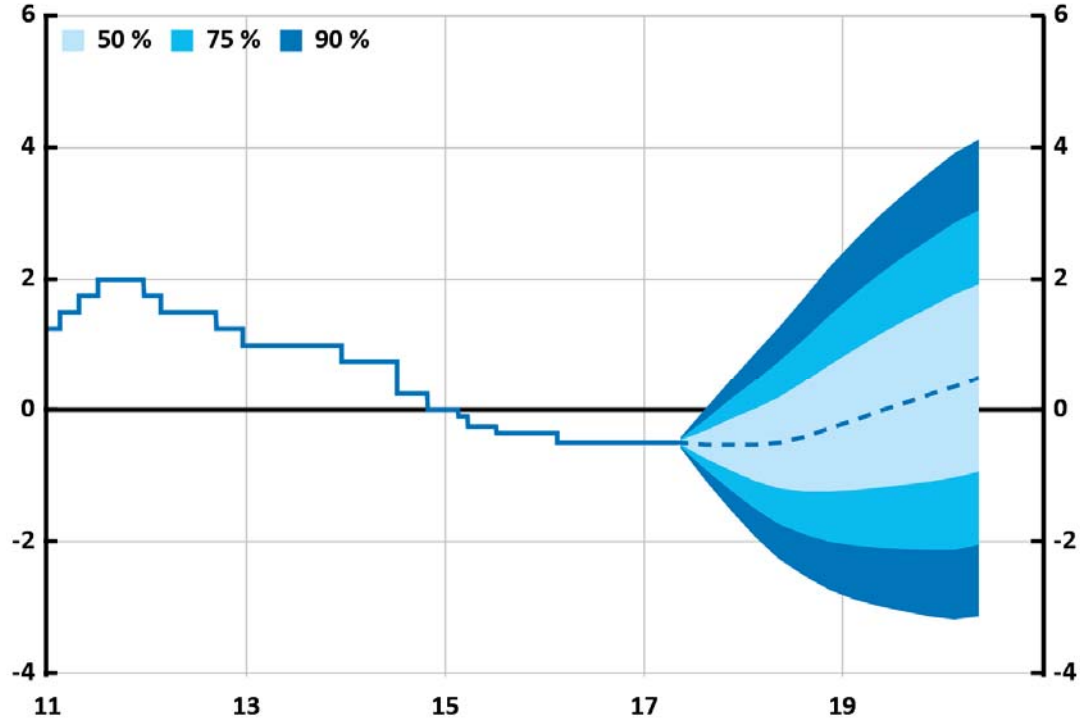# Chapter 1

# 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

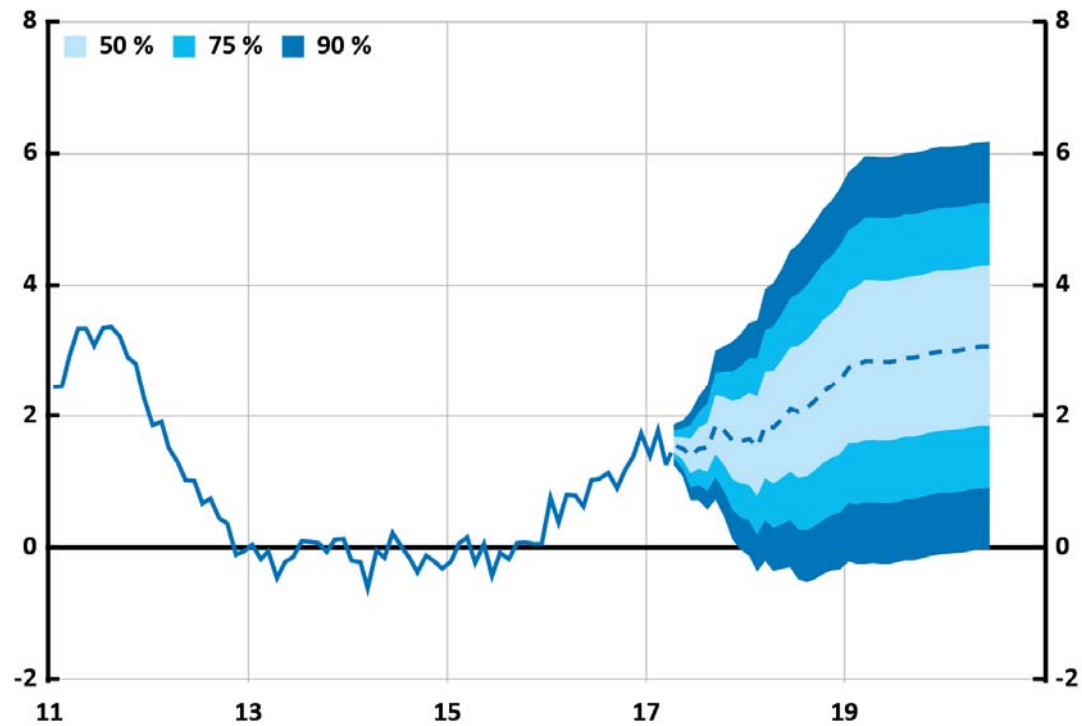Annual percentage change, seasonally-adjusted data
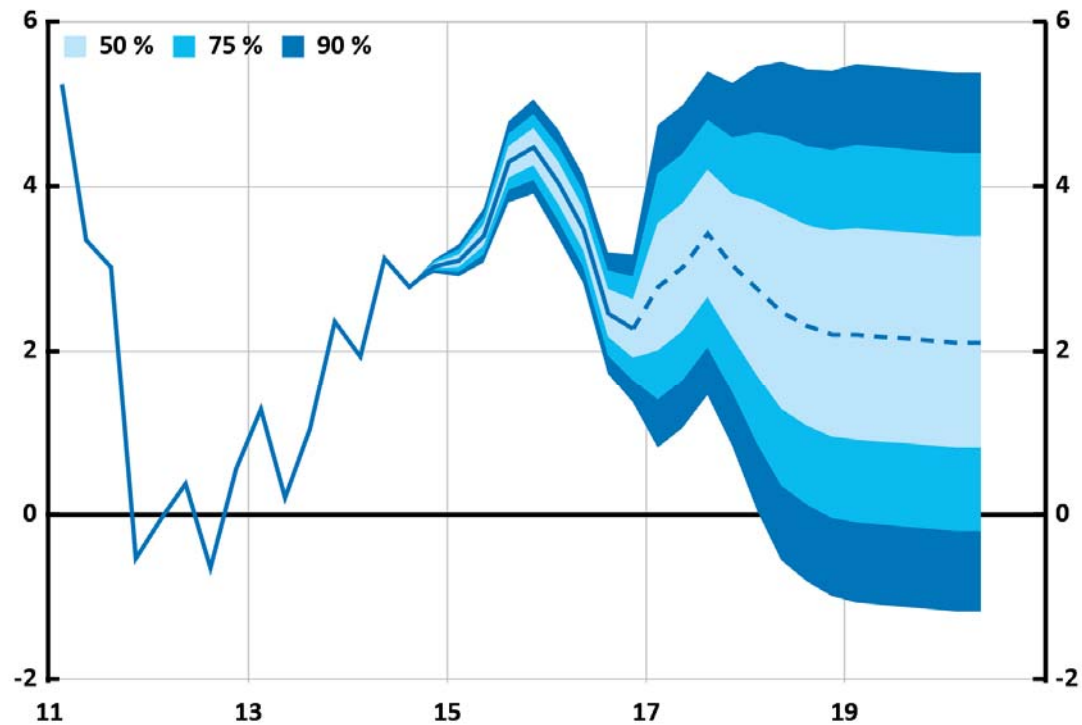
Note. The uncertainty bands are based on the Riksbank's historical forecasting errors. There is also uncertainty for the outcomes for GDP, as the figures in the National Accounts are revised several years after the preliminary publication.

Sources: Statistics Sweden and the Riksbank

Figure 1.3. CPI with uncertainty bands
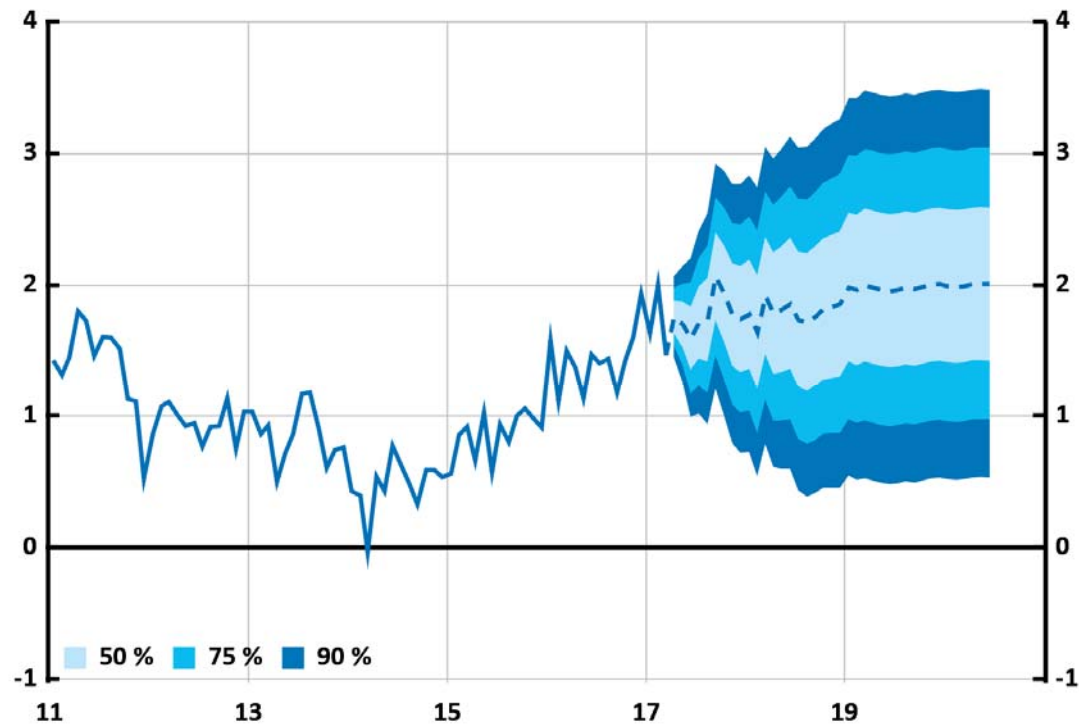
Annual percentage change

Figure 1.4. CPIF with uncertainty bands
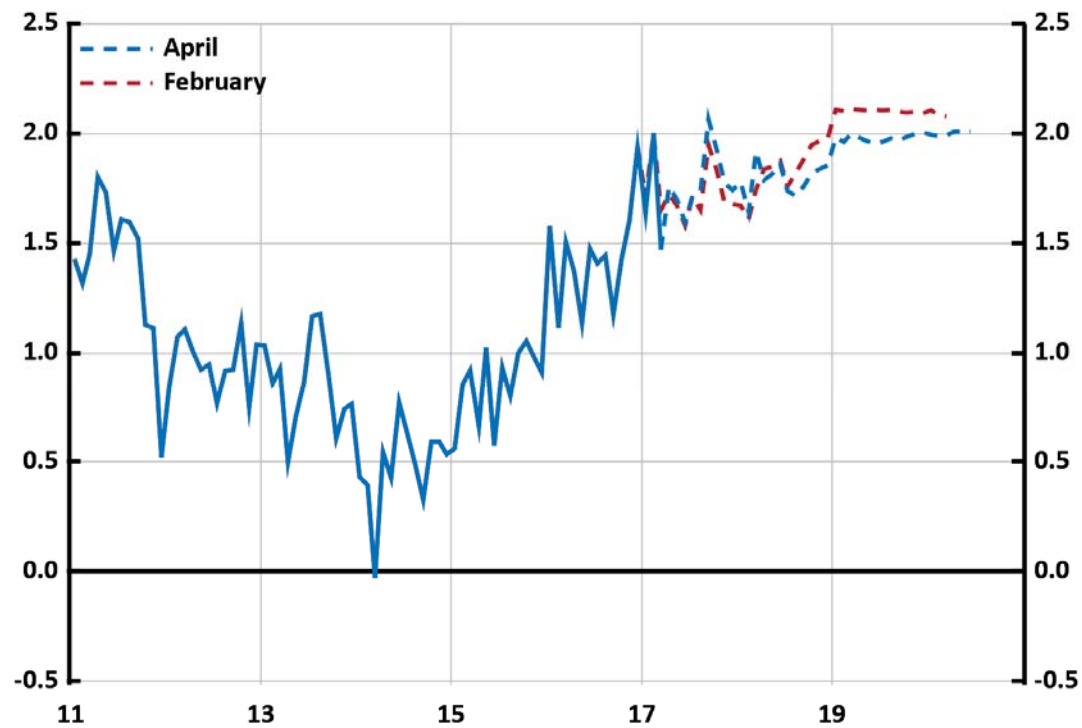
Annual percentage change

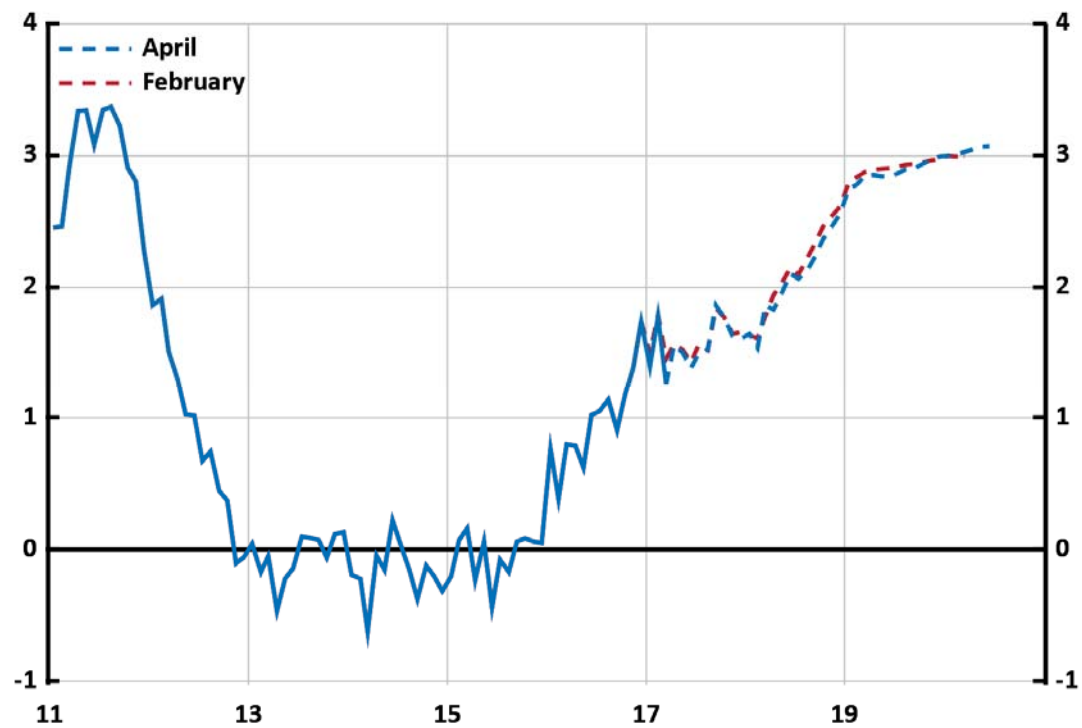# Figure 1.5. CPIF

Annual percentage change

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

Sources: Statistics Sweden and the Riksbank

Figure 1.6. CPI
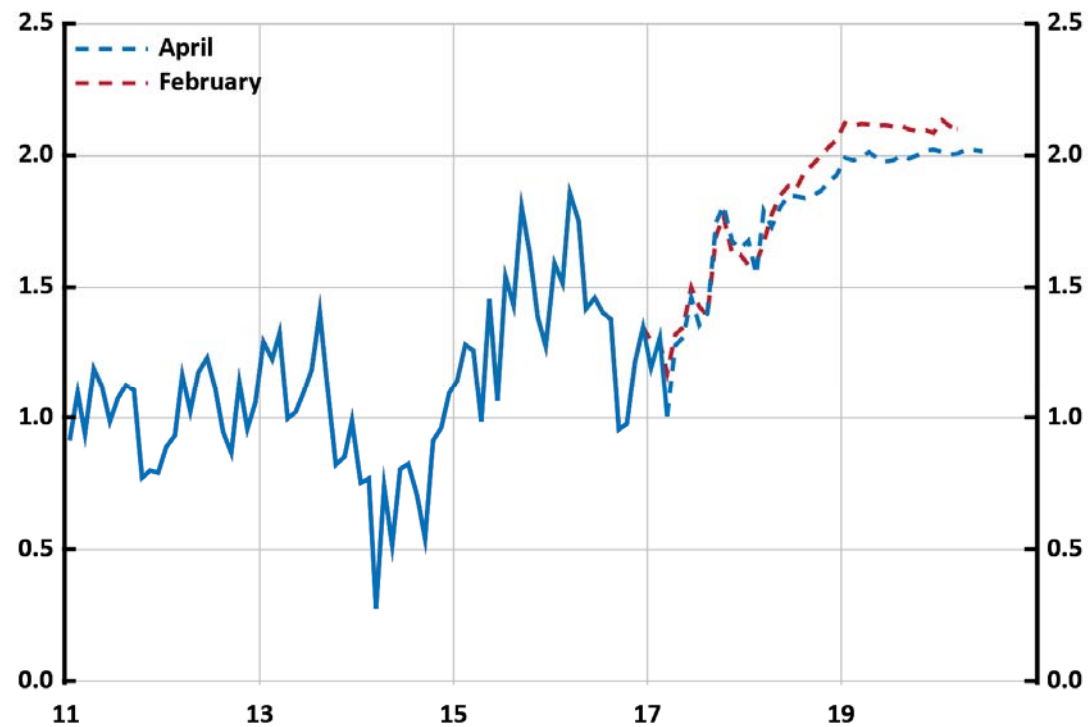
Annual percentage change

Sources: Statistics Sweden and the Riksbank

Figure 1.7. CPIF excluding energy

Annual percentage change

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

Sources: Statistics Sweden and the Riksbank

Figure 1.8. Repo rate

Per cent
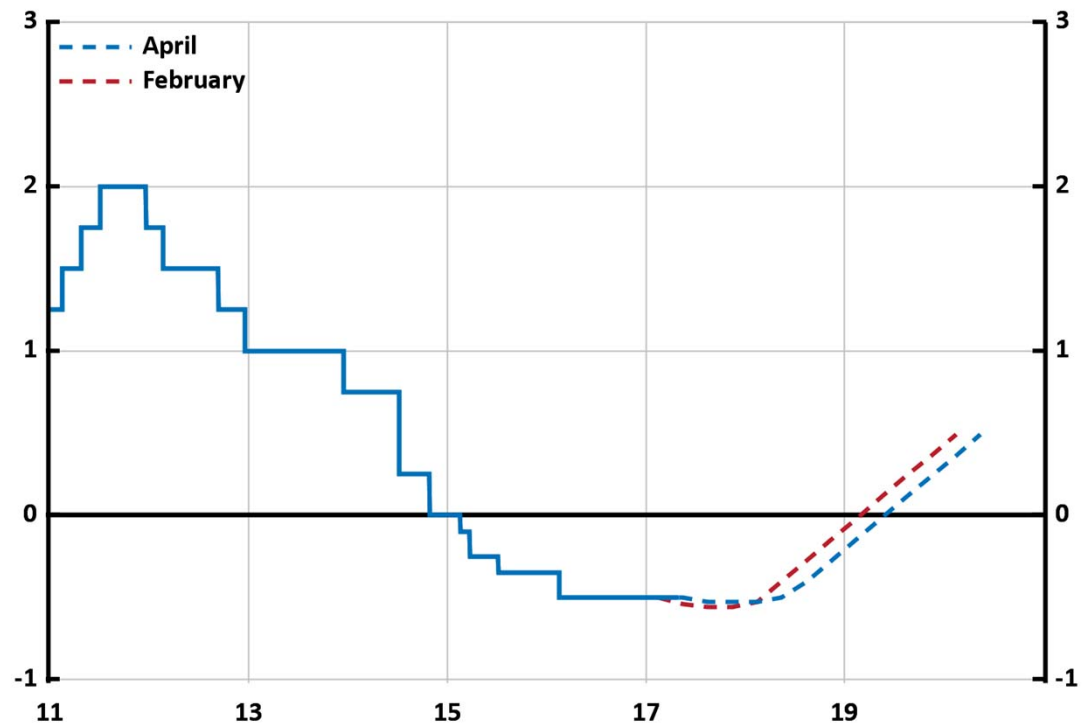
Note. Outcomes are daily data and the forecasts refer to quarterly averages.   Source: The Riksbank

Figure 1.9. Purchases of government bonds decided by the Riksbank

SEK billion
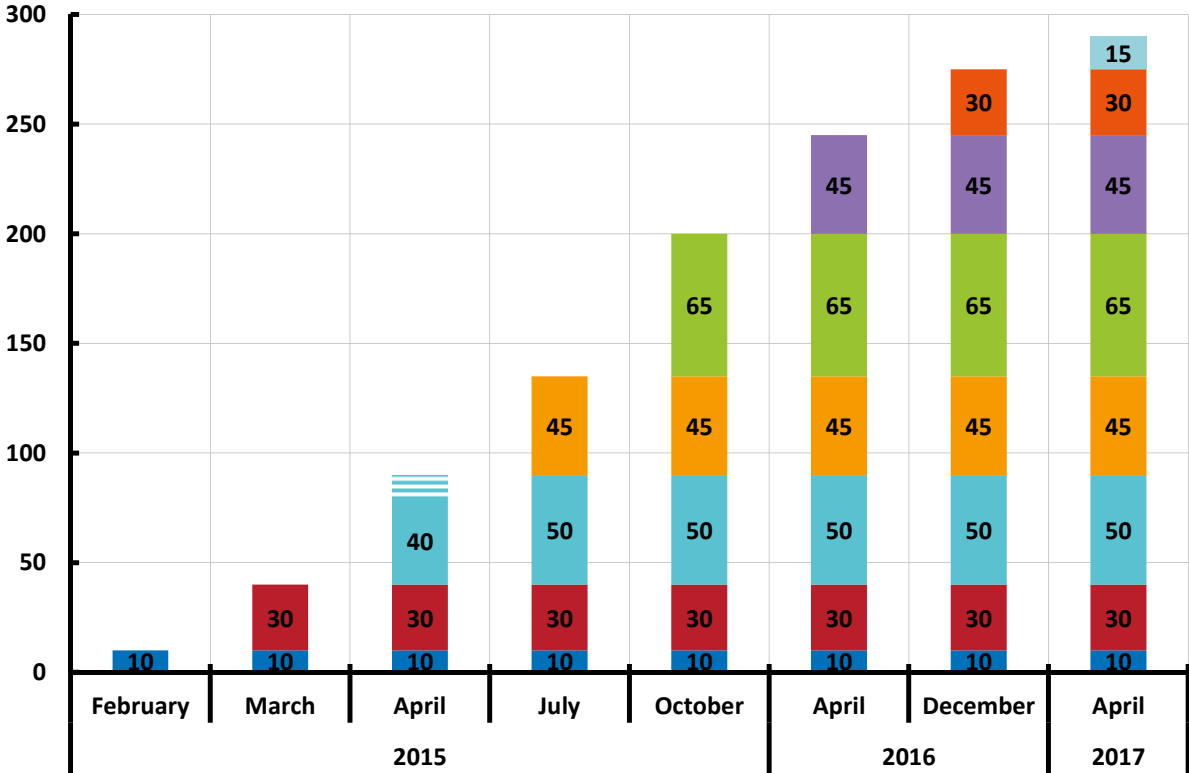
Note. Purchases of government bonds, excluding reinvestments, will continue until the end of-2017.

Source: The Riksbank

Figure 1.10. Real repo rate

Per cent, quarterly averages
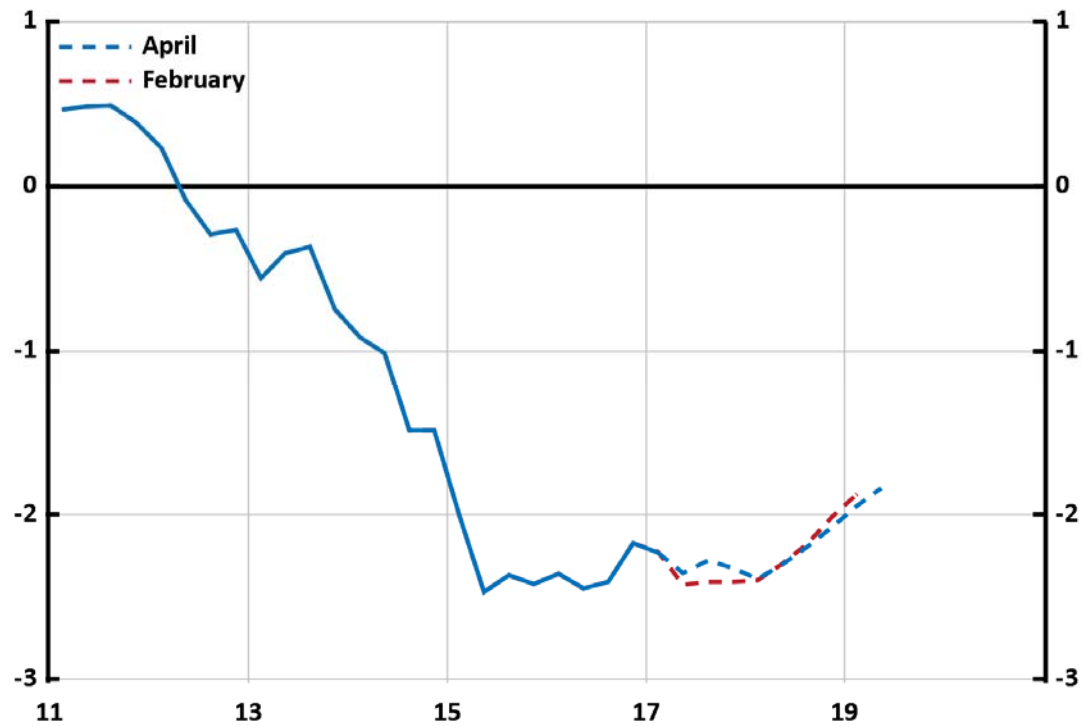
Note. The real repo rate is a mean value of the Riksbank's repo rate forecast for the year ahead minus the inflation forecast (CPIF) for the corresponding period.

Sources: Statistics Sweden and the Riksbank

Figure 1.11. Real interest rates

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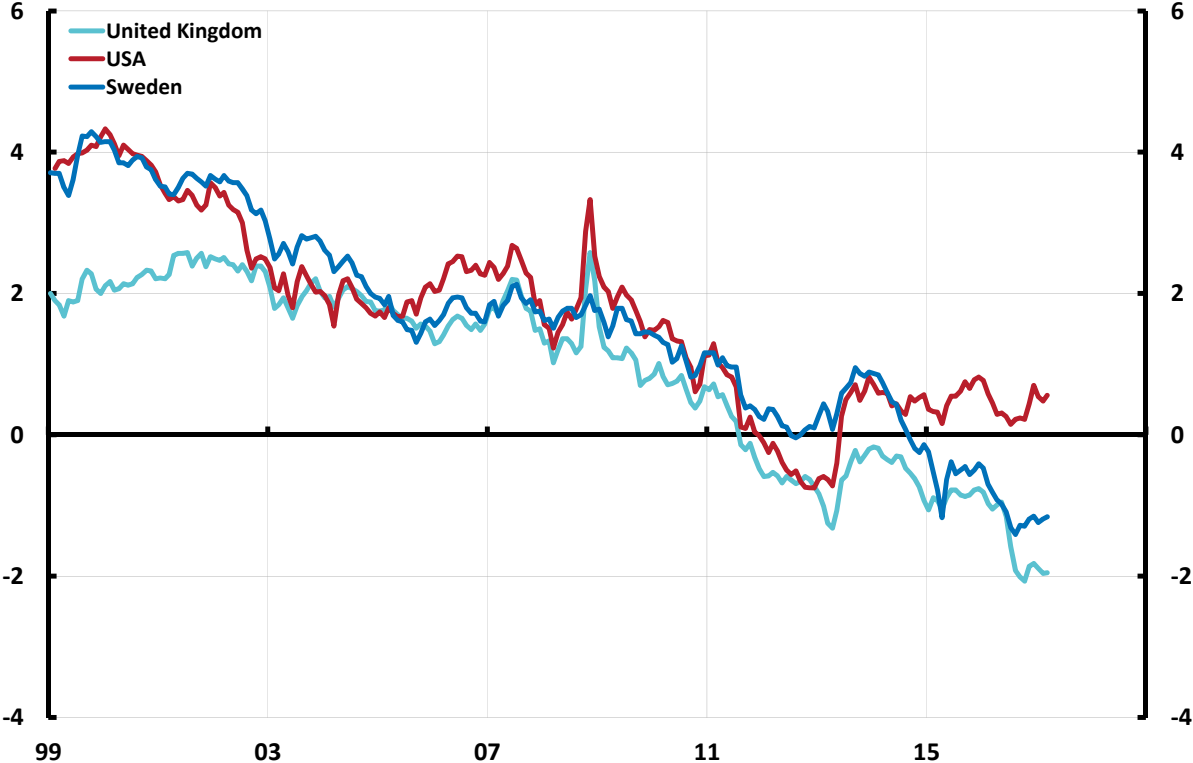
Note. 10-year yield on real government bonds in Sweden, the United Kingdom and the United States. Swedish real interest rate is zero coupon yields interpolated from bond prices using the Nelson-Siegel method.

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

Figure 1.12. Housing prices

Annual percentage change

Source: Valueguard

Figure 1.13. Household debt

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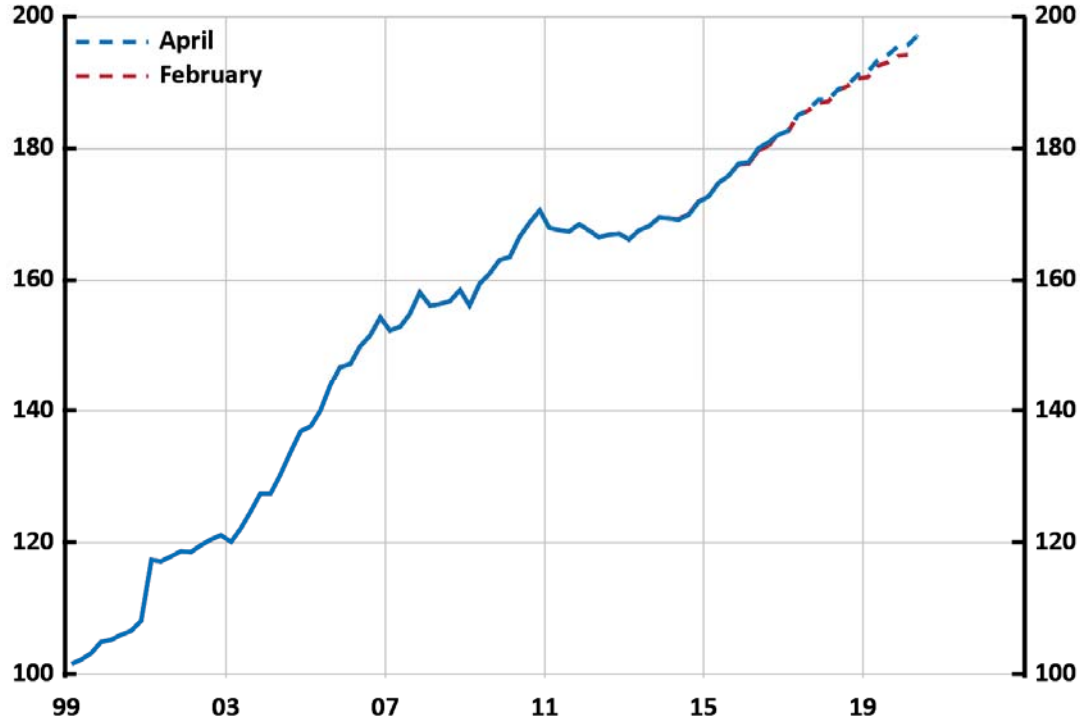
Note. Households' total debts as a share of their disposable incomes totalled over the past four quarters.

Sources: Statistics Sweden and the Riksbank

Figure 1.14. The Swedish households' interest ratio

Per cent, interest expenditure as a percentage of disposable income
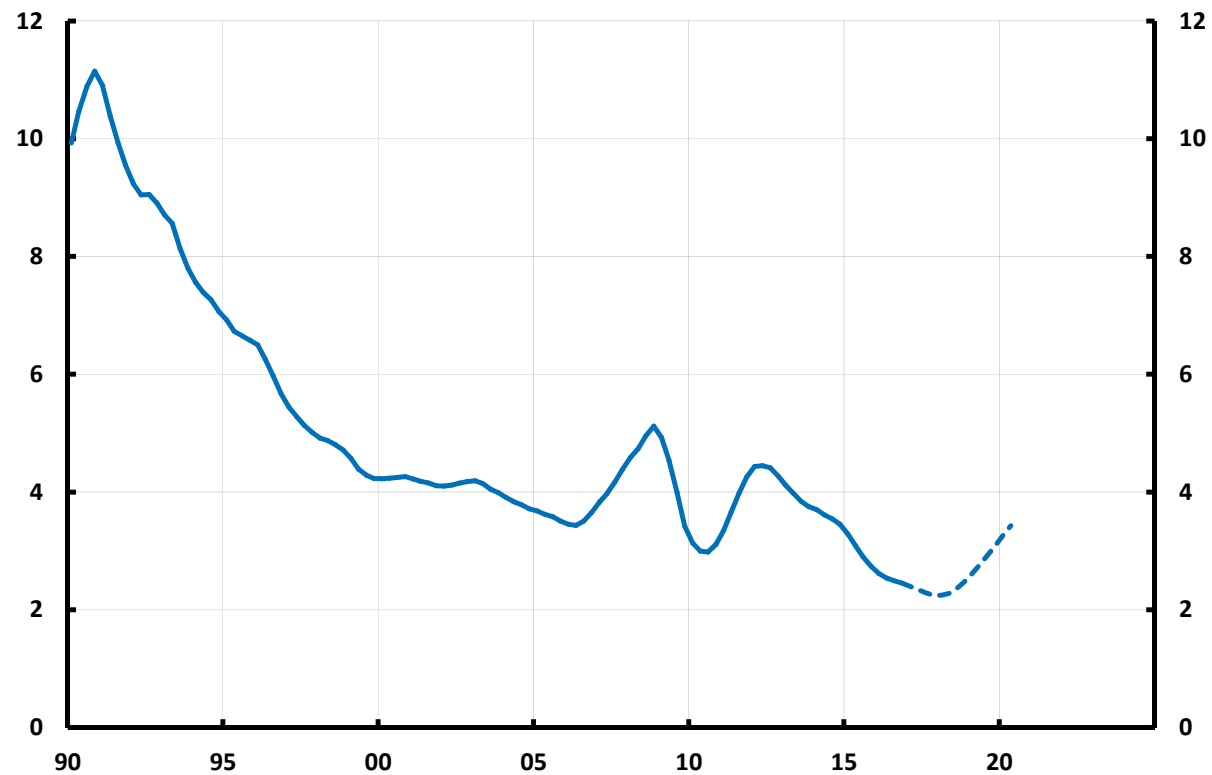
Article –
The significance of international developments for monetary policy

Figure 1.15. GDP growth

Annual percentage change
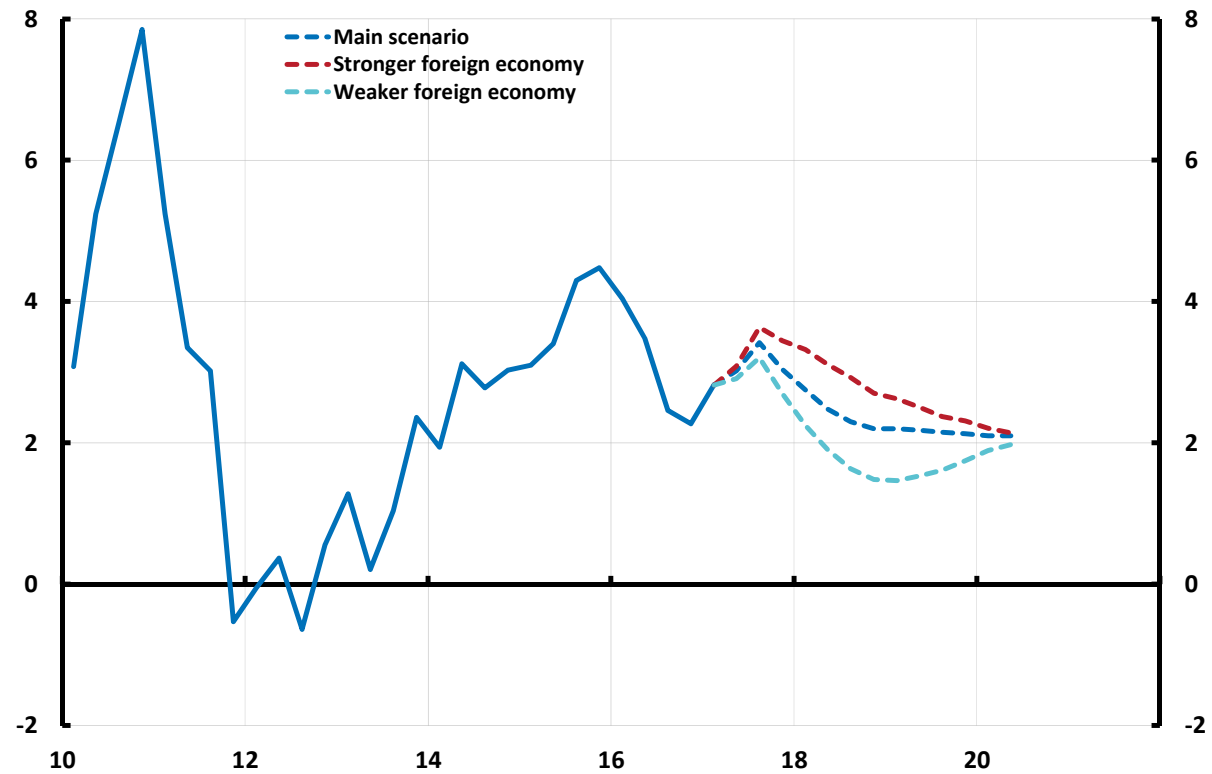
Sources: Statistics Sweden and The Riksbank

Figure 1.16. CPIF

Annual percentage change

Legend:
- Main scenario
- Stronger foreign economy
- Weaker foreign economy
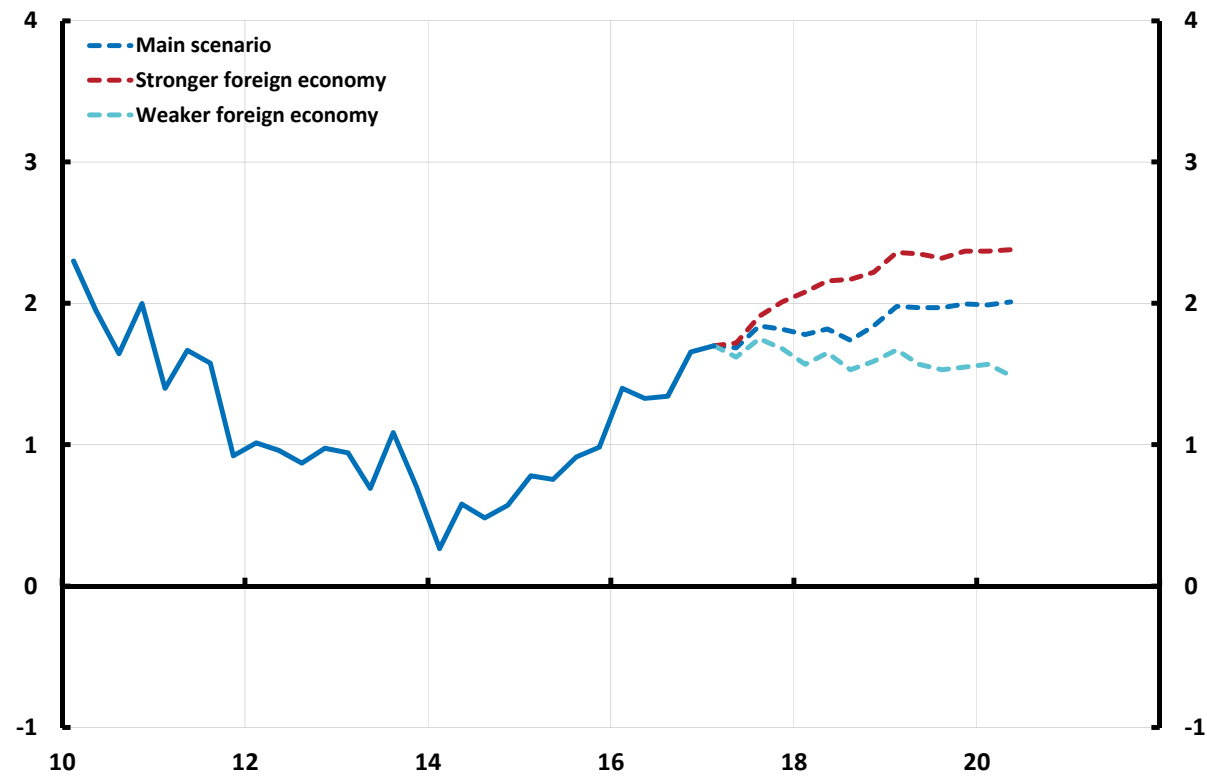
Sources: Statistics Sweden and The Riksbank

Chapter 2

SVERIGES RIKSBANK

Figure 2.1. Policy rates and rate expectations according to forward rates

Per cent
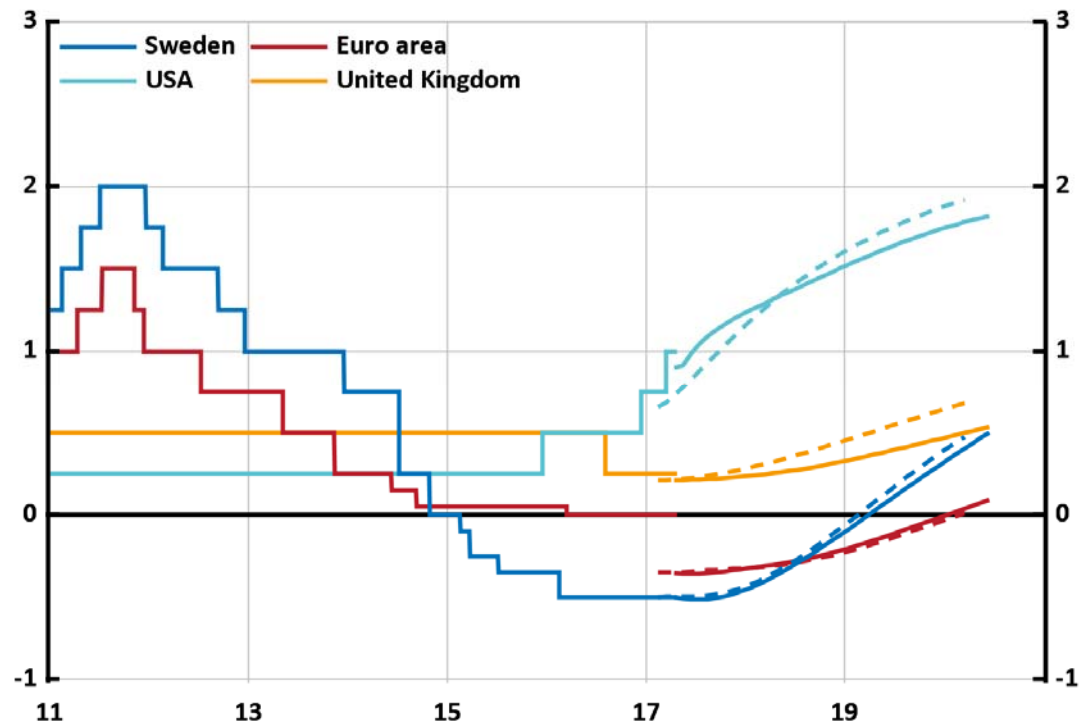
Note. Forward rates describe the expected overnight rate, which does not always correspond to the policy rate. There is no published overnight rate in Sweden, but it normally follows the repo rate closely. Unbroken lines are estimated on 24 April 2017, broken lines are estimated on 14 February 2017.

Figure 2.2. Government bond rates with 10 years left to maturity

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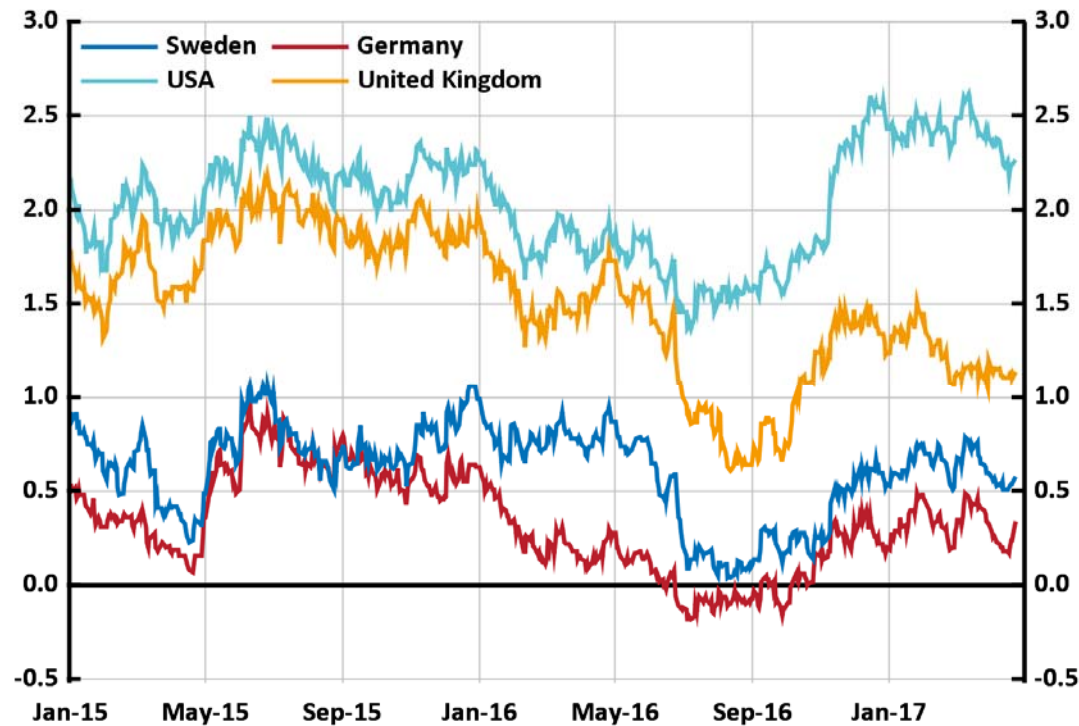
Note. Zero-coupon rates interpolated from bond prices using the Nelson-Siegel method.

Sources: Macrobond and the Riksbank

Figure 2.3. Yield differential in relation to Germany, 10 year

Percentage points
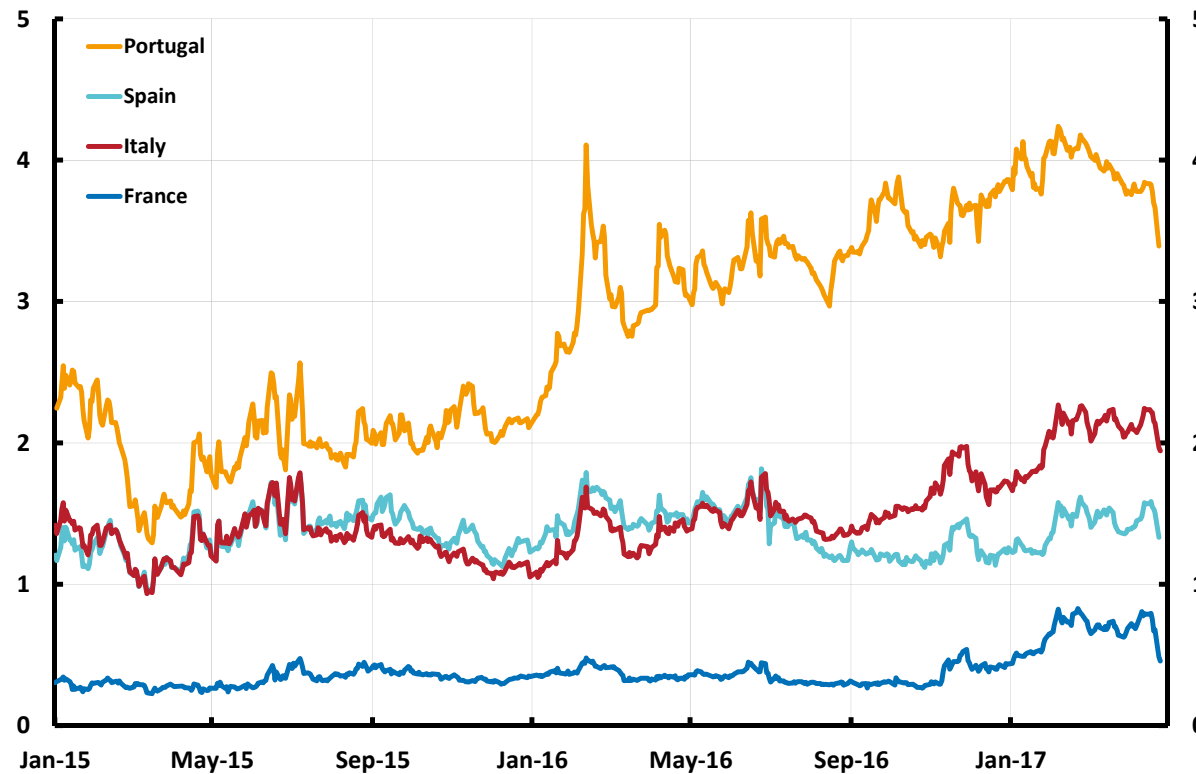
Note. Yield differentials refer to 10-year zero coupon yields.

Source: Thomson Reuters

Figure 2.4. Stock market movements

Index, 2 January 2015 = 100
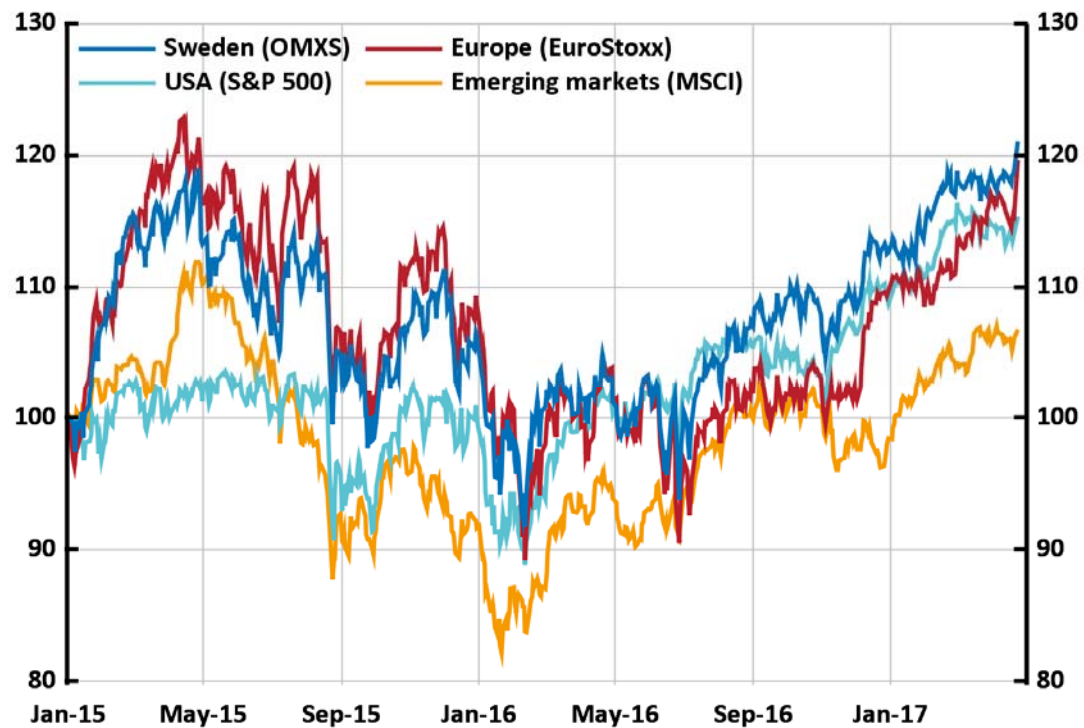
Sources: Macrobond and Thomson Reuters

Figure 2.5. Volatility and risk of large falls on the stock market

VIX and SKEW index
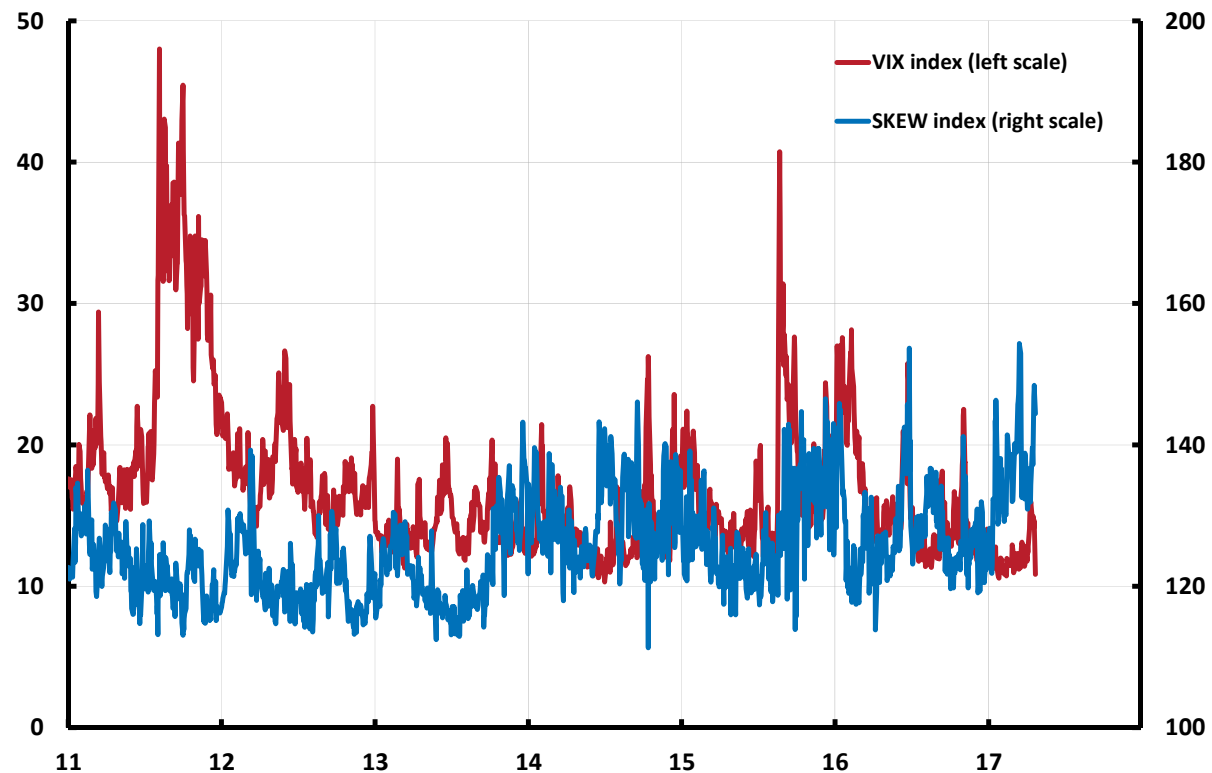
Note. Both VIX and SKEW are calculated on the basis of options on the S&P 500 share index. The VIX index matches the expected volatility of the stock market, while the SKEW index shows how expensive it is to purchase protection against large stock exchange falls.

Source: Thomson Reuters

Figure 2.6. Repo rate and market expectations

Per cent, average
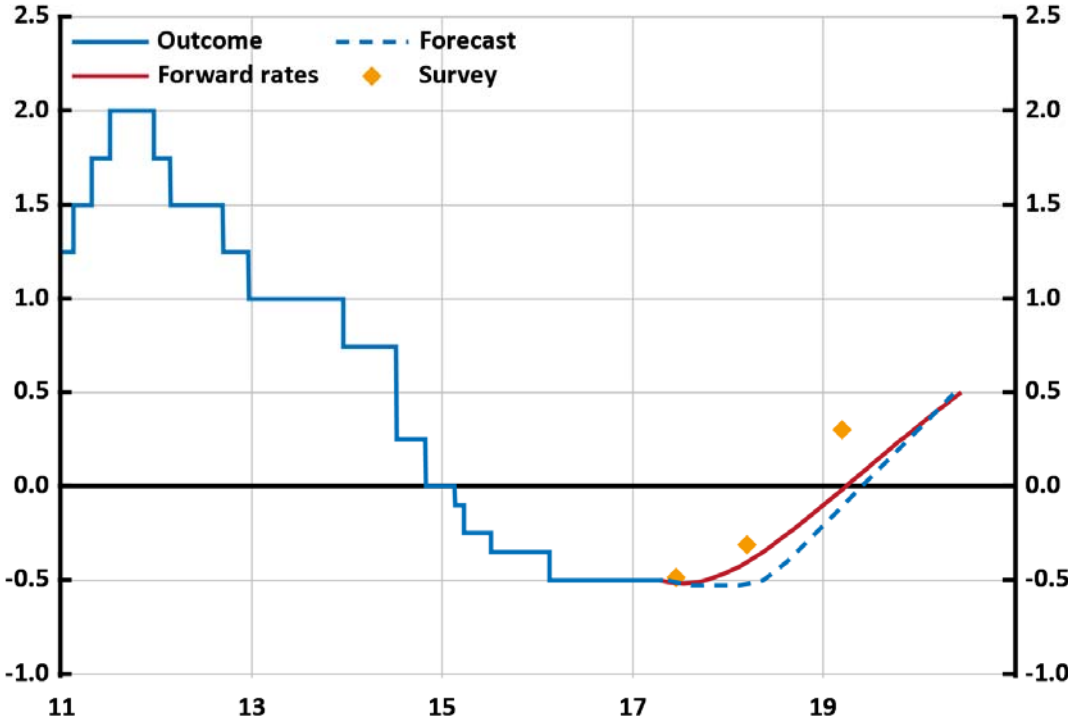
Note. The forward rates are estimated as of 24 April 2017 and measure the expected repo rate. The survey responses show the average for money market participants on 12 April 2017.

Sources: Macrobond, TNS Sifo Prospera and the Riksbank

Figure 2.7. Short market rates and the repo rate

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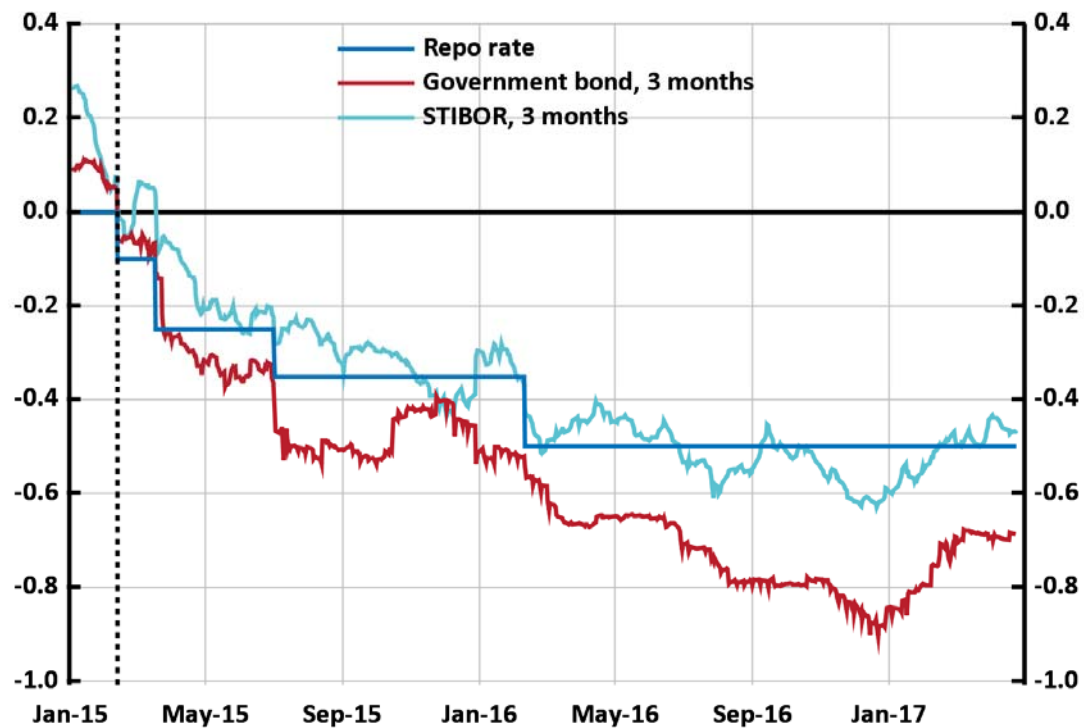
Note. The broken line refer to the start of the bond purchases.

Sources: Macrobond and the Riksbank

Figure 2.8. Contributions and changes to KIX exchange rates

Per cent and percentage points
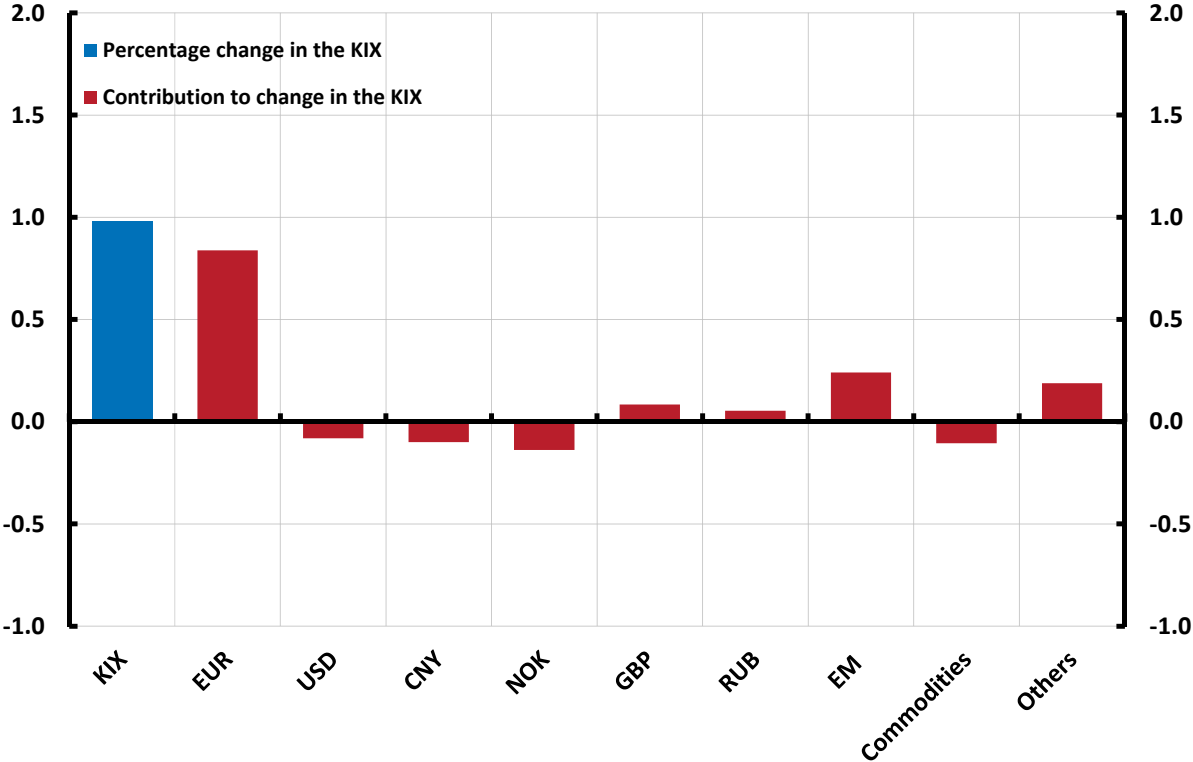
Note. The figure shows change in KIX and contributions from different currencies between 14 February 2017 and 24 April 2017. EM refers to Brazil, Hungary, India, Mexico, Poland and Turkey. Commodities refer to Australia, Canada and New Zealand. Others refers to Czech Republic, Denmark, Iceland, Japan, South Korea and Switzerland.

Sources: Thomson Reuters and the Riksbank

Figure 2.9. Repo rate together with the deposit and lending rate to households and companies, new contracts
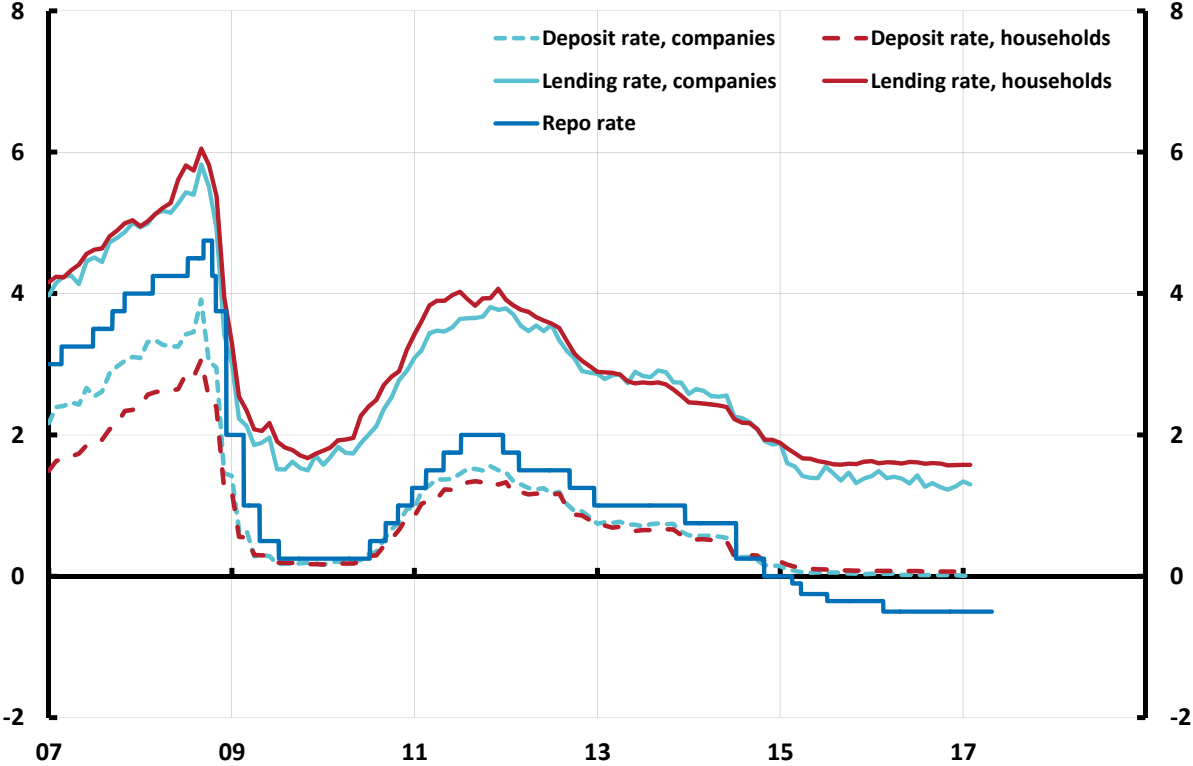
Per cent

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

Sources: Statistics Sweden and the Riksbank

Figure 2.10. Bank lending to households and companies

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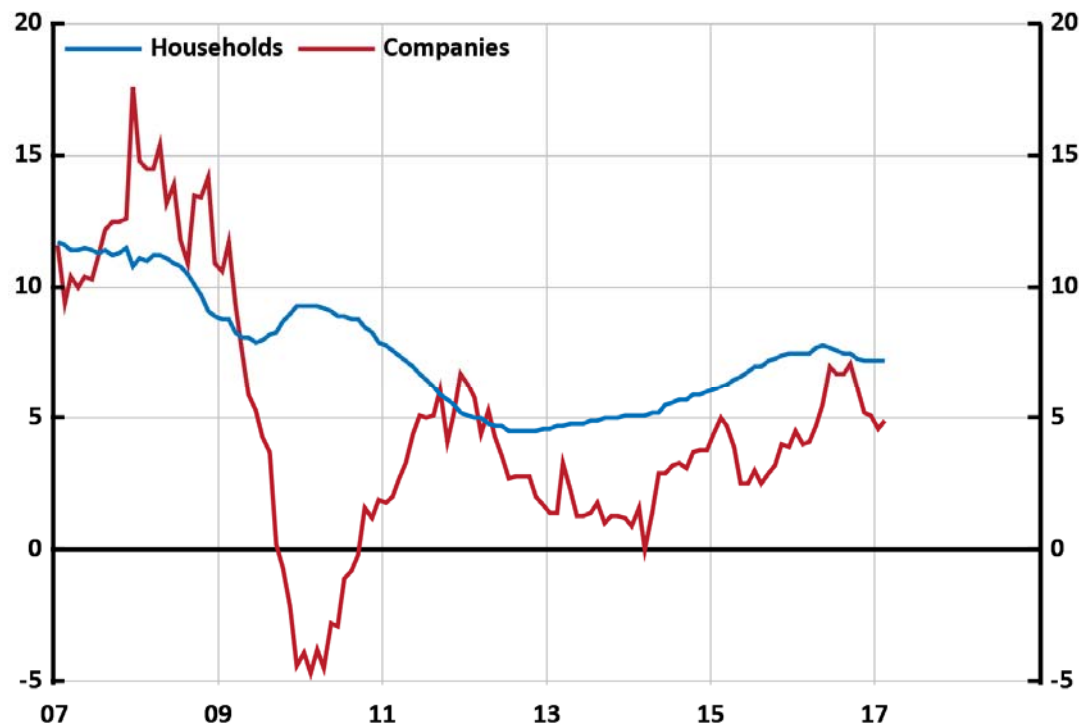
Note. MFIs' lending to households and non-financial companies according to financial market statistics adjusted for reclassifications and traded loans since 2006.

Source: Statistics Sweden

Figure 2.11. Financial index for Sweden

Standard deviations
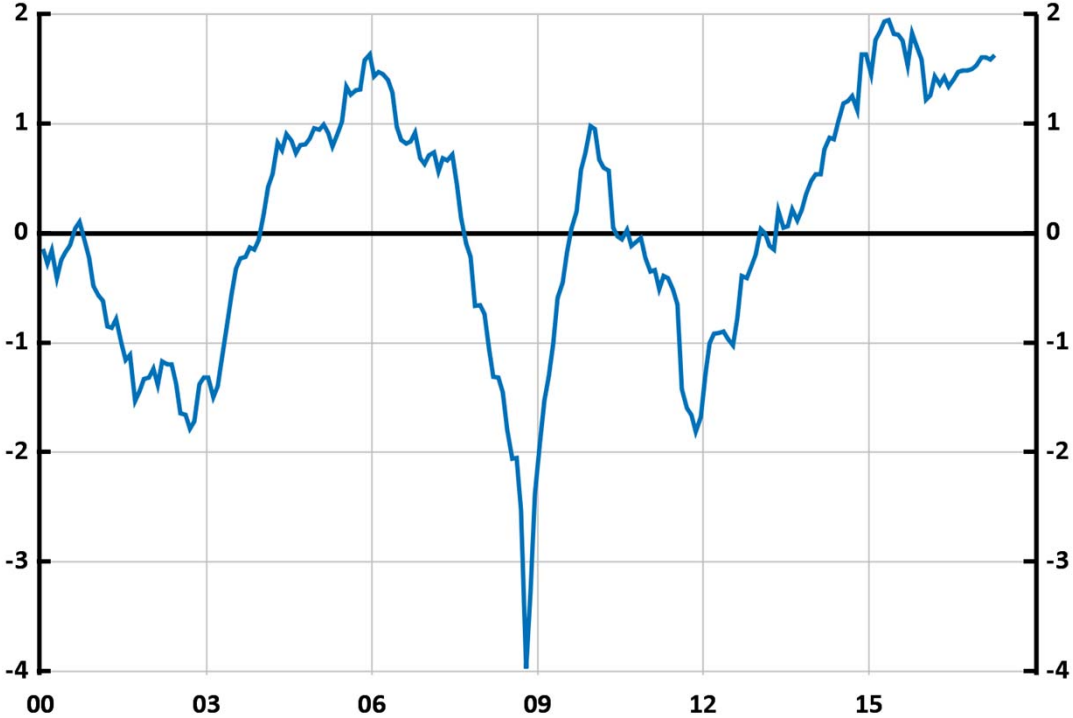
Note. The index is based on a principal component analysis of twelve
different financial variables. A higher value indicates more favourable
financial conditions.

Sources: Thomson Reuters and the Riksbank

Article –
The effects of
monetary policy on
financial variables

Figure 2.12. Yield curves in Sweden

Per cent
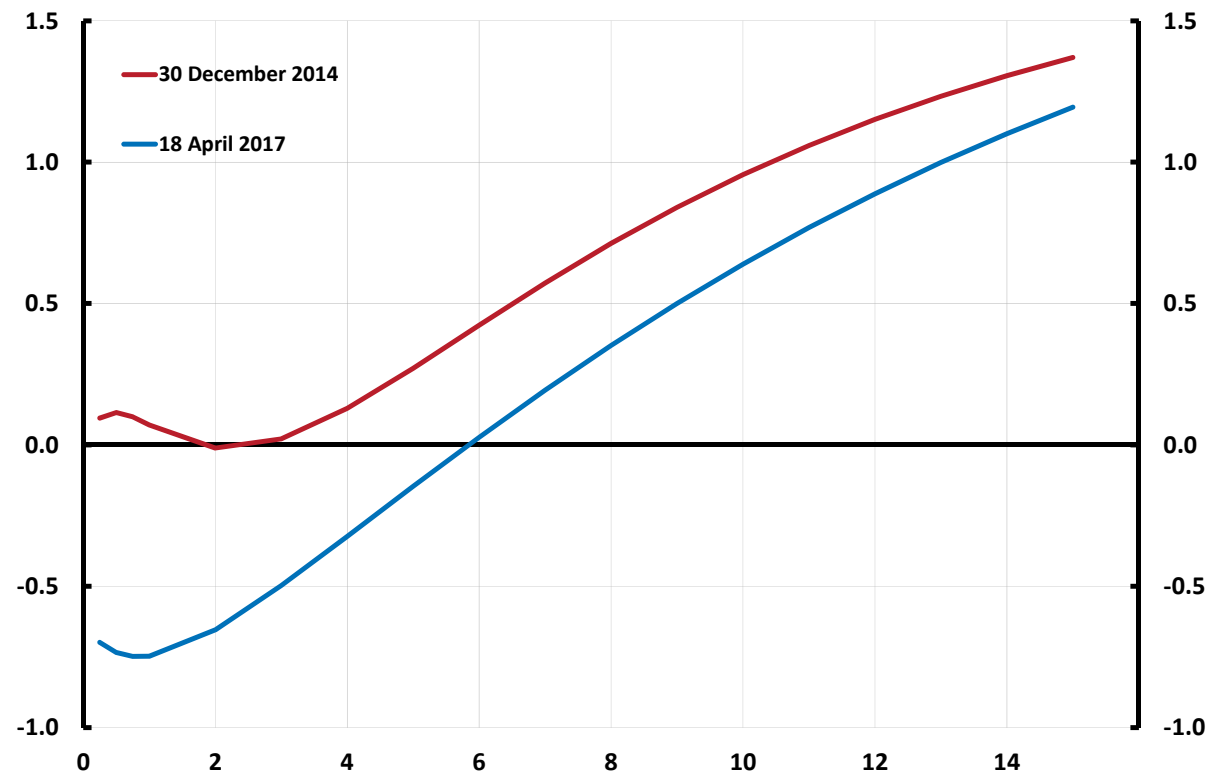
Note. Horizontal axis shows maturities in years. Zero coupon yields interpolated from treasury bills and government bonds using the Nelson-Siegel method.

Source: The Riksbank

Diagram 2.13. Total effects of announcements on selected financial variables 2015-2017 quarter 1

Per cent and percentage points, respectively
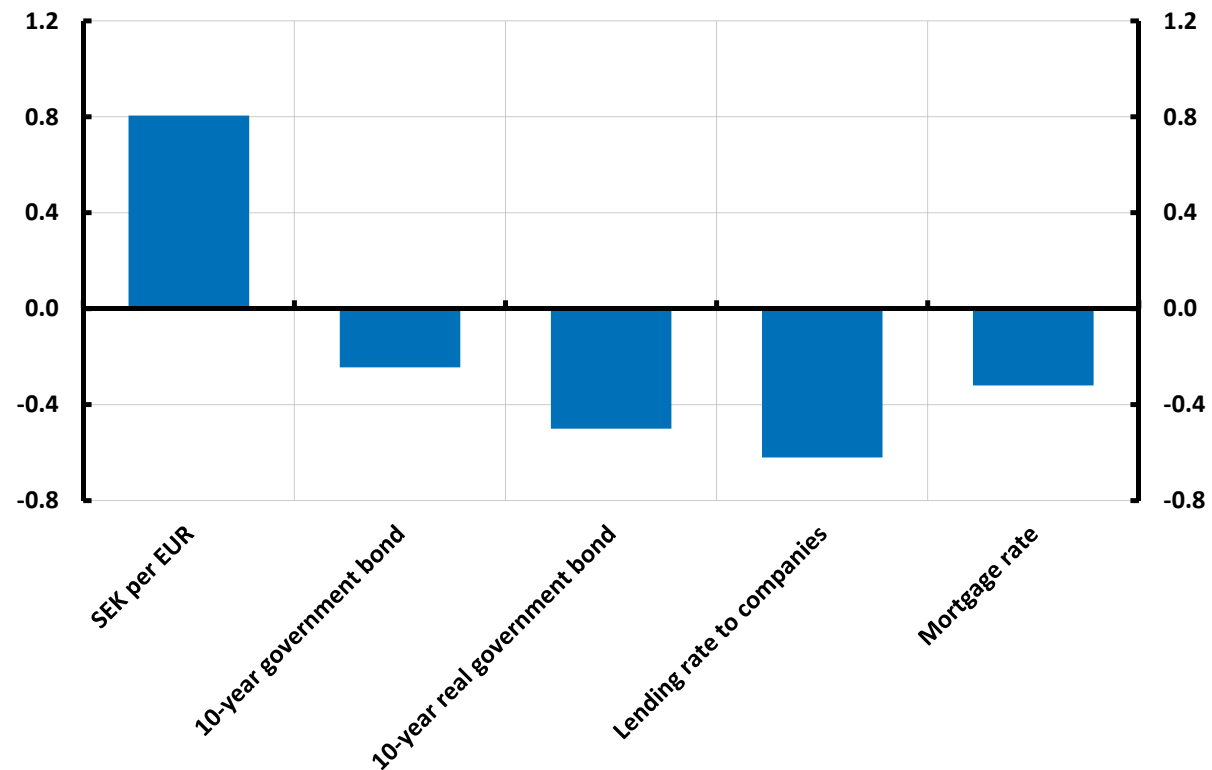
Note. The bars show the total effect of the announcements, measured as the sum of the changes in the respective variables on the date of the announcement. For lending rates to households and companies the effect is calculated as a change between January 2015 and December 2016.

Diagram 2.14. Repo rate together with the deposit and lending rate to households and companies, new contracts

Per cent

Legend:
- Deposit rate, companies
- Deposit rate, households
- Lending rate, companies
- Lending rate, households
- Repo rate
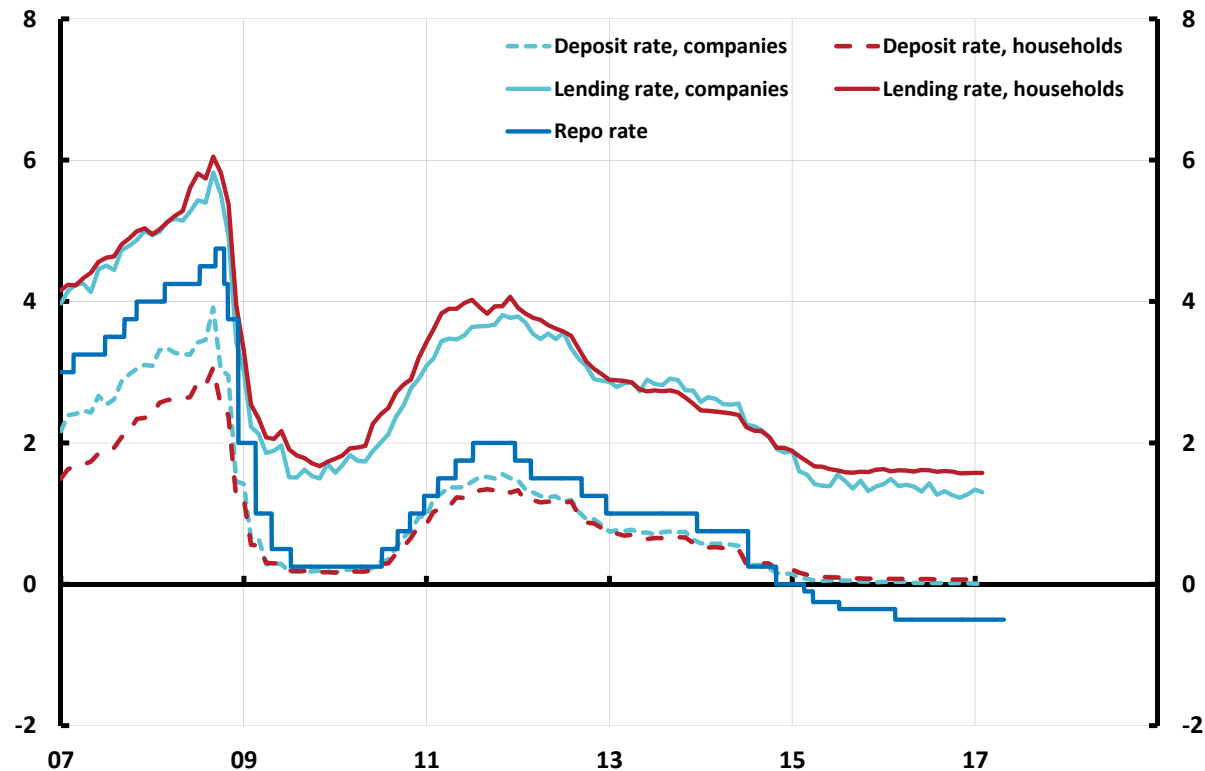
Note. MFIs' average deposit and lending rates for households and companies.

Sources: Statistics Sweden and the Riksbank

Chapter 3

Figure 3.1. CPI, CPIF and different measures of underlying inflation

Annual percentage change
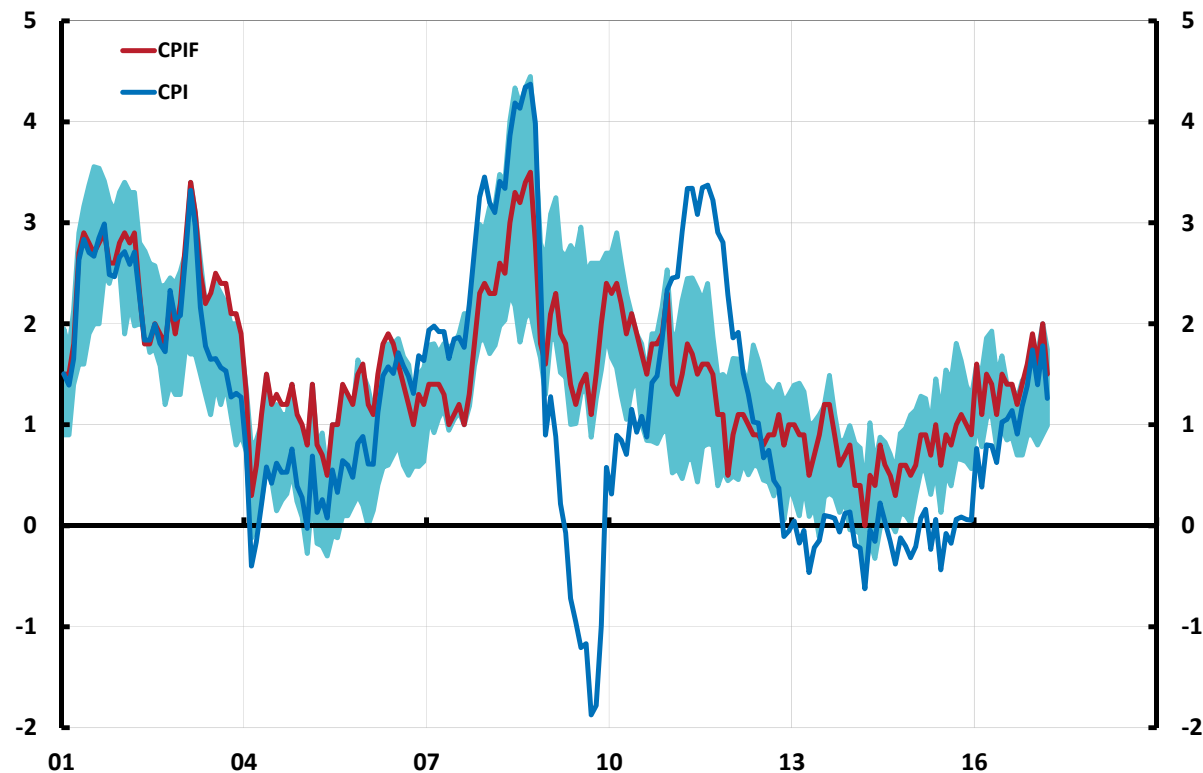
Note. The field shows the highest and lowest outcomes among different measures of underlying inflation. The measures included are the CPIF excluding energy, the CPIF with constant tax, UND24, Trim85, HICP excluding energy and unprocessed food, persistence-weighed inflation, factors from principal component analysis and weighted mean inflation.

Sources: Statistics Sweden and the Riksbank

Figure 3.2. Prices of goods and services in the CPI

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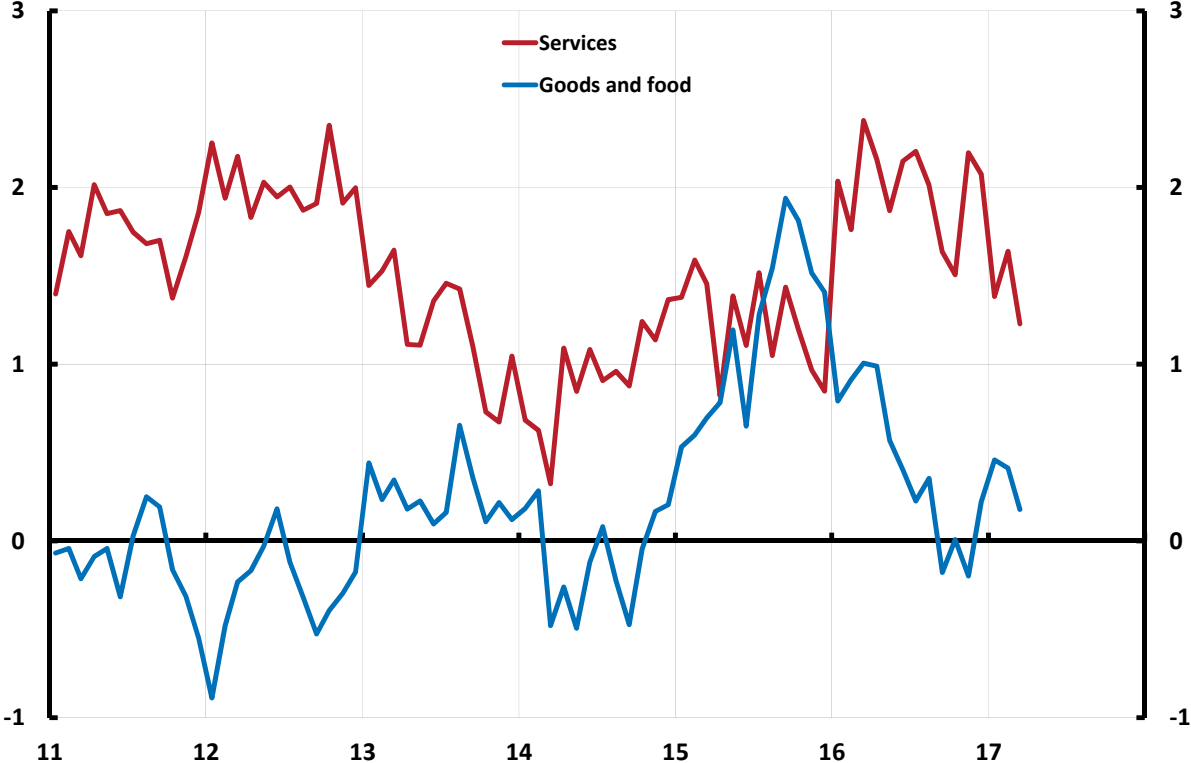
Note. Goods and food is a combination of the aggregate goods and food in the CPI. Together, these account for 43 per cent of the CPI. Service prices account for 45 per cent of the CPI.

Sources: Statistics Sweden and the Riksbank

Figure 3.3. Producer prices for consumer goods

Annual percentage change
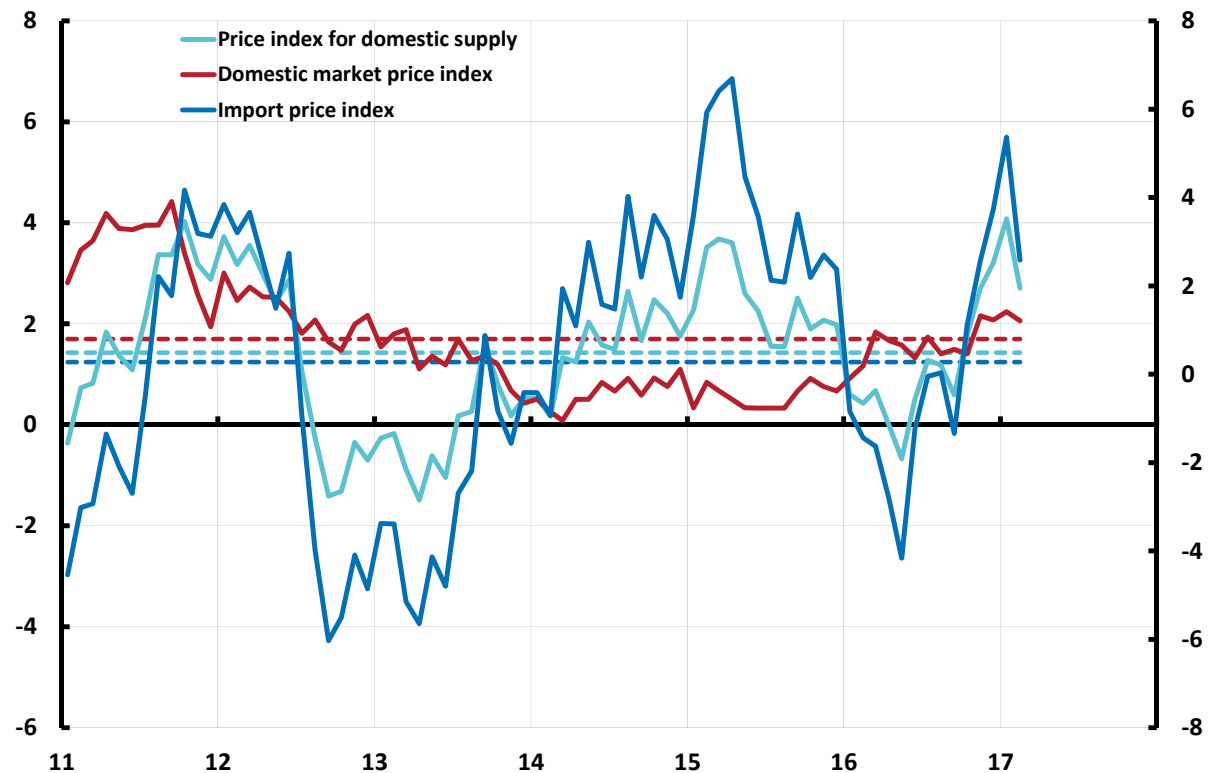
Note. Import price index measures what Swedish importers pay for their goods at the border. Domestic market prices measure what Swedish producers are paid when sale takes place in Sweden. The price index for domestic supply is an aggregate of the import- and home market price index. Broken lines refer to average rate of increase since the year 2000.

Sources: Statistics Sweden and the Riksbank

Figure 3.4. CPIF excluding energy, model forecast with uncertainty bands

Annual percentage change

Figure 3.5. Inflation expectations among money market participants

Per cent, mean value
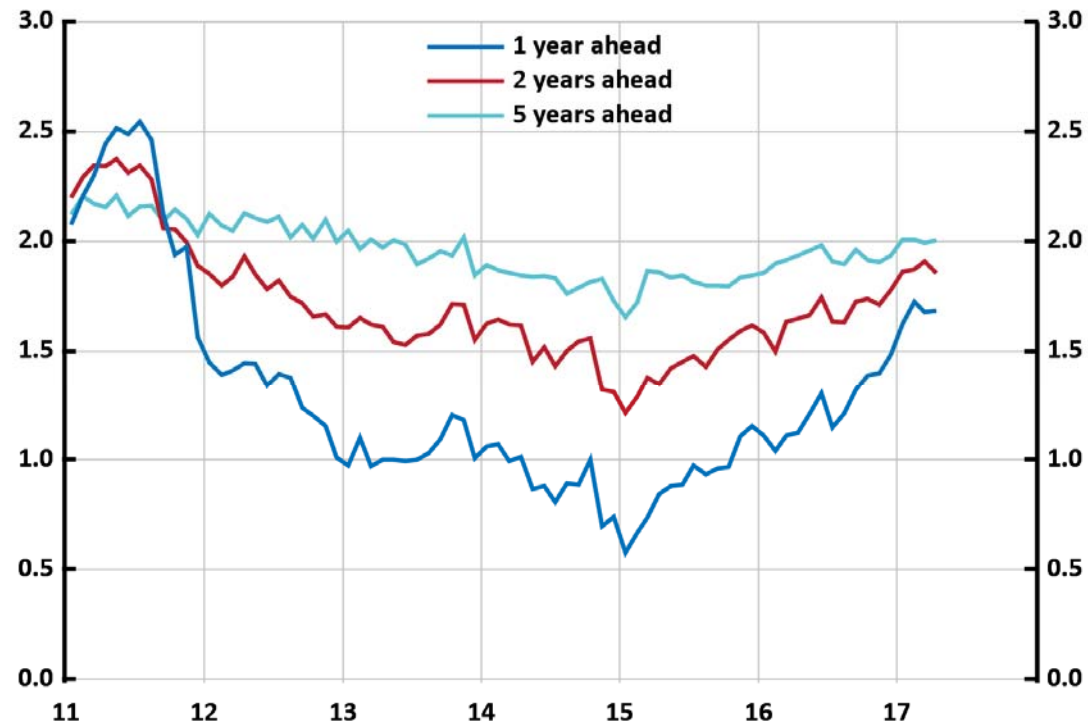
Source: TNS Sifo Prospera

Figure 3.6. World trade volume

Index, 2011 = 100
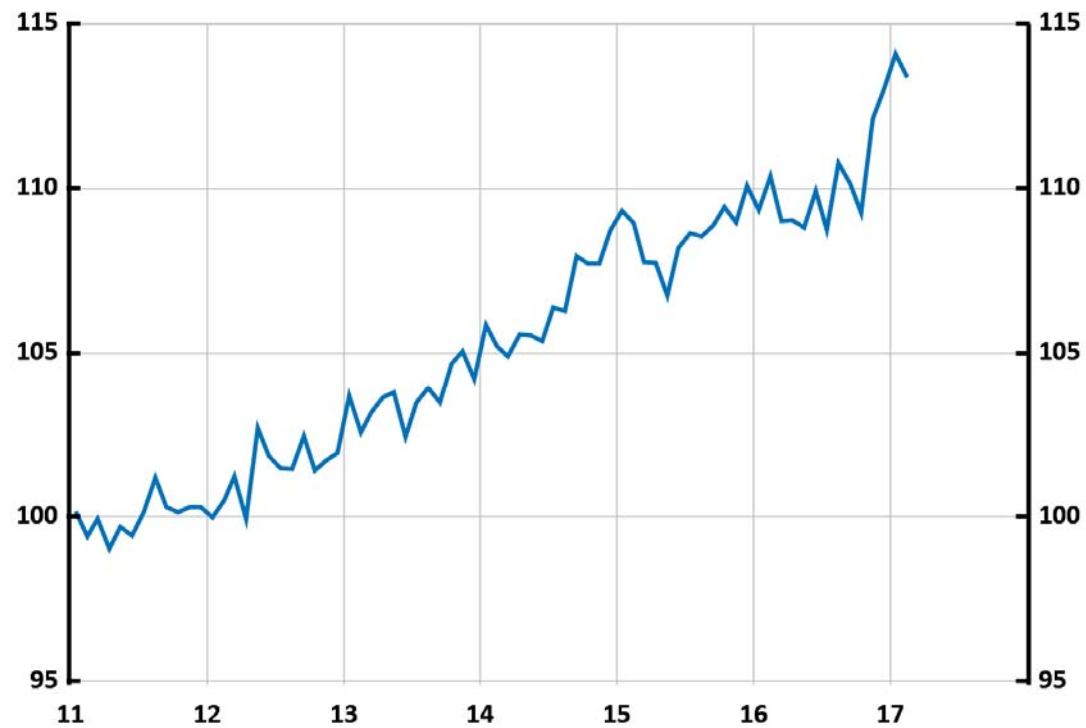
Note. Refers to trade in goods.

Source: CPB Netherlands Bureau for Economic Policy Analysis

Figure 3.7. Confidence Indicators for the manufacturing industry

Standard deviation
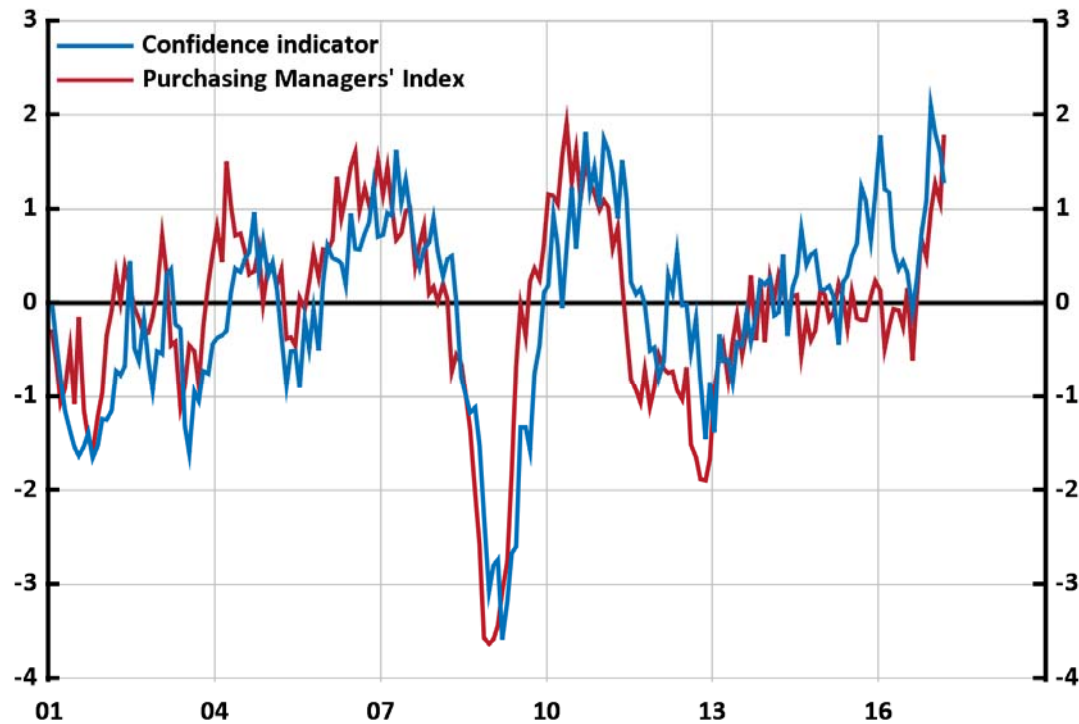
Note. The confidence indicator has been standardised so that the mean value is 100 and the standard deviation is 10.

Sources: The National Institute of Economic Research and Swedbank/Silf

Figure 3.8. GDP, model forecast with uncertainty bands

Quarterly change in per cent, calculated as an annual percentage change, seasonally-adjusted data
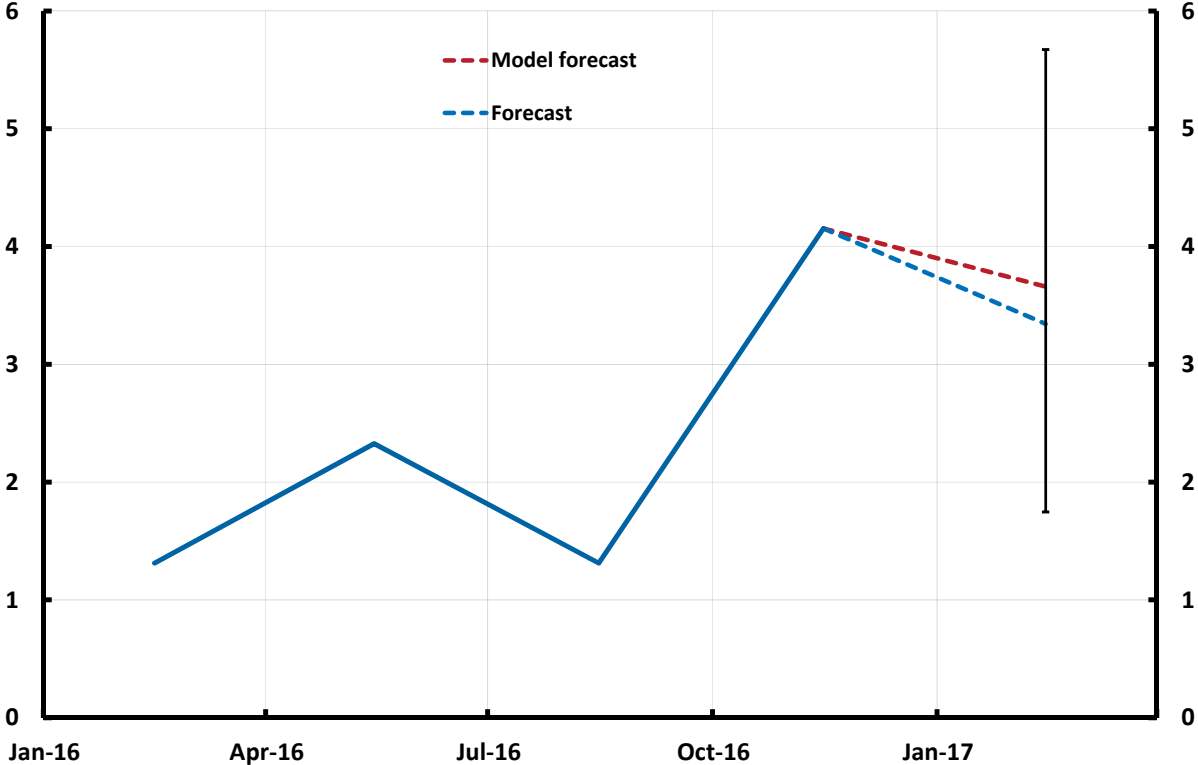
Note. The model forecast is an average forecasts from different statistical models. The vertical line refers to a 50 per cent uncertainty band. The uncertainty band is based on the models´ historical forecast errors. One explanation for the wide uncertainty interval is the large variation in growth outcomes between different quarters.

Sources: Statistics Sweden and the Riksbank

Figure 3.9. New vacancies and recruitment plans

Seasonally-adjusted net figures and annual percentage change
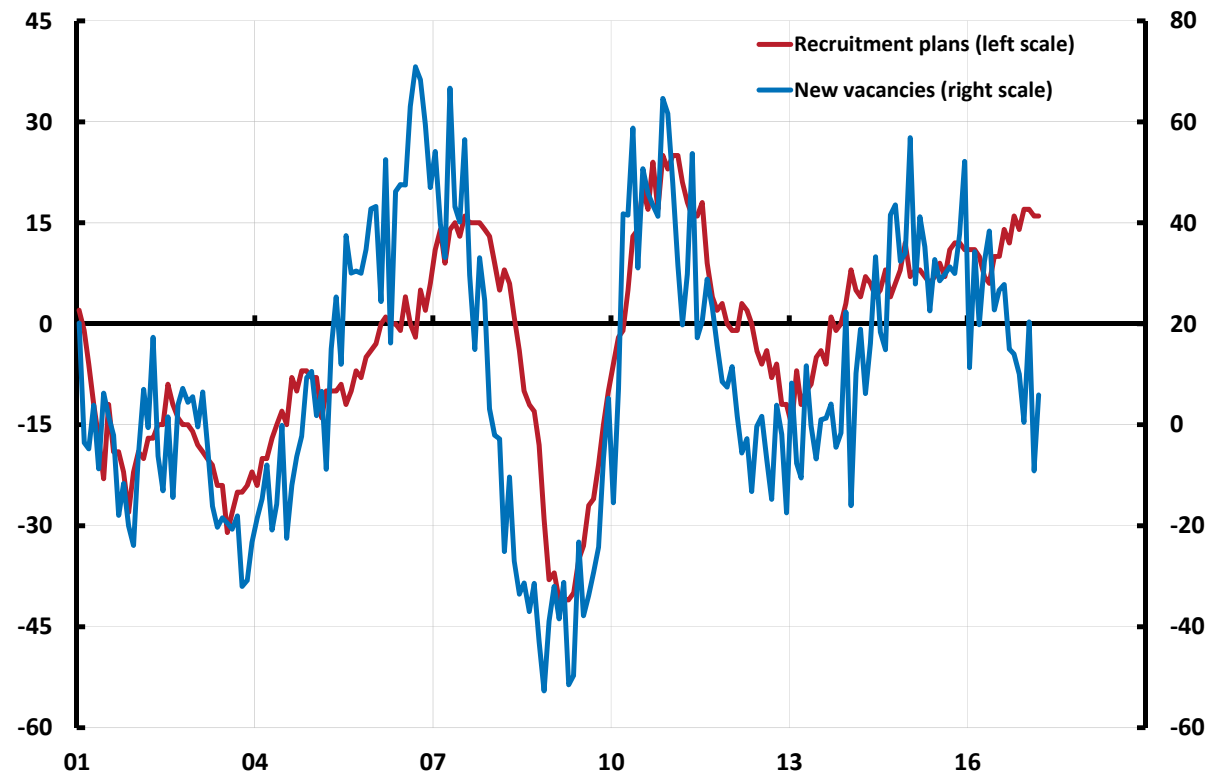
Note. Recruitment plans refer to expectations of the number of employed in the business sector three months ahead.

Sources: National Institute of Economic Research and The Swedish Public Employment Service

Figure 3.10. Unemployment and labour shortage

Per cent of labour force, 15–74 years and positive responses, respectively
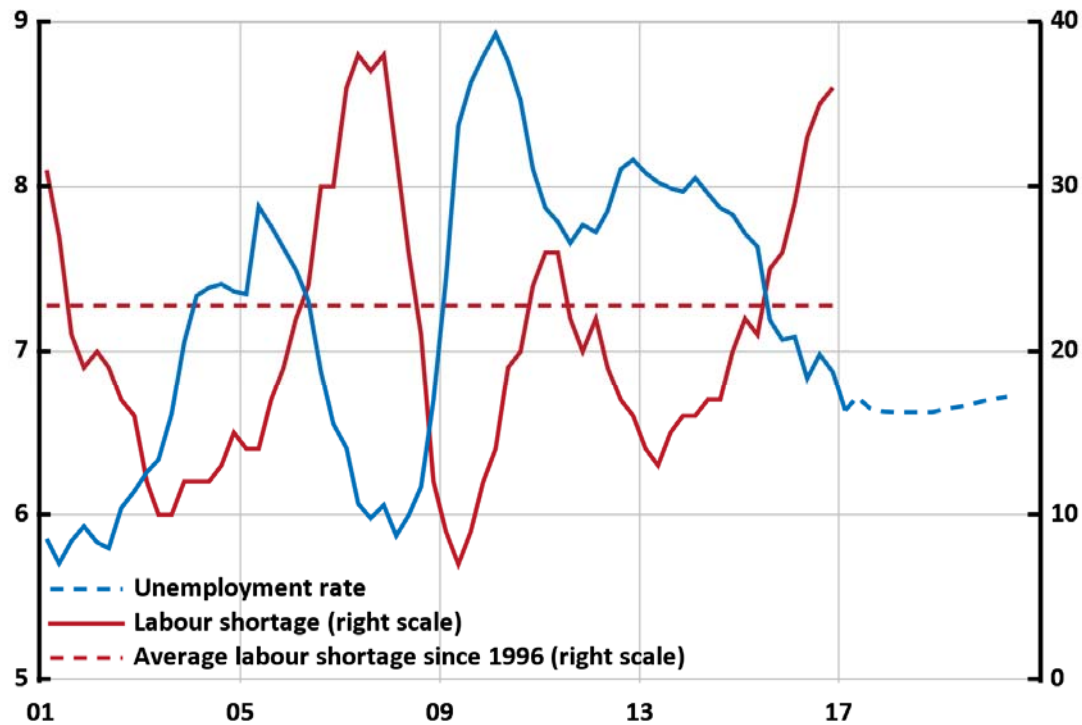
Note. Red broken lines refer to average between 1996 and the latest outcome.

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

Figure 3.11. RU indicator

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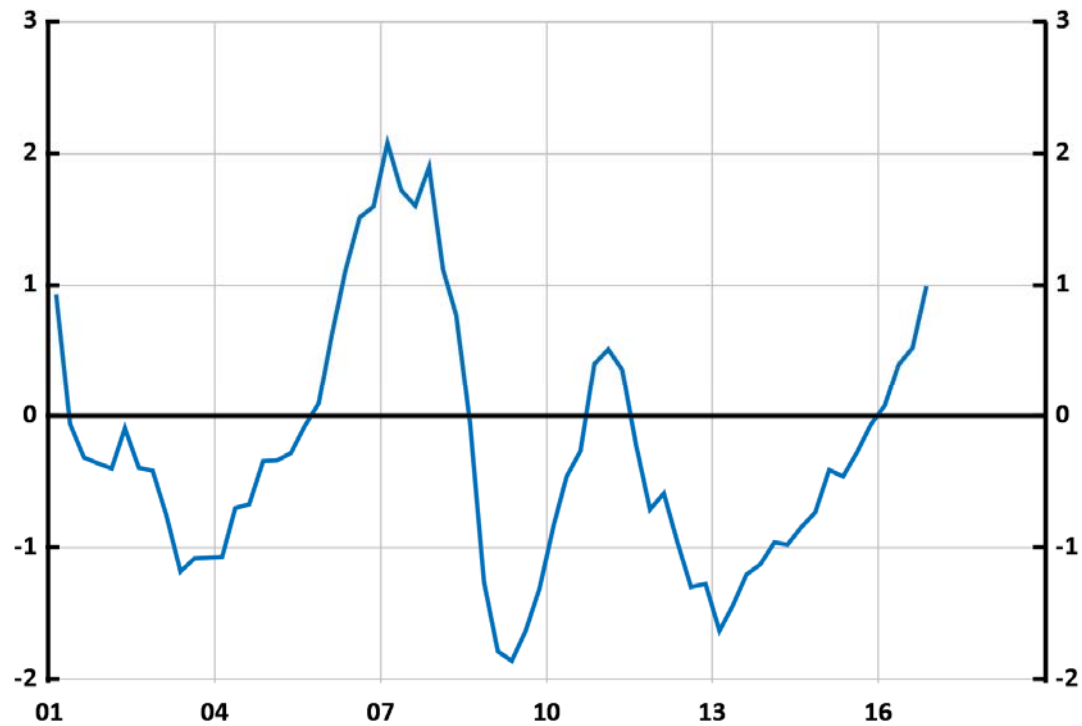
Note. The RU indicator is a measure of resource utilisation. It is normalised so that the mean value is 0 and the standard deviation is 1.

Source: The Riksbank

Chapter 4

Figure 4.1. Growth in various countries and regions
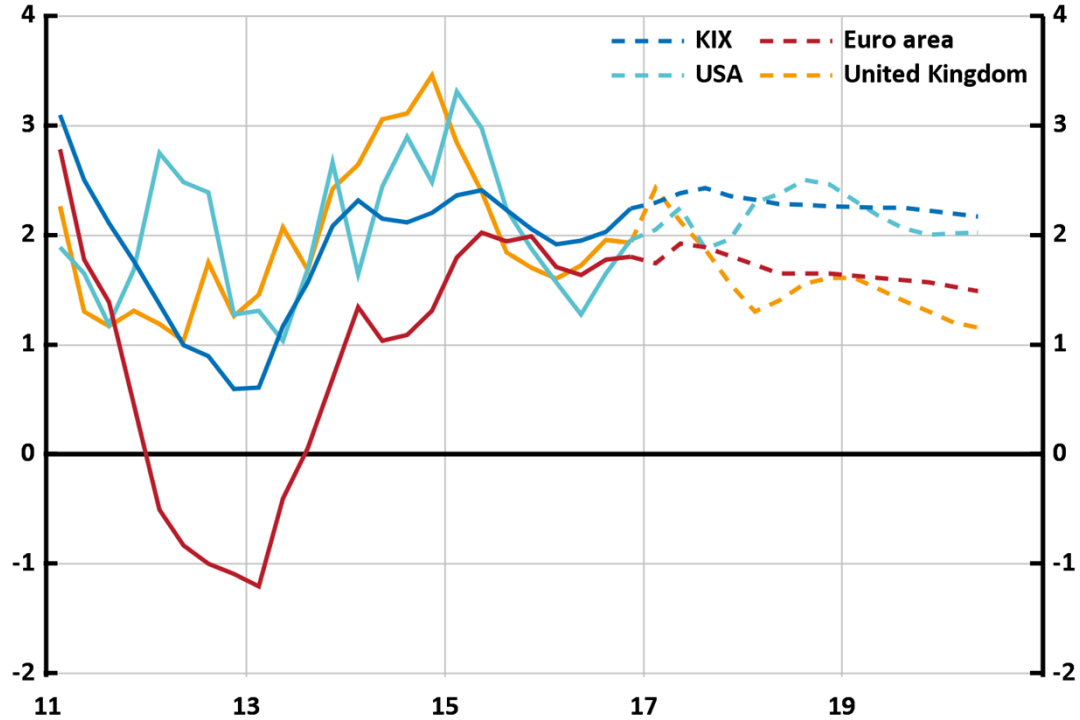
Annual percentage change

Figure 4.2. Purchasing managers' index in various countries and regions

Diffusion index
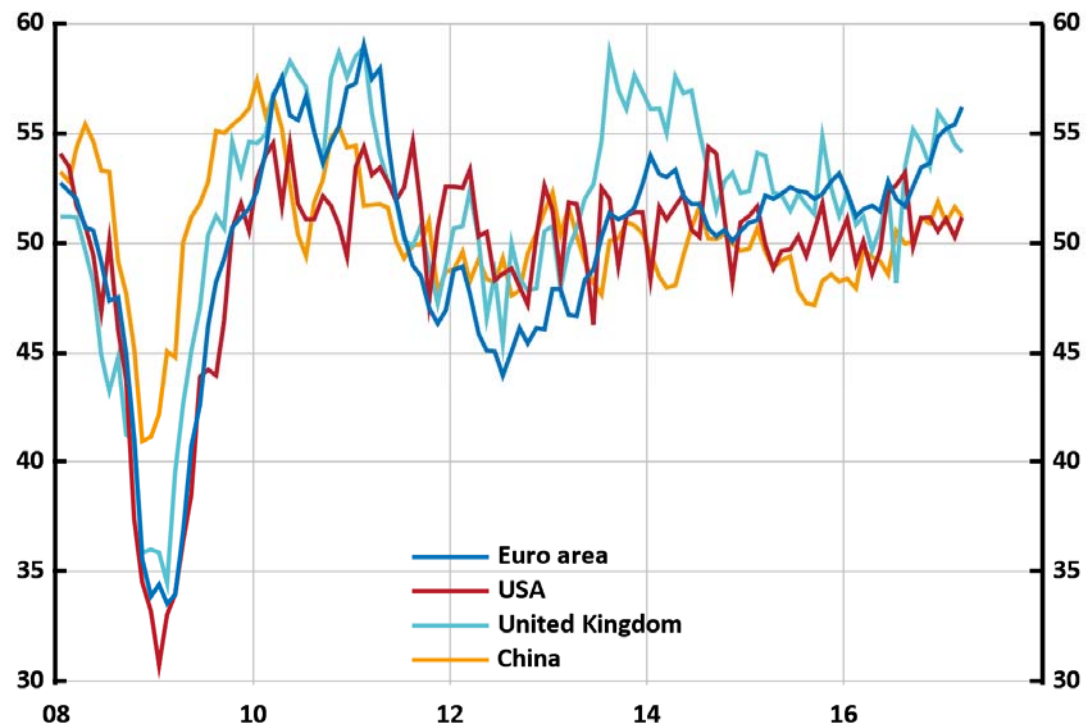
Note. Diffusion index (DI) is a transformation of net numbers (NN):

DI = NN/2+50.

Sources: ISM and Markit

Figure 4.3. Inflation in various countries and regions
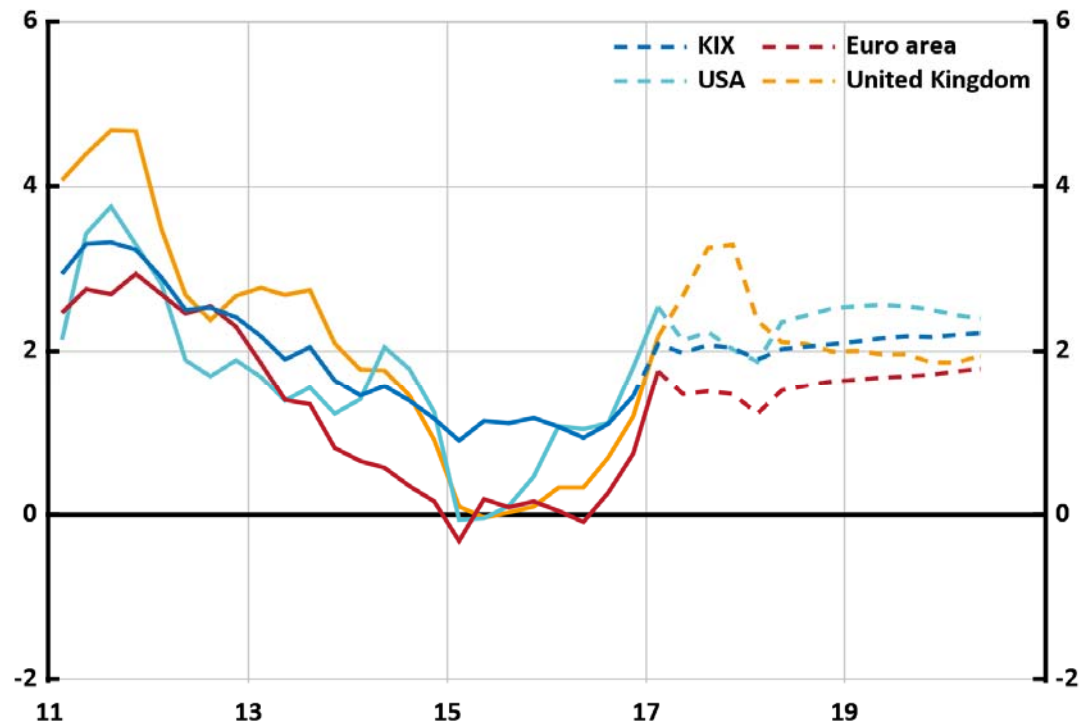
Annual percentage change

Figure 4.4. Crude Oil Price

USD per barrel

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

Sources: Macrobond and the Riksbank

Figure 4.5. Exports and the Swedish export market

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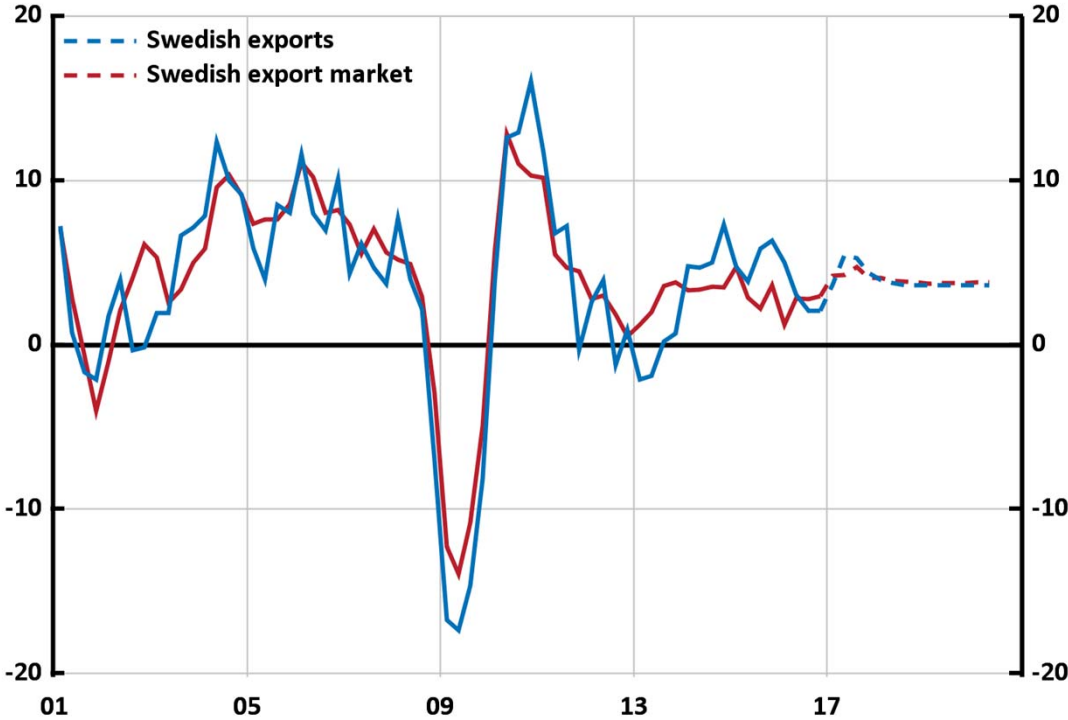
Note. The Swedish export market index aims to measure import demand in the countries to which Sweden exports. This is calculated by aggregating 32 countries and covers around 85 per cent of the total Swedish export market.

Figure 4.6. Housing construction

Number of homes
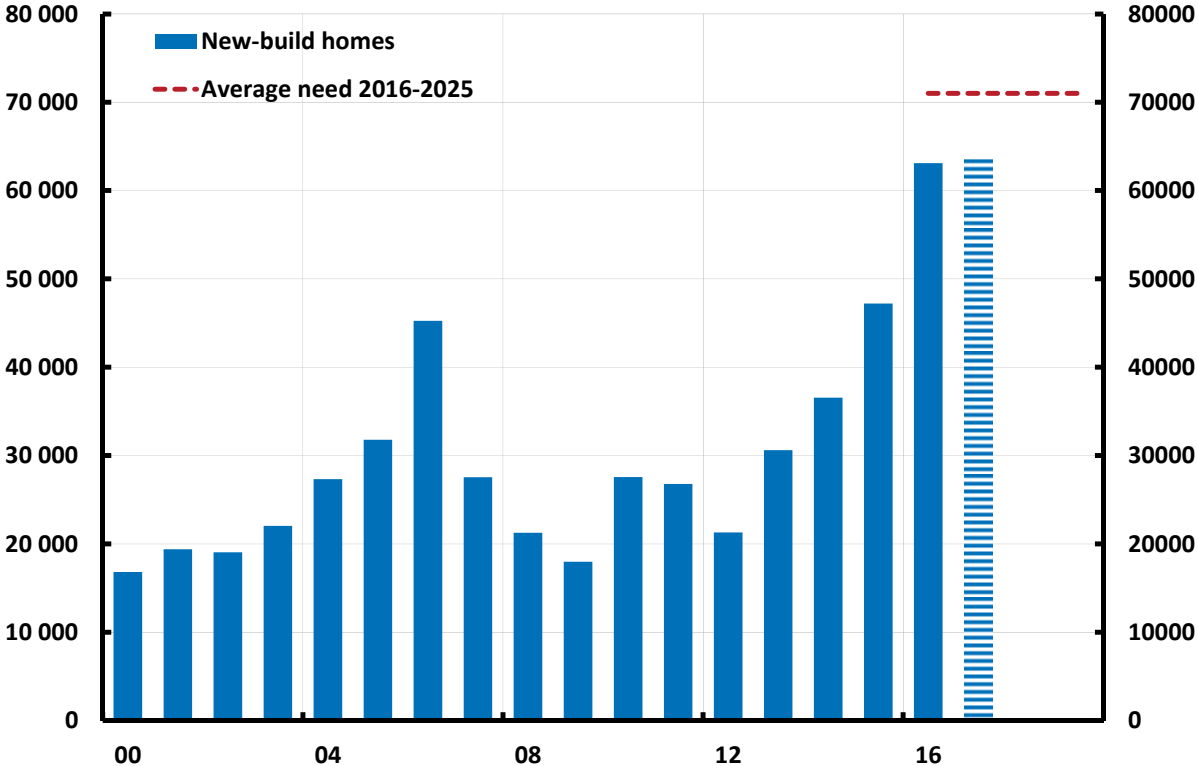
Note. Refers to new construction in multi-family houses and single-family houses.
Outcome from SCB. Preliminary figures for 2016. The forecast refers to the estimate
from the National Board of Housing in November 2016. Dashed line refers to the
Housing Agency's forecast in July 2016 for average construction needs 2016-2025

Sources: National Board of Housing, SCB and the Riksbank

Figure 4.7. Household savings with and without collective insurance savings

Per cent of disposable income
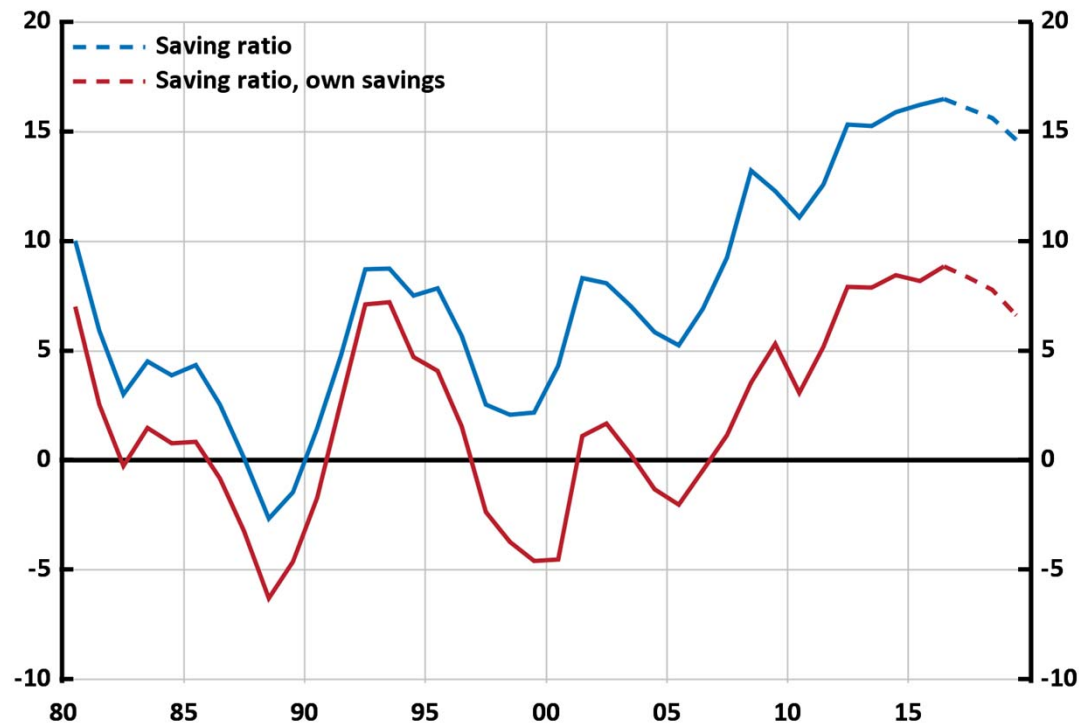
Note. Total household savings include collective insurance savings. In the older definition, also called households' own total savings, collective insurance savings are excluded and the saving is the difference between income and consumption.

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
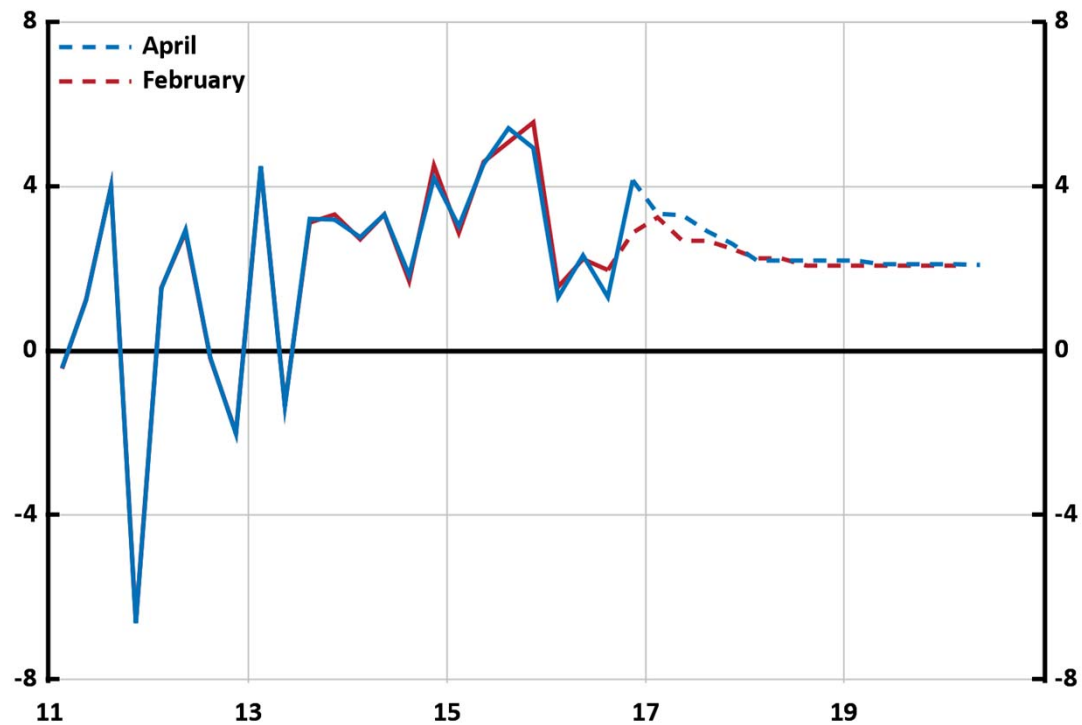
Sources: Statistics Sweden and the Riksbank

Figure 4.9. Employment and unemployment rate

Per cent of population and labour force, respectively. 15-74 years.
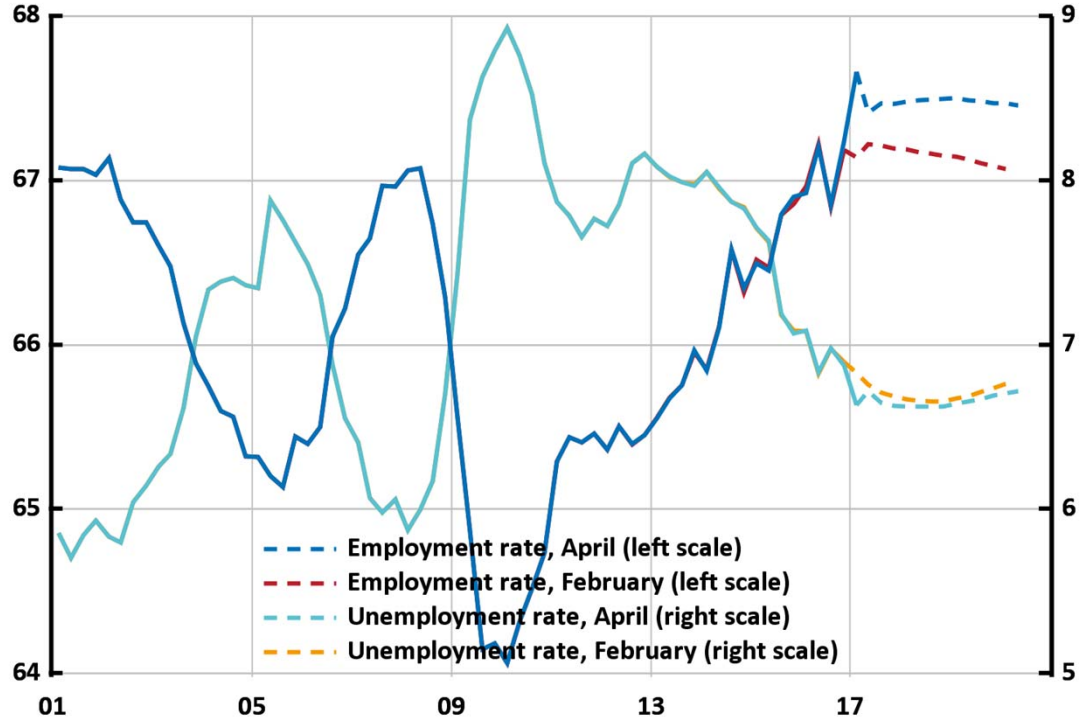
Sources: Statistics Sweden and the Riksbank

Figure 4.10. GDP gap, employment gap and hours gap

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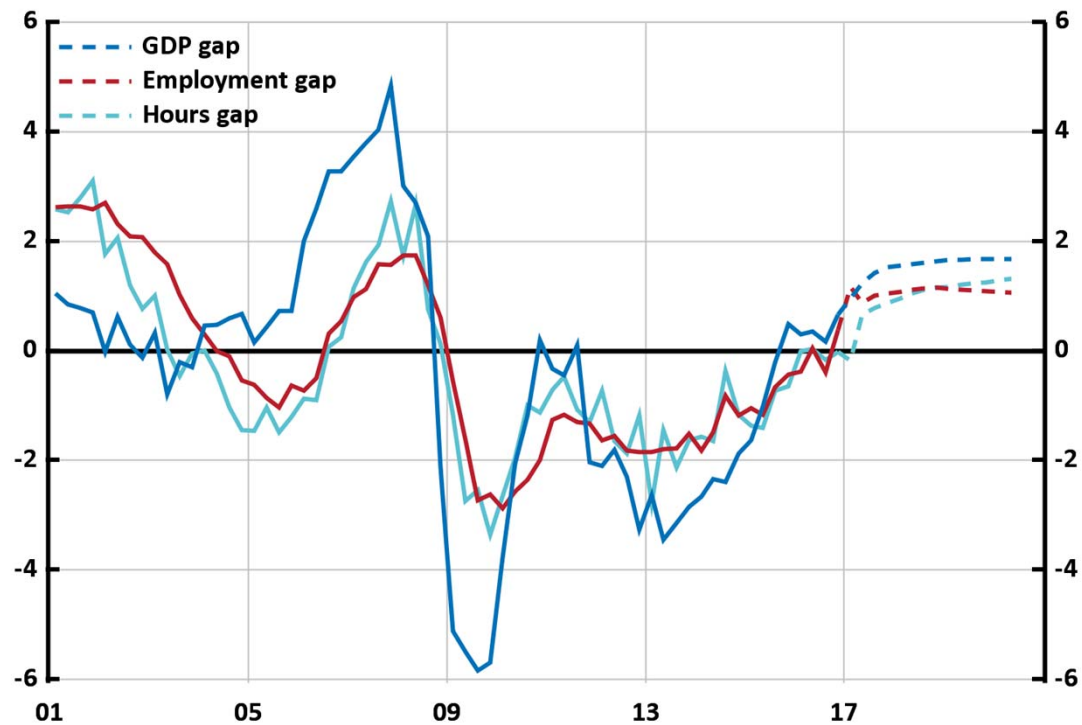
Note. The gaps refer to the deviation in GDP, the number of hours worked and the number of those employed from the Riksbank's assessed trends.

Sources: Statistics Sweden and the Riksbank

Figure 4.11. Average recruitment time and shortage of labour

Number of months and net figures, respectively

Average recruitment time in the business sector

Shortage of labour
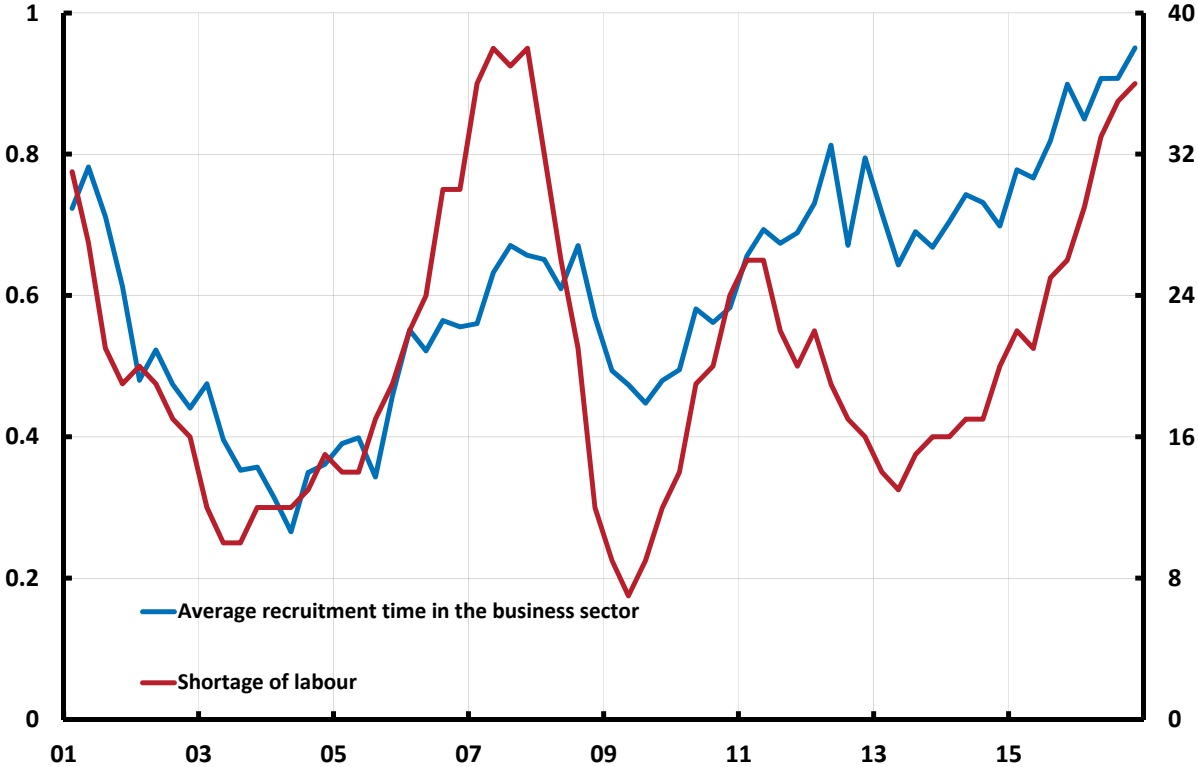
Sources: National Institute of Economic Research and Statistics Sweden

Figure 4.12. Beveridge Curve

Per cent of labour force, trend-adjusted values
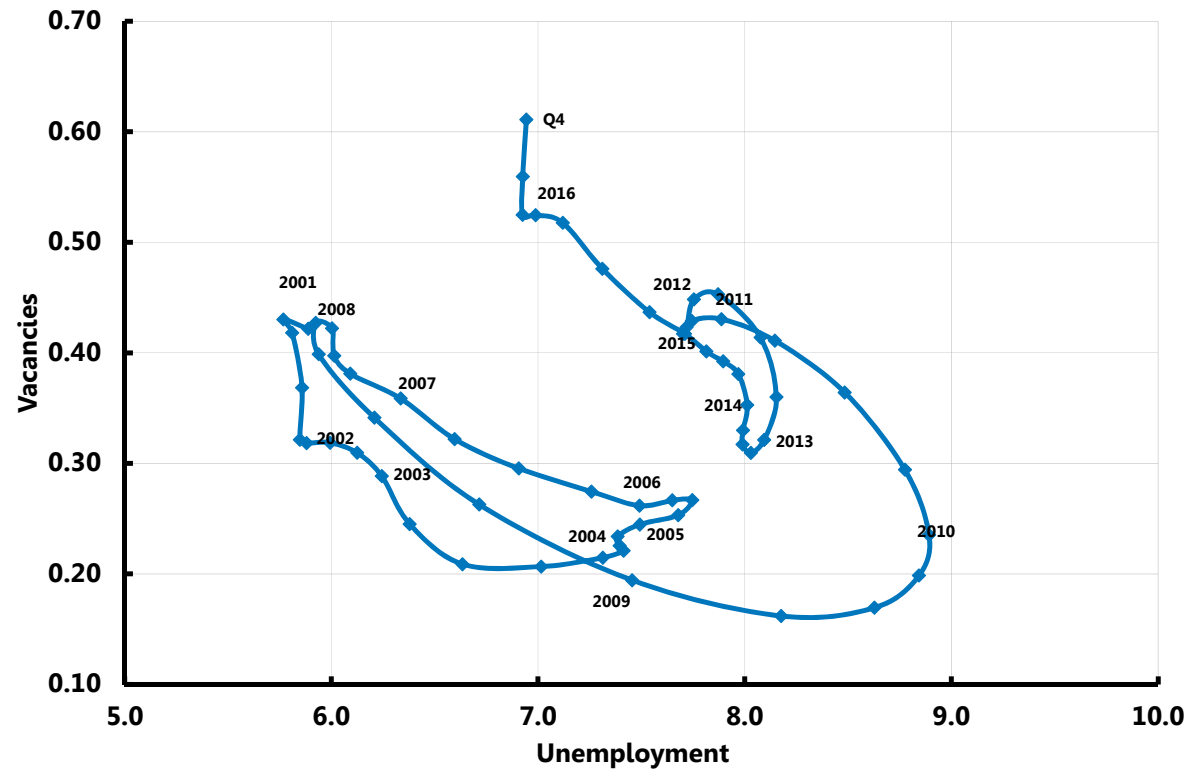
Note. The year marks the first quarter of each year. Vacancies in the business sector.

Sources: Statistics Sweden and the Riksbank

Figure 4.13. Cost pressures in the economy as a whole

Annual percentage change

Legend:
- Unit labour cost (dashed line)
- Productivity (blue bars)
- Labour cost per hour (red bars)
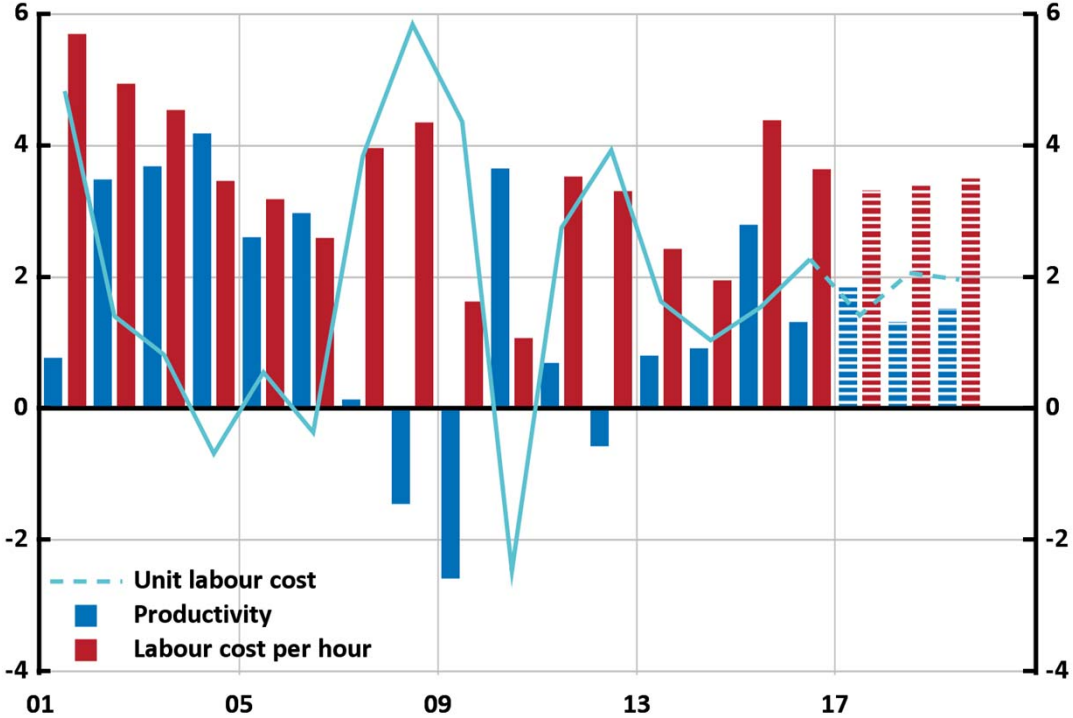
Sources: Statistics Sweden and the Riksbank

Figure 4.14. KIX-weighted nominal exchange rate

Index, 18 November 1992 = 100
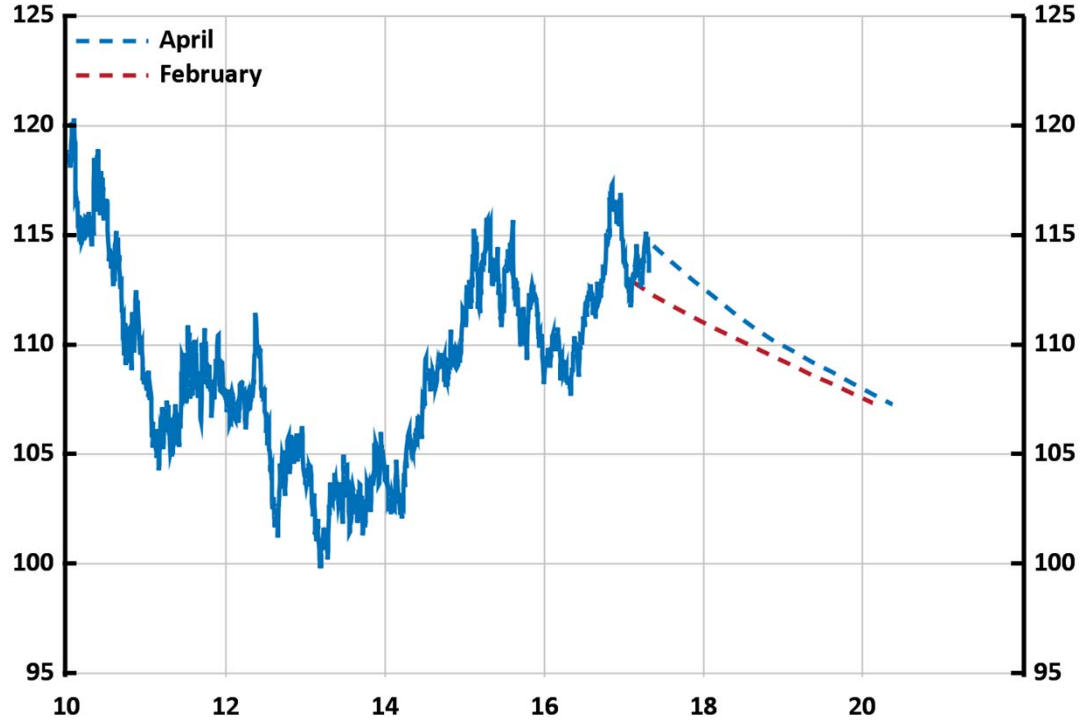
Note. Outcomes are daily rates and forecasts refer to quarterly averages. KIX refers to an aggregate of countries that are important for Sweden's international transactions.

Sources: National sources and the Riksbank

Figure 4.15. CPI, CPIF and CPIF excluding energy
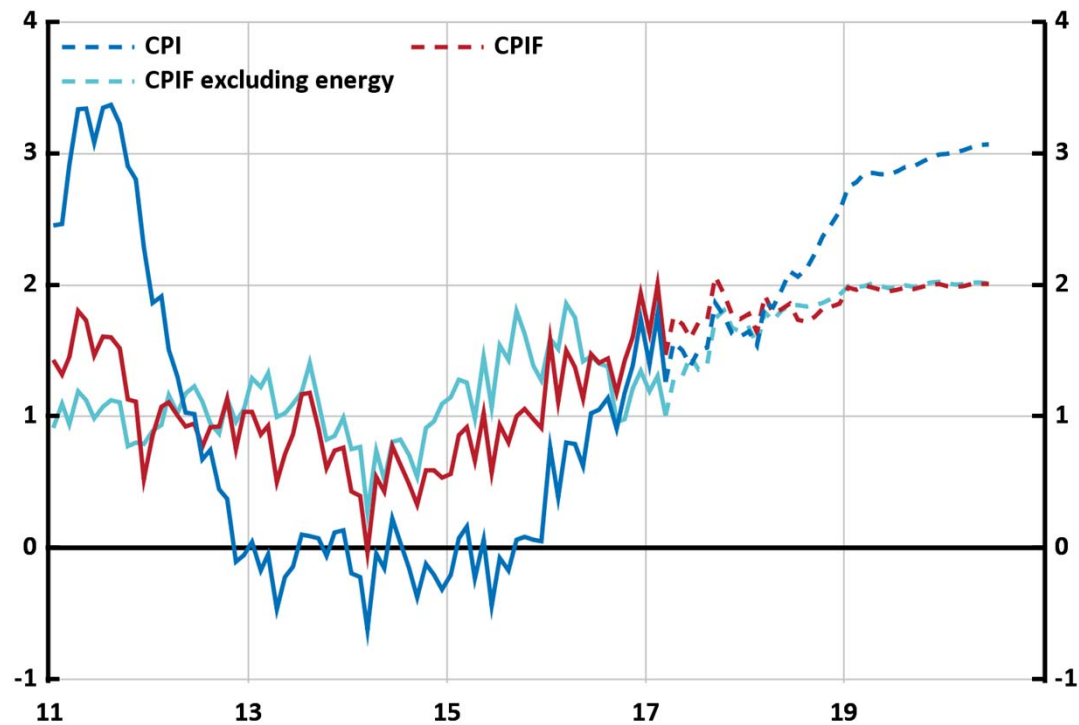
Annual percentage change

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

Sources: Statistics Sweden and the Riksbank

Figure 4.16. CPIF and HICP

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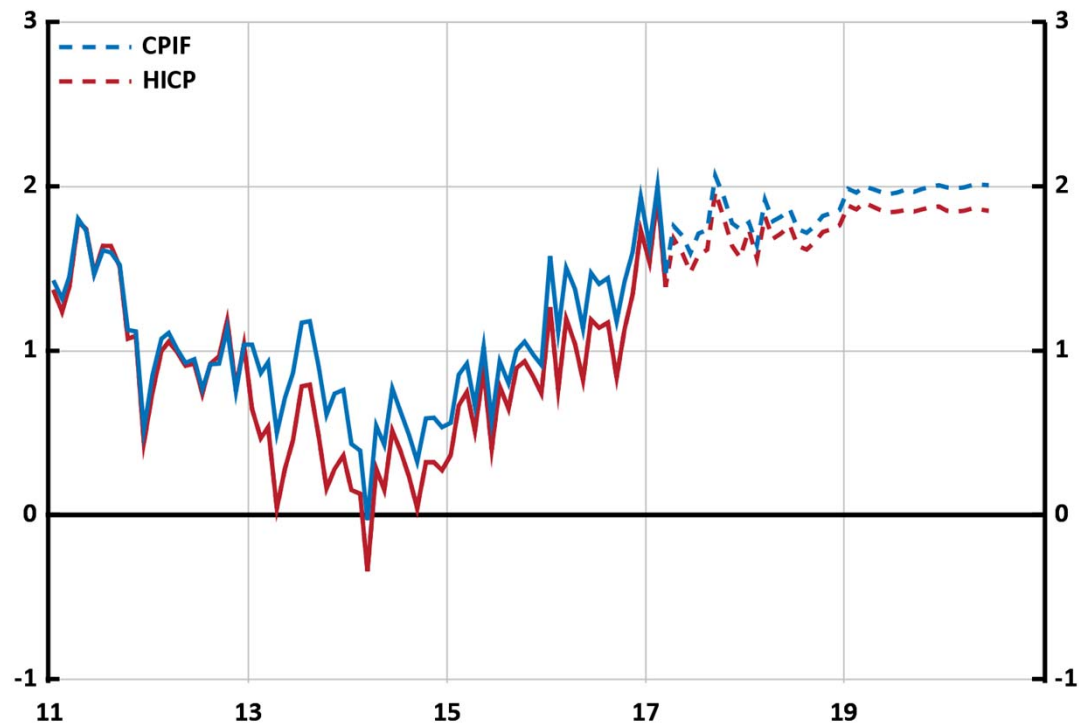
Note. The CPIF is the CPI with a fixed mortgage rate.

Article –
The economic consequences of increased protectionism

SVERIGES
RIKSBANK

Figure 4.17. Average tariff level

Per cent
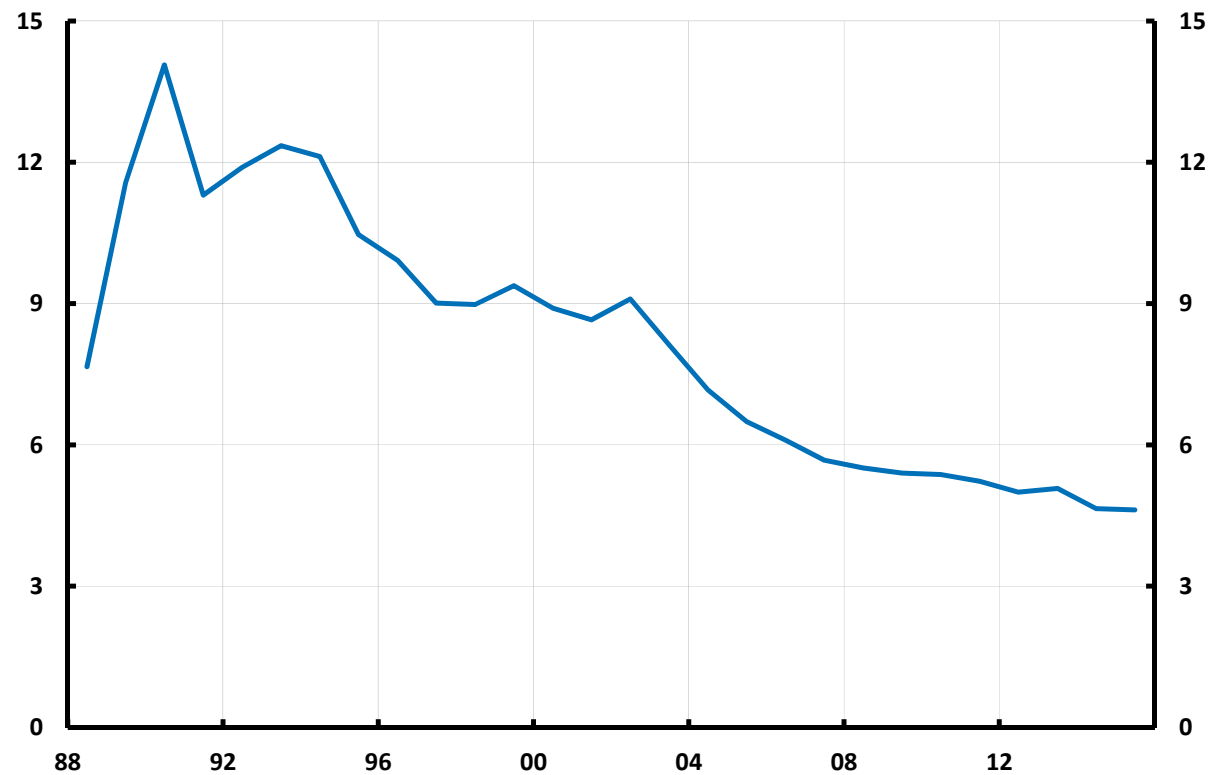
Note. Import-weighted average of applied tariff rates.

Sources: WITS (UN statistics division, UNCTAD, WTO and the World Bank

Figure 4.18. Global imports of goods

Percentage of global GDP
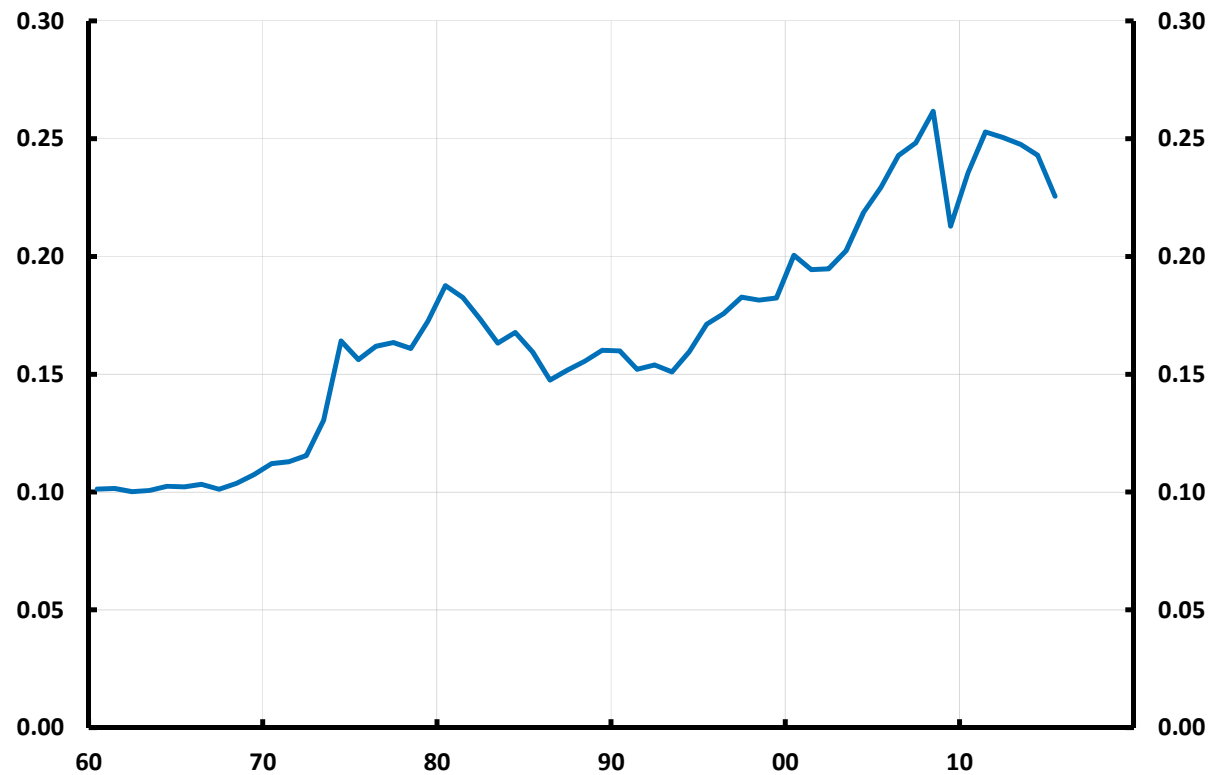
Figure 4.19. Trade-influencing measures introduced by G20 countries

Number
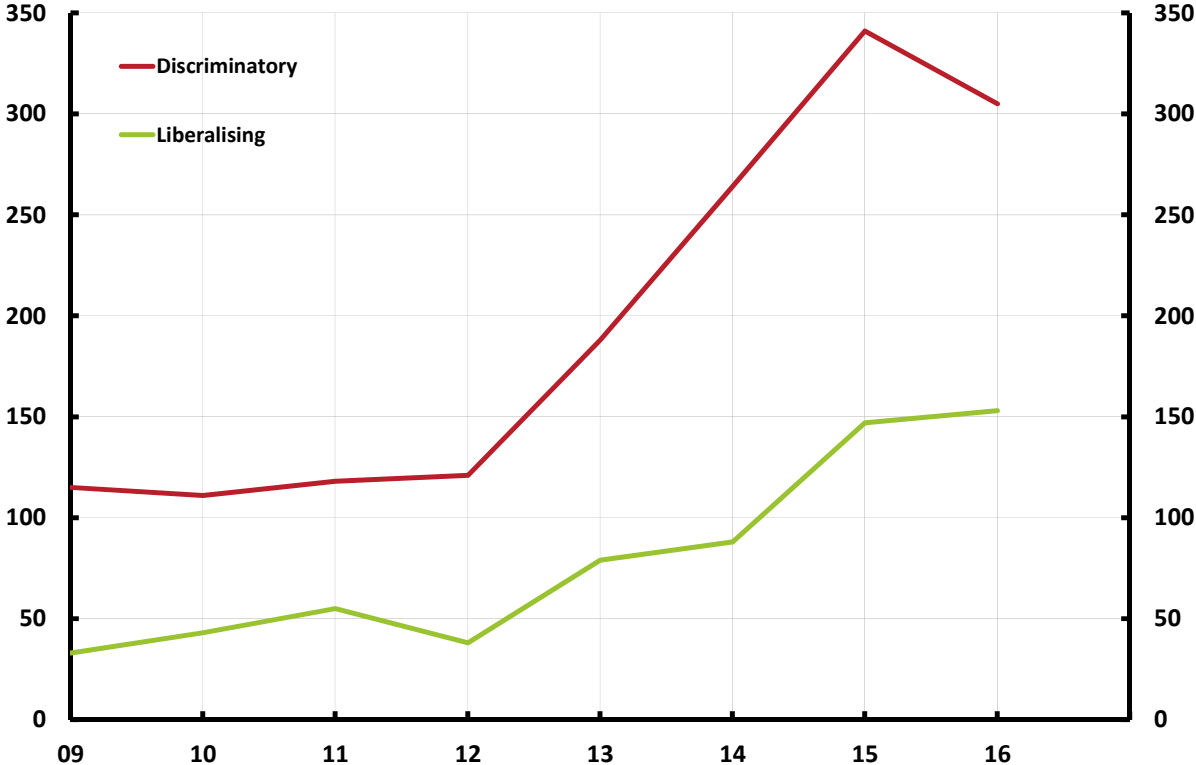
Note. Discriminatory (liberalising) measures are those measures that Global Trade Alert deems increase (reduce) discrimination in favour of domestic producers and are therefore colour-coded as red (green). Only measures both implemented and reported in the respective calendar year have been included. See also Evenett, S. J. and Fritz, J. (2016), "FDI Recovers? The 20th Global Trade Alert Report", Centre for Economic Policy Research, CEPR Press.

Source: Global Trade Alert

Tables

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

Table 1. Repo rate forecast

Per cent, quarterly averages

	Q4 2016	Q1 2017	Q2 2017	Q2 2018	Q2 2019	Q2 2020
Repo rate	−0.5	−0.5 (−0.5)	−0.5 (−0.5)	−0.5 (−0.4)	0.0 (0.1)	0.5

Source: The Riksbank

Table 2. Inflation

Annual percentage change, annual average

	2015	2016	2017	2018	2019
CPI	0.0	1.0	1.6 (1.6)	2.1 (2.1)	2.9 (2.9)
CPIF	0.9	1.4	1.8 (1.7)	1.8 (1.8)	2.0 (2.1)
CPIF excl. energy	1.4	1.4	1.4 (1.5)	1.8 (1.9)	2.0 (2.1)
HICP	0.7	1.1	1.6 (1.6)	1.7 (1.8)	1.9 (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)	−0.4 (−0.3)	0.0 (0.2)
10-year rate	0.8	0.5	0.9 (1.0)	1.6 (1.8)	2.3 (2.4)
Exchange rate, KIX, 18 November 1992 = 100	112.6	111.7	113.6 (112.0)	111.2 (110.1)	109.0 (108.4)
General government net lending*	0.3	0.9 (0.5)	0.6 (0.2)	0.7 (0.5)	0.9 (0.8)

* Per cent of GDP

Sources: Statistics Sweden and the Riksbank

SVERIGES
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	1.8 (1.7)	1.7 (1.7)	1.6 (1.6)
USA	0.19	0.09	2.6	1.6	2.0 (2.3)	2.4 (2.3)	2.1 (2.1)
Japan	0.06	0.03	1.2	1.0 (1.0)	1.2 (1.1)	0.9 (0.9)	0.8 (0.8)
China	0.15	0.08	6.9	6.7	6.6 (6.4)	5.9 (5.8)	5.7 (5.7)
KIX-weighted	0.79	1.00	2.3	2.0 (2.0)	2.4 (2.2)	2.3 (2.3)	2.2 (2.2)
World (PPP-weighted)	1.00	-	3.4	3.2 (3.1)	3.4 (3.4)	3.6 (3.6)	3.6 (3.7)

Note. Calendar-adjusted growth rates. The PPP-weights refer to the global purchasing-power adjusted GDP-weights, according to the IMF. The National Institute of Economic Research 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 2012 that are used for 2015, 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	1.6 (1.7)	1.5 (1.4)	1.7 (1.6)
USA	0.1	1.3	2.2 (2.6)	2.3 (2.5)	2.5 (2.5)
Japan	0.8	−0.1	0.7 (0.7)	1.2 (1.4)	1.7 (1.7)
KIX-weighted	1.1	1.1 (1.1)	2.0 (2.2)	2.0 (2.0)	2.2 (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)	0.3 (0.2)
Crude oil price, USD/barrel Brent	53.5	45.1	54.8 (56.4)	55.2 (56.6)	54.6 (56.2)
Swedish export market	3.4	2.5 (2.1)	4.3 (3.4)	3.9 (4.1)	3.8 (3.8)

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

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

Table 5. GDP by expenditure

Annual percentage change, unless otherwise stated

	2015	2016	2017	2018	2019
Private consumption	2.7	2.2 (2.2)	2.1 (2.5)	2.5 (2.7)	2.4 (2.4)
Public consumption	2.5	3.1 (3.6)	1.4 (1.6)	1.2 (1.1)	1.2 (1.1)
Gross fixed capital formation	7.0	5.9 (6.9)	3.9 (3.4)	3.7 (3.1)	3.0 (2.8)
Inventory investment*	0.3	0.1 (0.2)	−0.3 (-0.1)	0.0 (0.0)	0.0 (0.0)
Exports	5.6	3.4 (3.0)	4.2 (3.6)	3.6 (3.6)	3.6 (3.6)
Imports	5.5	3.7 (4.3)	2.6 (3.4)	4.0 (4.0)	4.0 (4.0)
GDP	4.1	3.3 (3.4)	2.8 (2.5)	2.3 (2.2)	2.1 (2.1)
GDP, calendar-adjusted	3.8	3.0 (3.2)	3.1 (2.7)	2.4 (2.3)	2.2 (2.1)
Final figure for domestic demand*	3.5	3.2 (3.5)	2.3 (2.4)	2.3 (2.3)	2.1 (2.1)
Net exports*	0.3	0.0 (−0.4)	0.9 (0.2)	0.0 (0.0)	0.0 (0.0)
Current account (NA), per cent of GDP	4.7	4.9 (4.2)	5.6 (4.3)	5.4 (4.1)	5.2 (3.9)

*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	1.1 (1.1)	0.7 (0.7)	0.5 (0.6)
Potential hours worked	0.8	0.7 (0.7)	0.6 (0.6)	0.6 (0.5)	0.5 (0.5)
GDP, calendar-adjusted	3.8	3.0 (3.2)	3.1 (2.7)	2.4 (2.3)	2.2 (2.1)
Number of hours worked, calendar-adjusted	1.0	1.7 (1.8)	1.2 (1.2)	1.1 (0.9)	0.6 (0.6)
Employed, aged 15–74	1.4	1.5	1.8 (1.3)	0.7 (0.7)	0.5 (0.5)
Labour force, aged 15–74	0.8	1.0	1.5 (1.1)	0.7 (0.6)	0.5 (0.6)
Unemployment, aged 15–74 *	7.4	6.9	6.7 (6.7)	6.6 (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	2.4 (2.5)	2.8 (3.0)	3.1 (3.3)	3.2 (3.5)
Hourly wage. NA	3.5	3.2 (2.9)	3.2 (3.4)	3.3 (3.6)	3.4 (3.7)
Employers' contribution*	0.9	0.5 (0.6)	0.1 (0.0)	0.1 (0.0)	0.1 (0.0)
Hourly labour cost. NA	4.4	3.6 (3.5)	3.3 (3.4)	3.4 (3.6)	3.5 (3.7)
Productivity	2.8	1.3 (1.4)	1.8 (1.5)	1.3 (1.5)	1.5 (1.4)
Unit labour cost	1.5	2.3 (2.1)	1.4 (1.9)	2.1 (2.1)	1.9 (2.2)

* 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

SVERIGES RIKSBANK