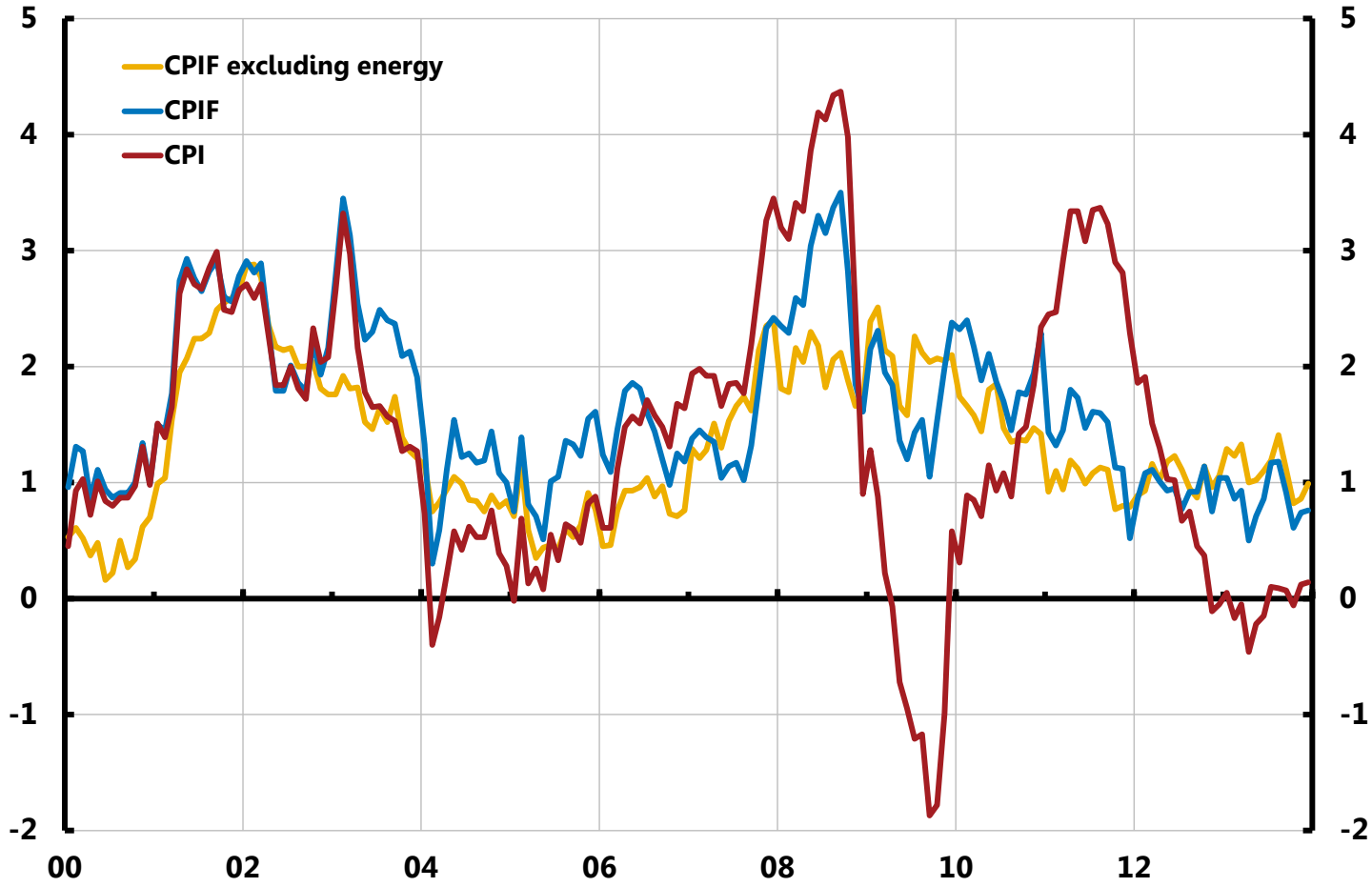
Account of monetary policy 2013

Figure 1.1. Development of inflation

Annual percentage change

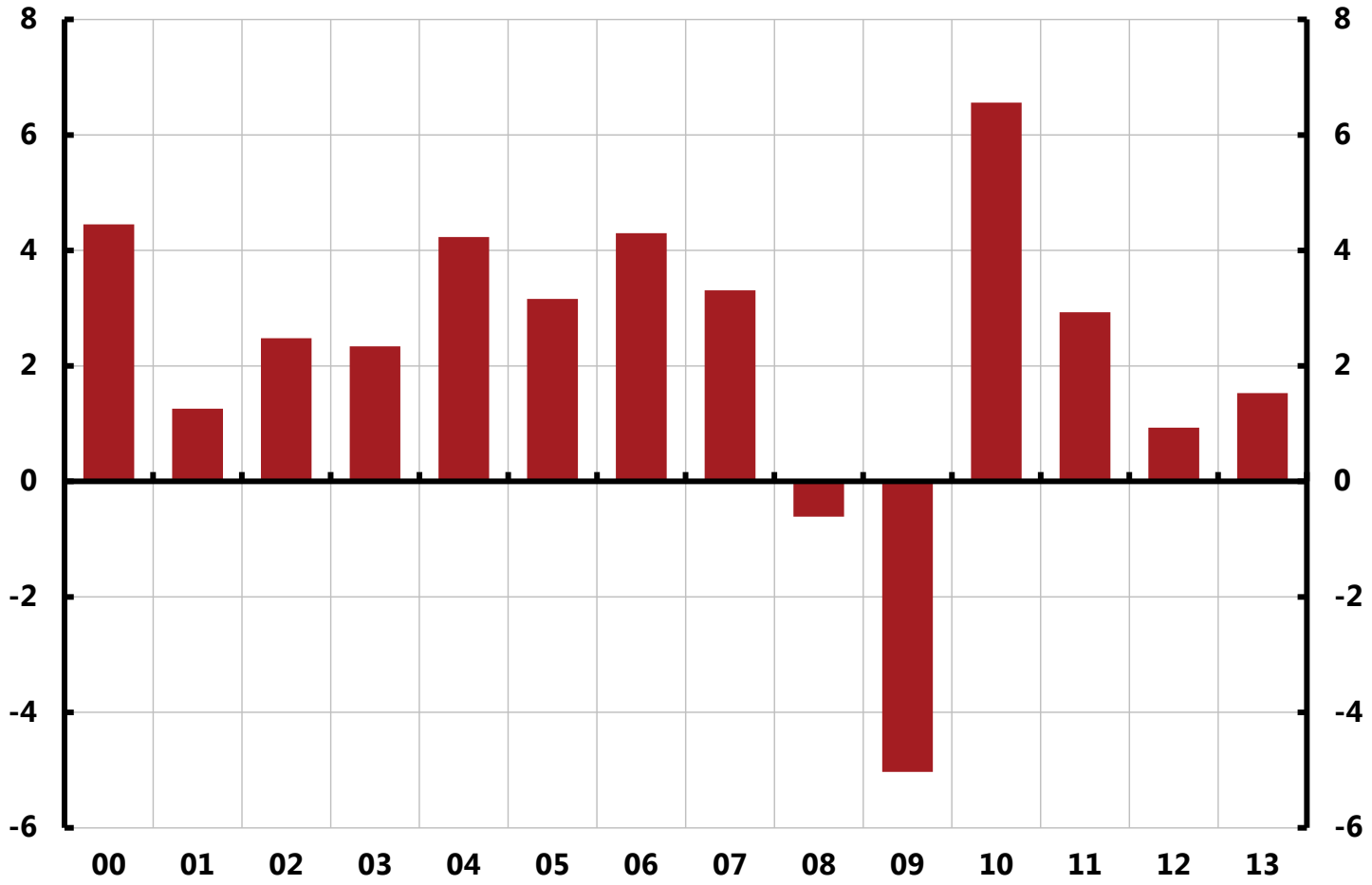


Note. The CPIF is the CPI with a fixed mortgage rate.

Source: Statistics Sweden

Figure 1.2. GDP in Sweden

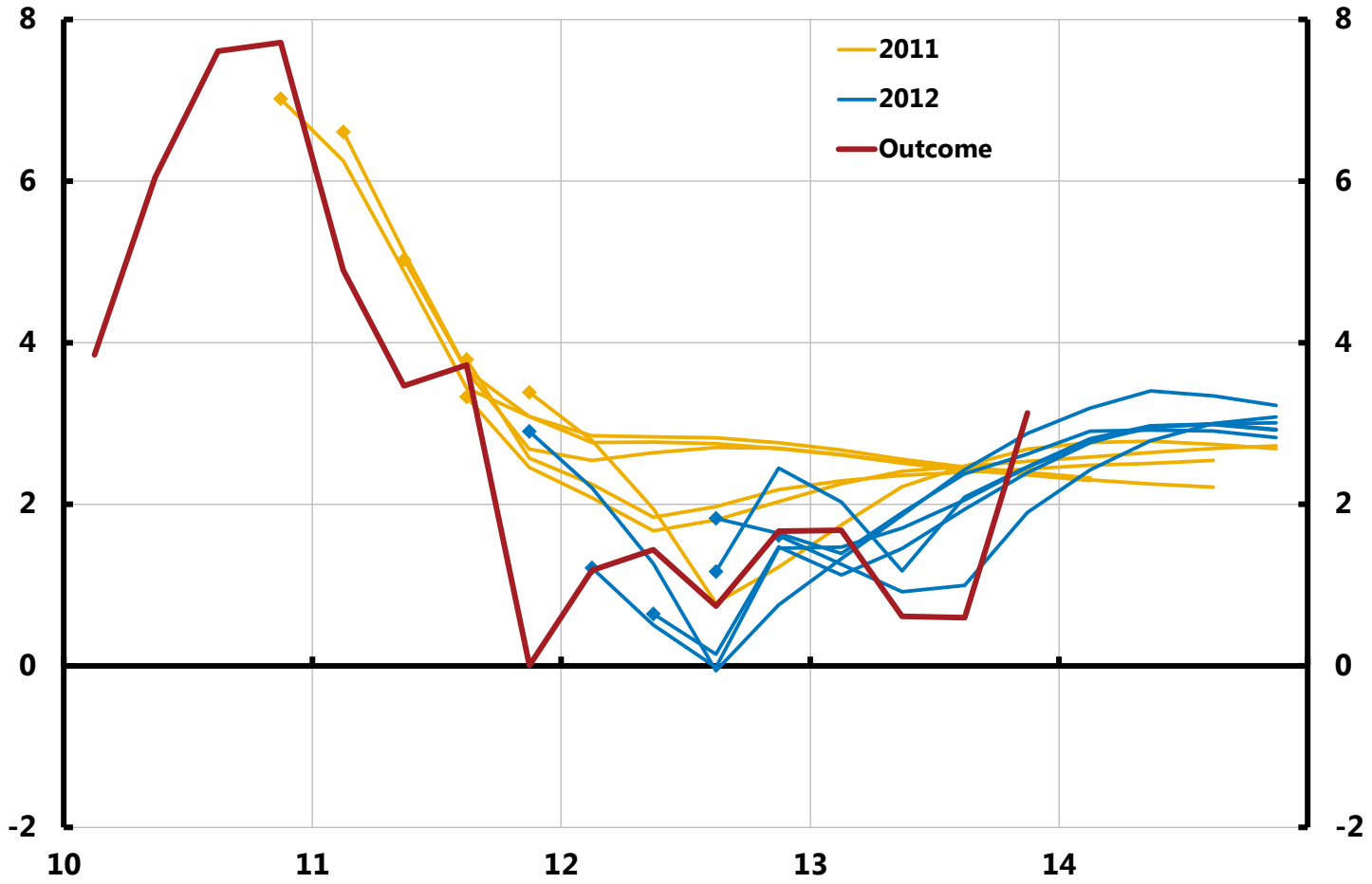
Annual percentage change



Source: Statistics Sweden

Figure 1.3. GDP growth, outcome and forecasts

Annual percentage change

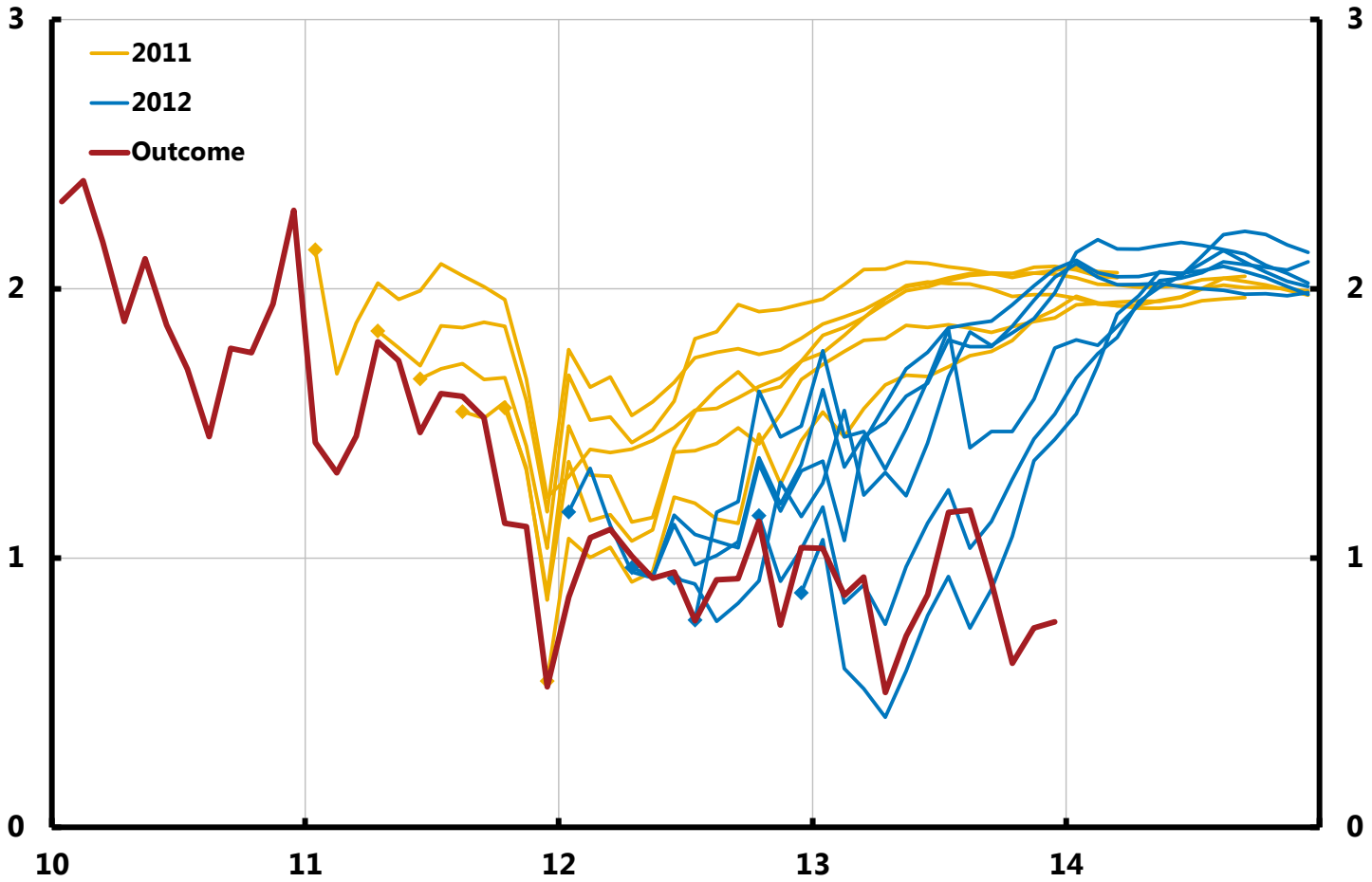


Note. The yellow and blue lines represent the Riksbank's forecasts 2011-2012. The marks show the starting point of each forecast and may therefore deviate from the latest outcome at that point in time.

Sources: Statistics Sweden and the Riksbank

Figure 1.4. CPIF, outcome and forecast

Annual percentage change

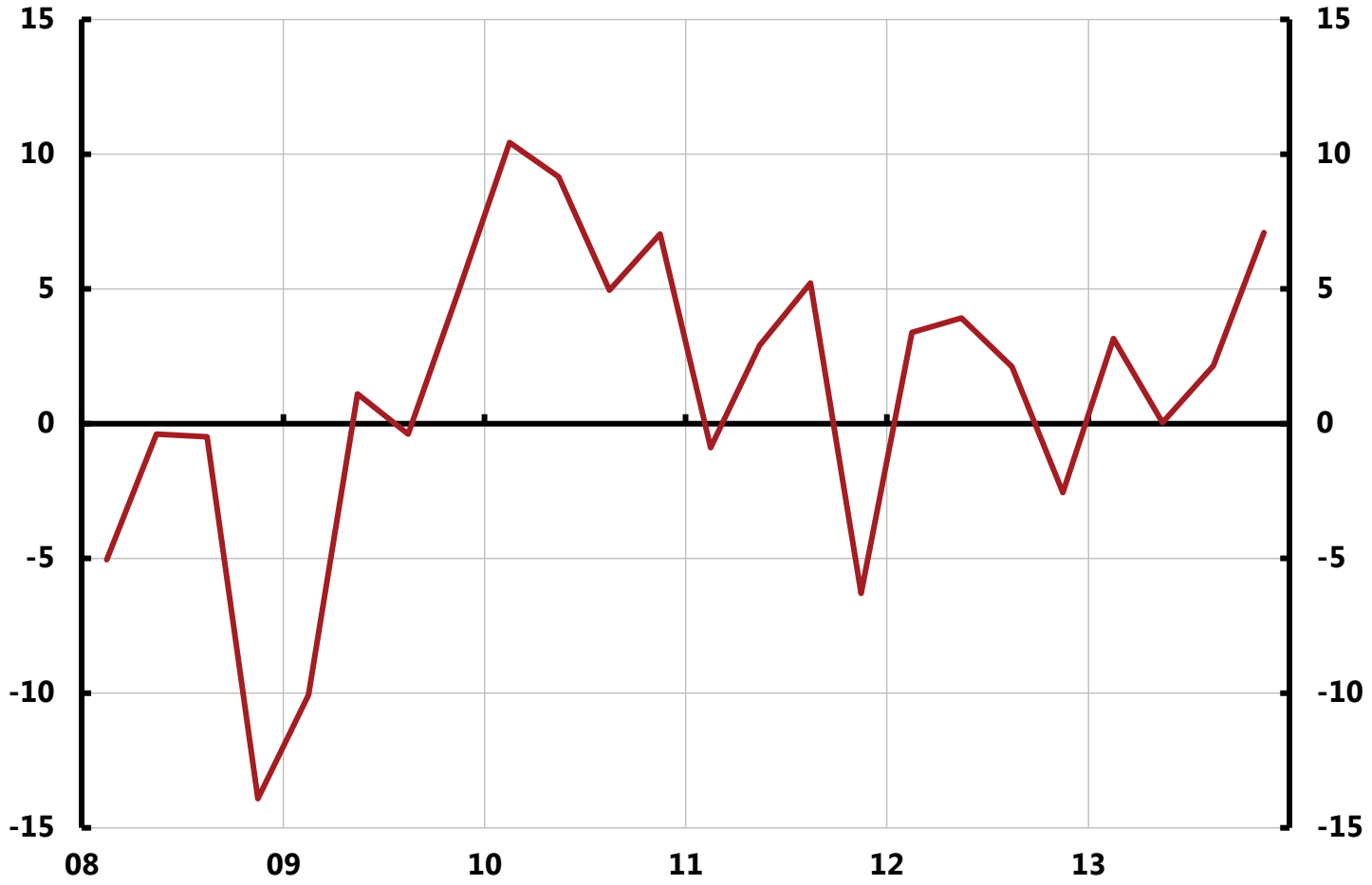


Note. See note to Figure 1:3. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 1.5. GDP

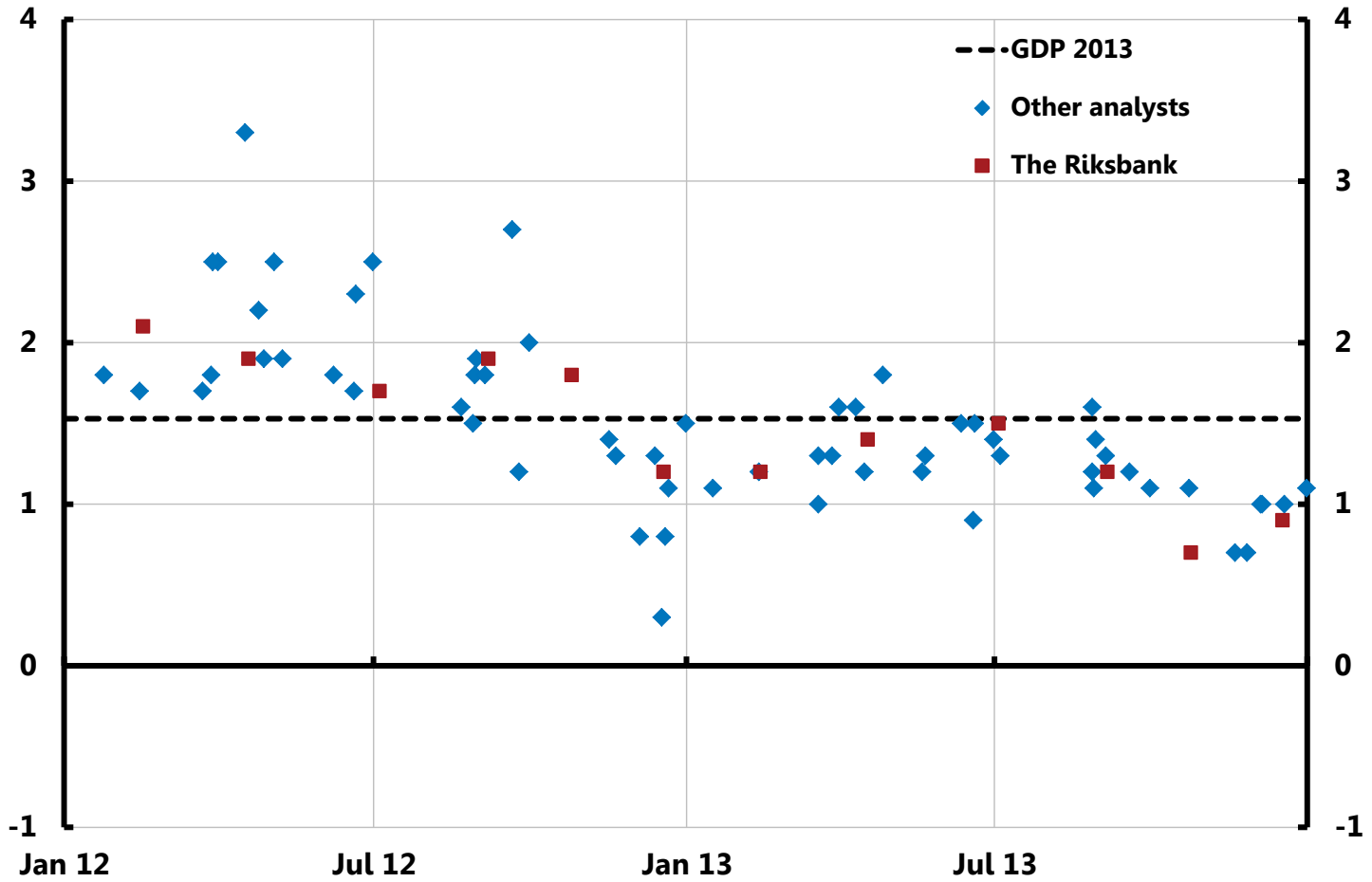
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Source: Statistics Sweden

Figure 1.6. Forecasts 2012-2013 for GDP growth in 2013

Annual percentage change, annual averages

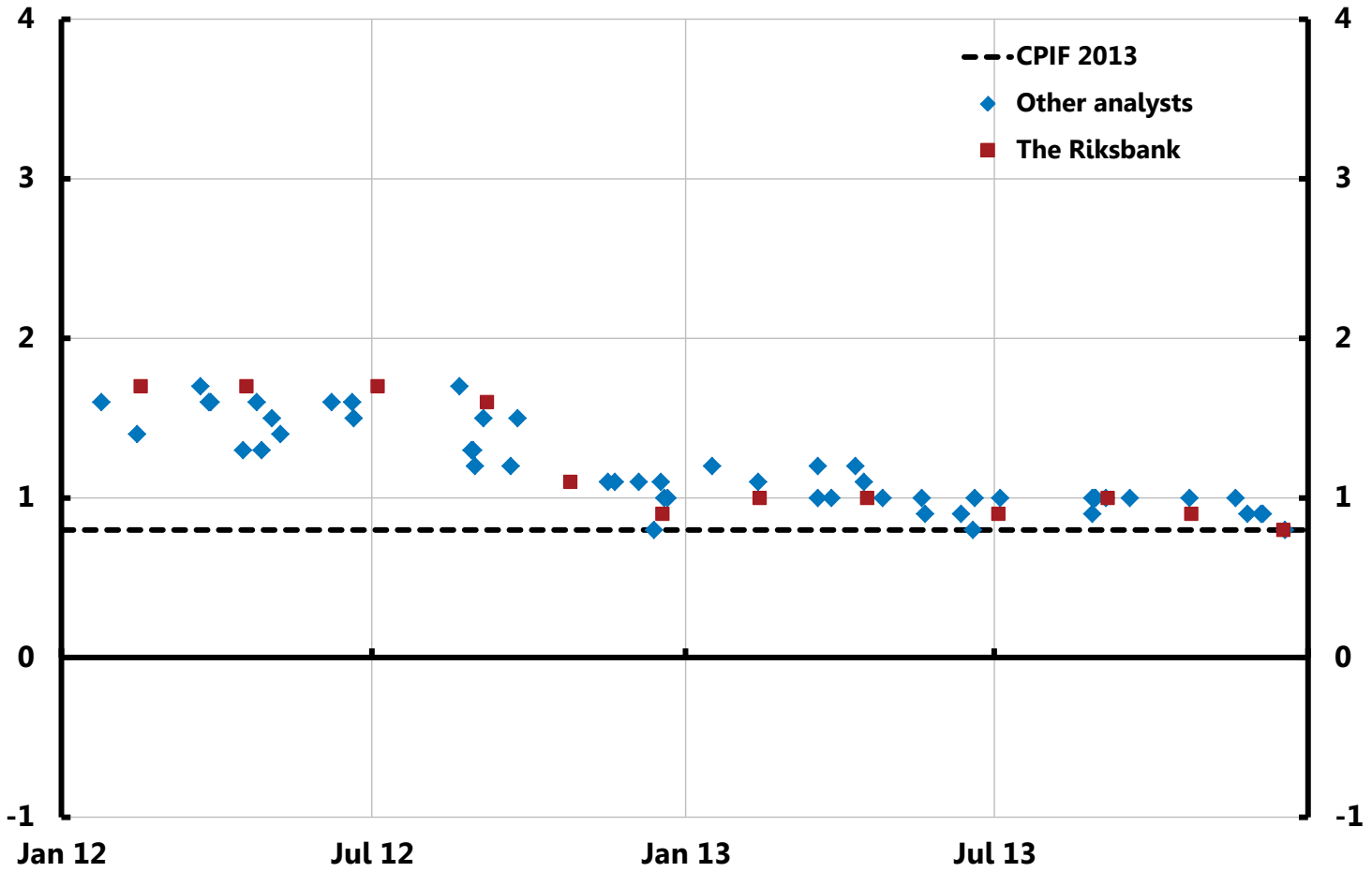


Note. Other analysts refers to the Swedish Ministry of Finance, HUI Research AB, the National Institute of Economic Research, the Swedish Trade Union Confederation (LO), Nordea, SEB, Svenska Handelsbanken, the Confederation of Swedish Enterprise and Swedbank.

Sources: Respective analysts, Statistics Sweden and the Riksbank

Figure 1.7. Forecasts 2012-2013 for CPIF inflation in 2013

Annual percentage change, annual averages

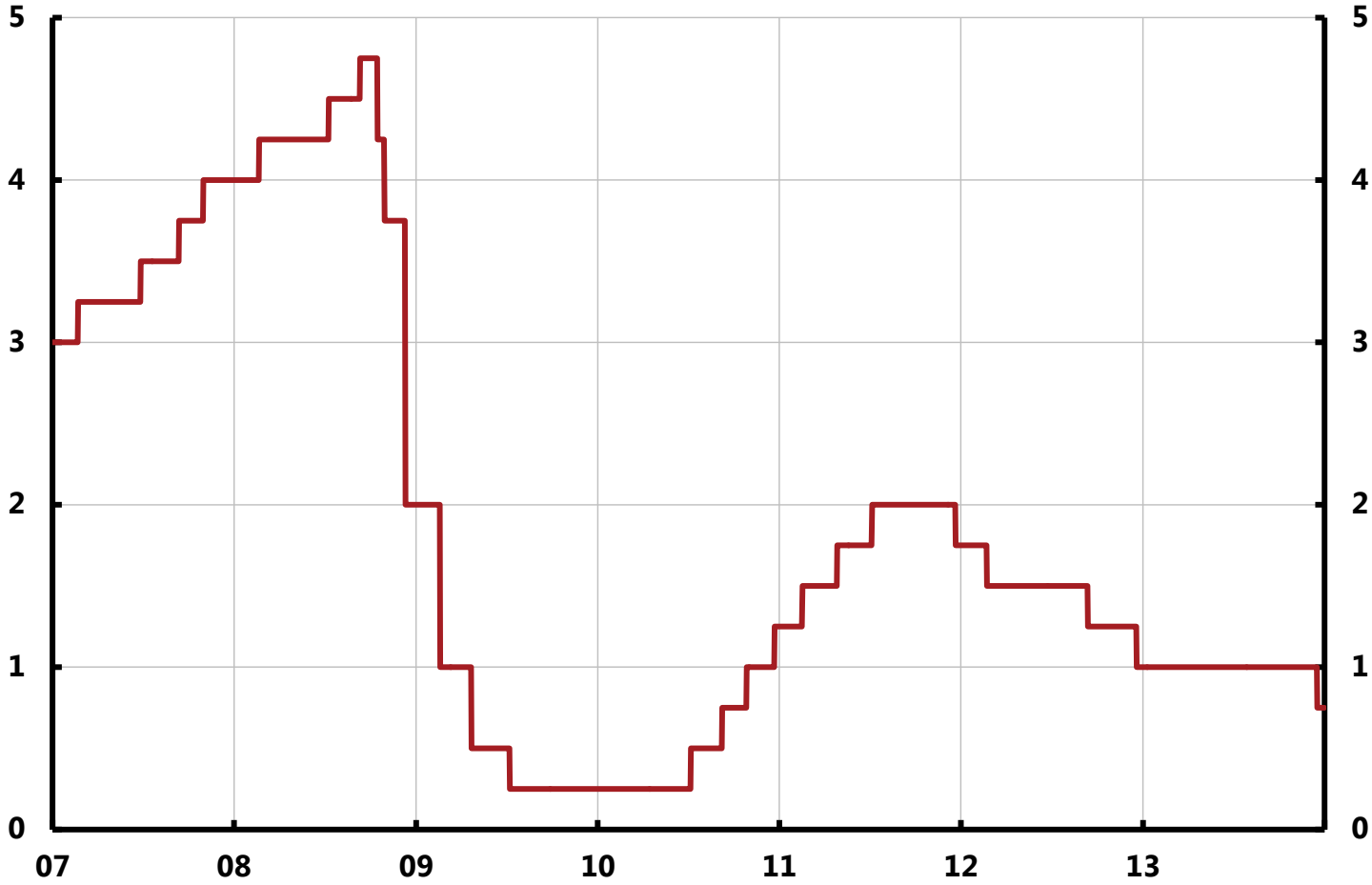


Note. Other analysts refers to those specified in Figure 1:6 except HUI research AB. The CPIF is the CPI with a fixed mortgage rate.

Sources: Respective analysts, Statistics Sweden and the Riksbank

Figure 1.8. Repo rate

Per cent



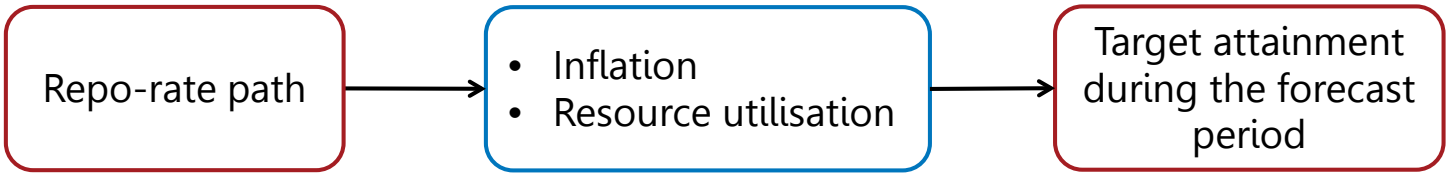
Source: The Riksbank

Figure 1.9. Household debt

Per cent of disposable income

Source: Statistics Sweden

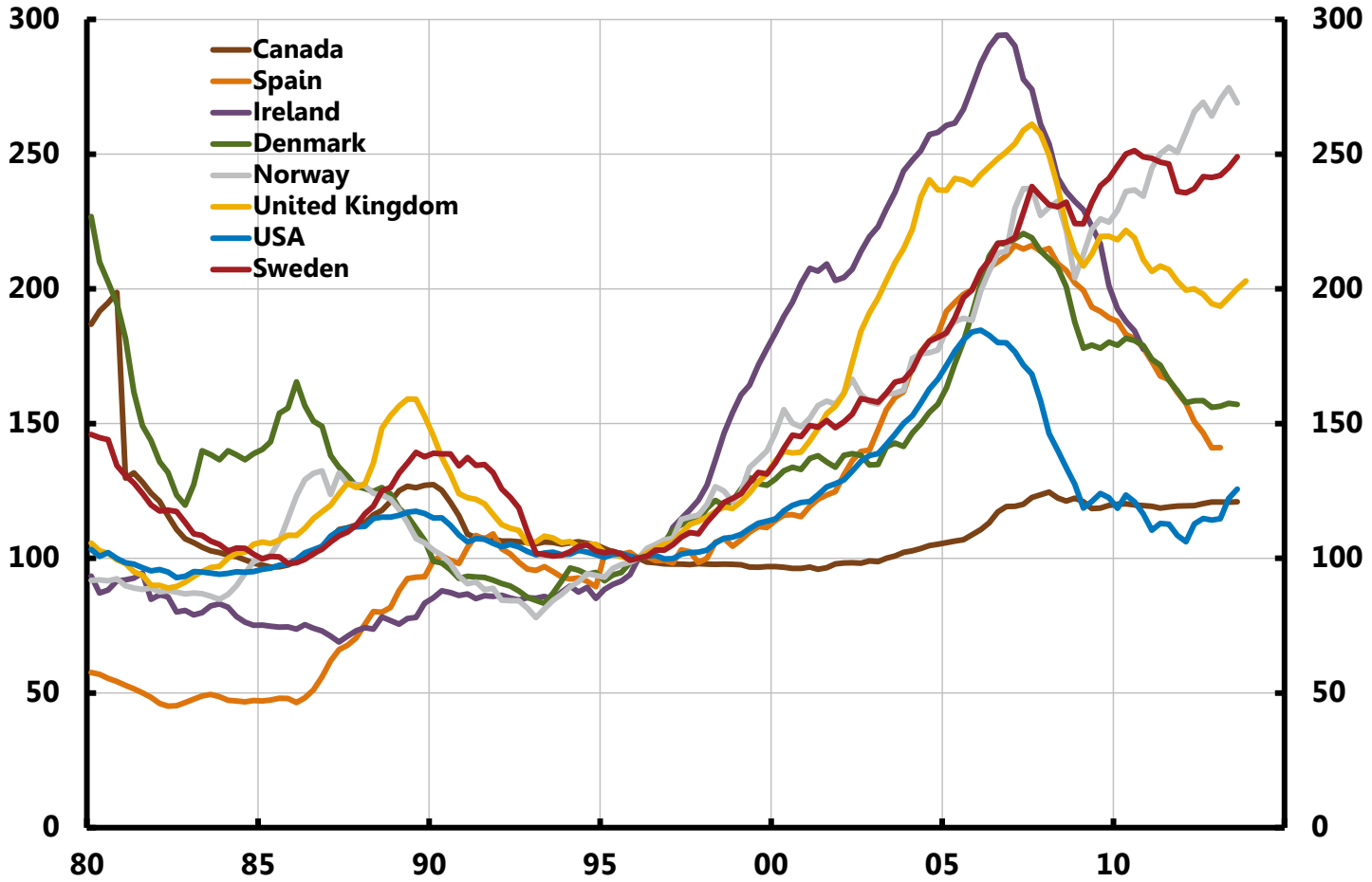
Figure 1.10. Schematic outline of a monetary policy conceptual framework without consideration of financial imbalances



Source: The Riksbank

Figure 1.11. Real housing prices in different countries

Index, 1996 quarter 1 = 100

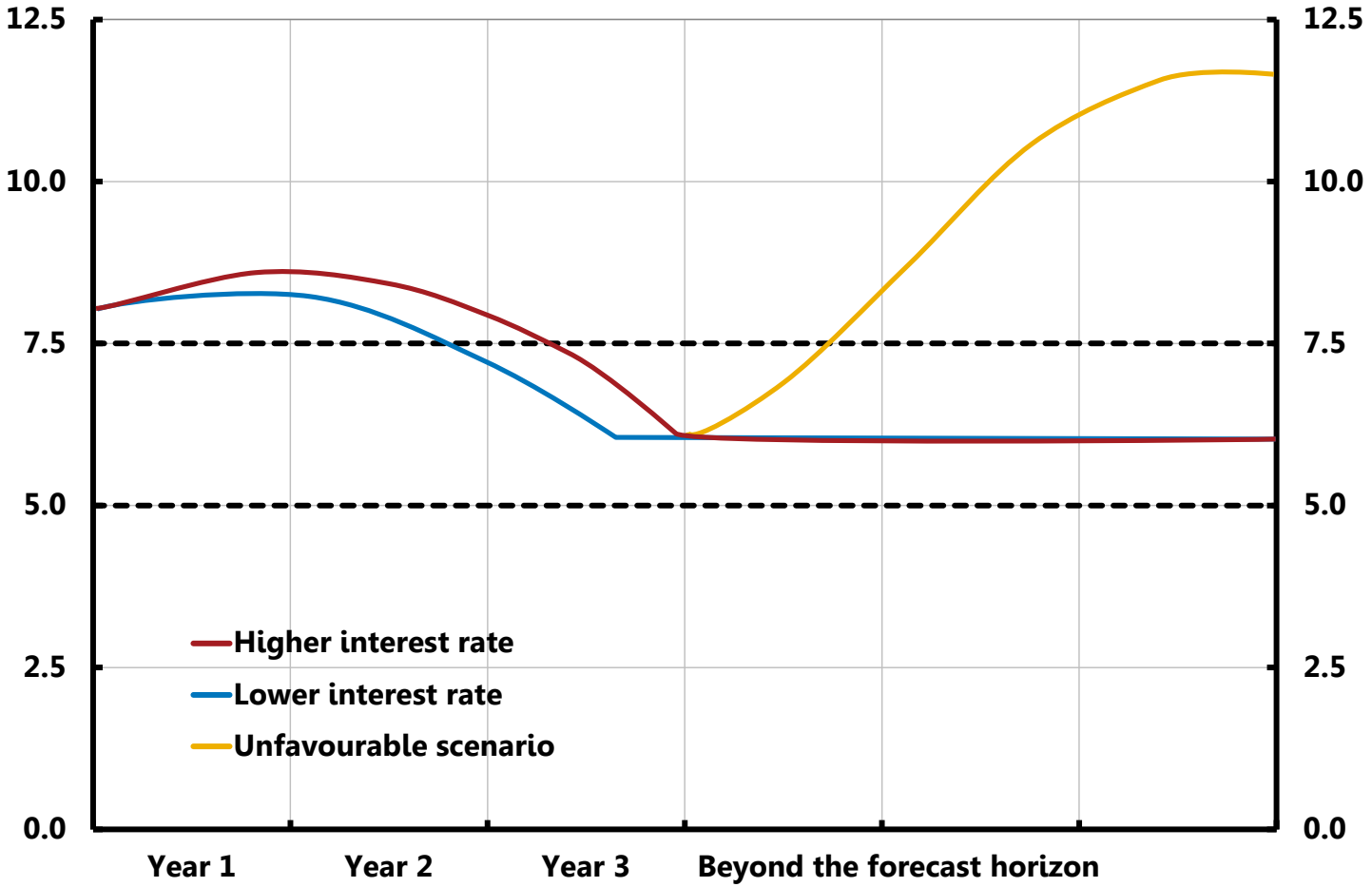


Note. Real housing prices are defined as nominal prices deflated by the CPI.

Sources: National sources

Figure 1.12. Unemployment with a higher and lower repo-rate path and the risk of an unfavourable scenario beyond the forecast horizon

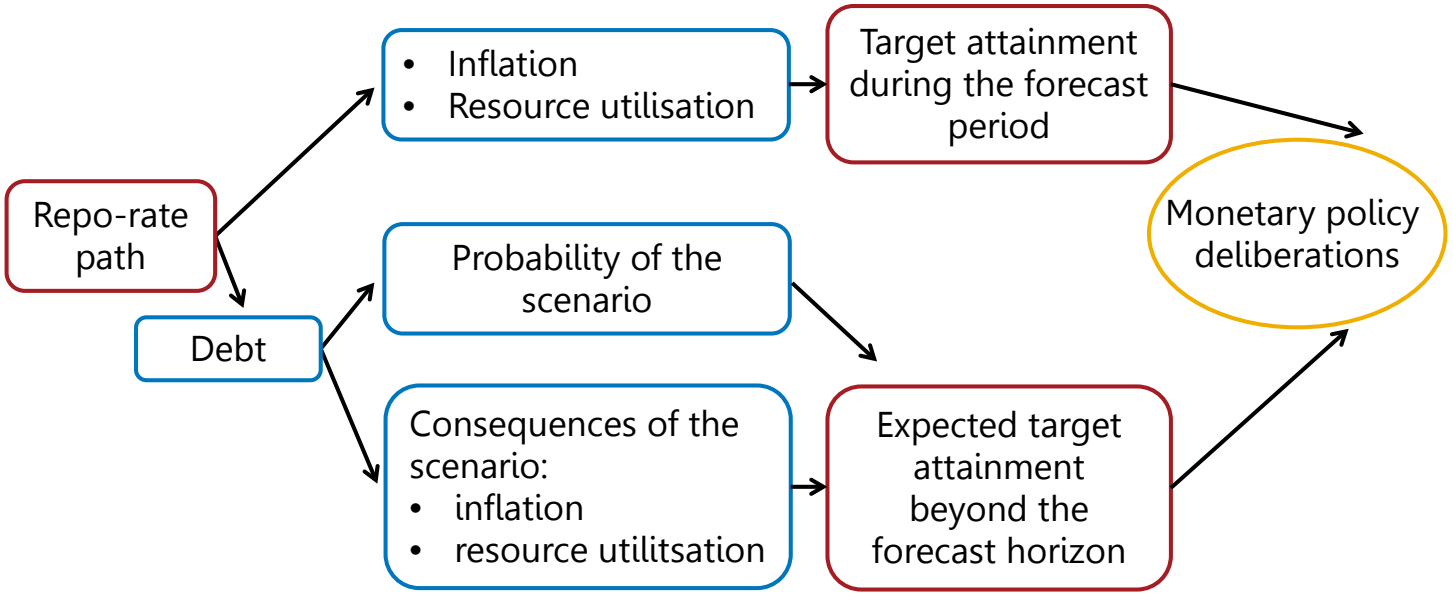
Per cent



Note. The broken lines show the Riksbank's interval, 5-7.5 per cent, for long-term unemployment.

Source: The Riksbank

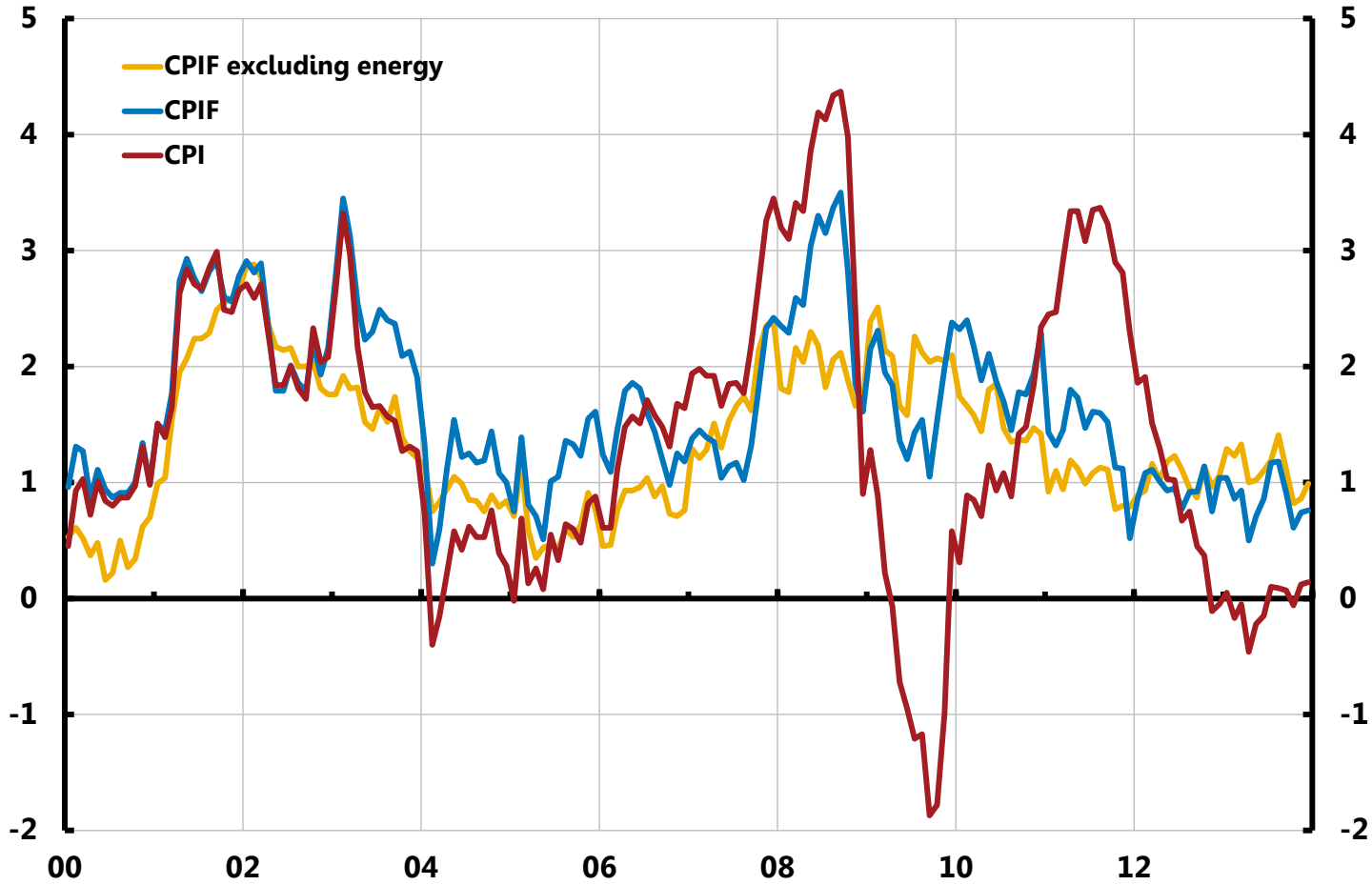
Figure 1.13. Schematic outline of a monetary policy conceptual framework with consideration of financial imbalances



Source: The Riksbank

Figure 2.1. Development of inflation

Annual percentage change

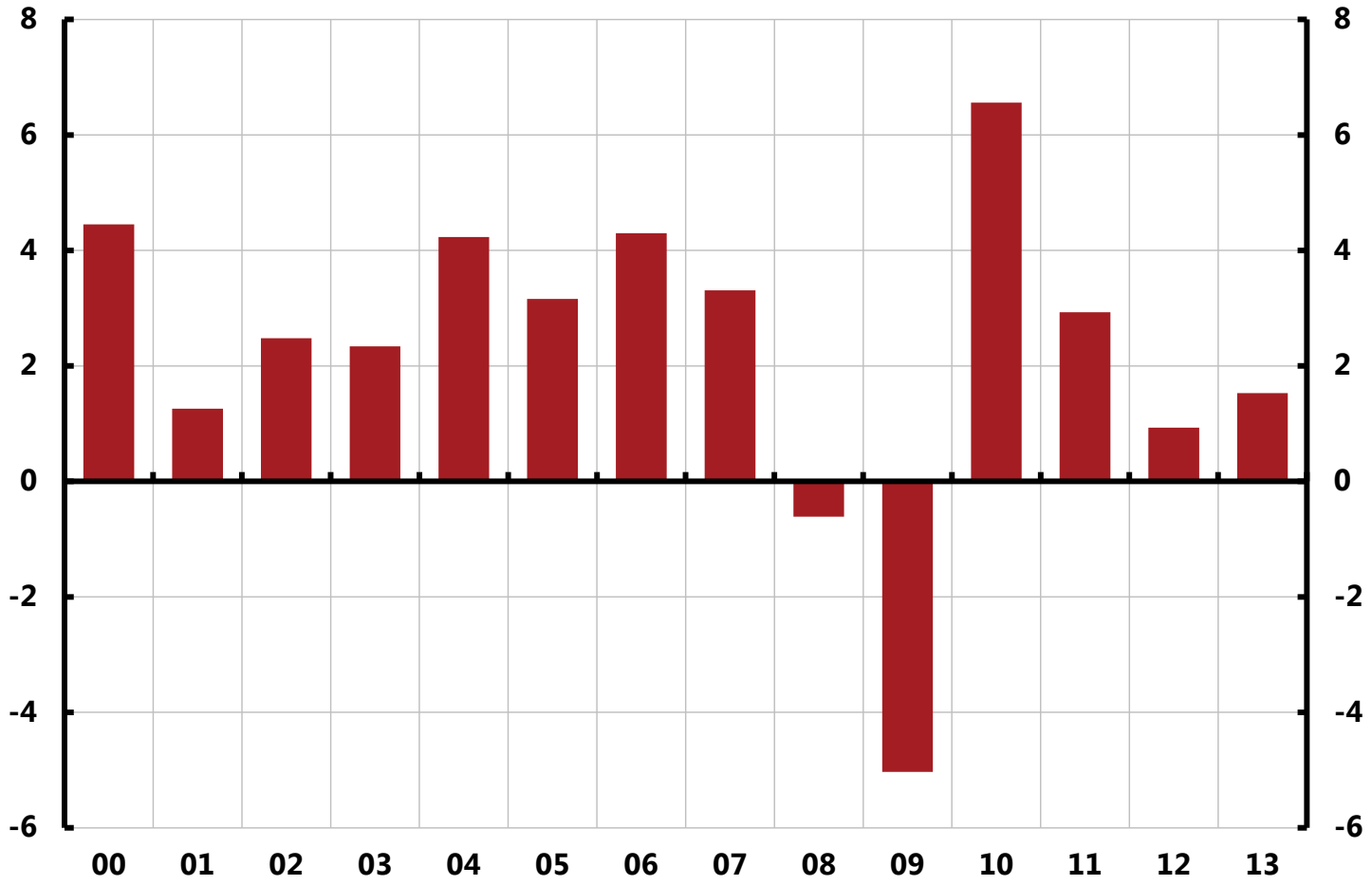


Note. The CPIF is the CPI with a fixed mortgage rate.

Source: Statistics Sweden

Figure 2.2. GDP in Sweden

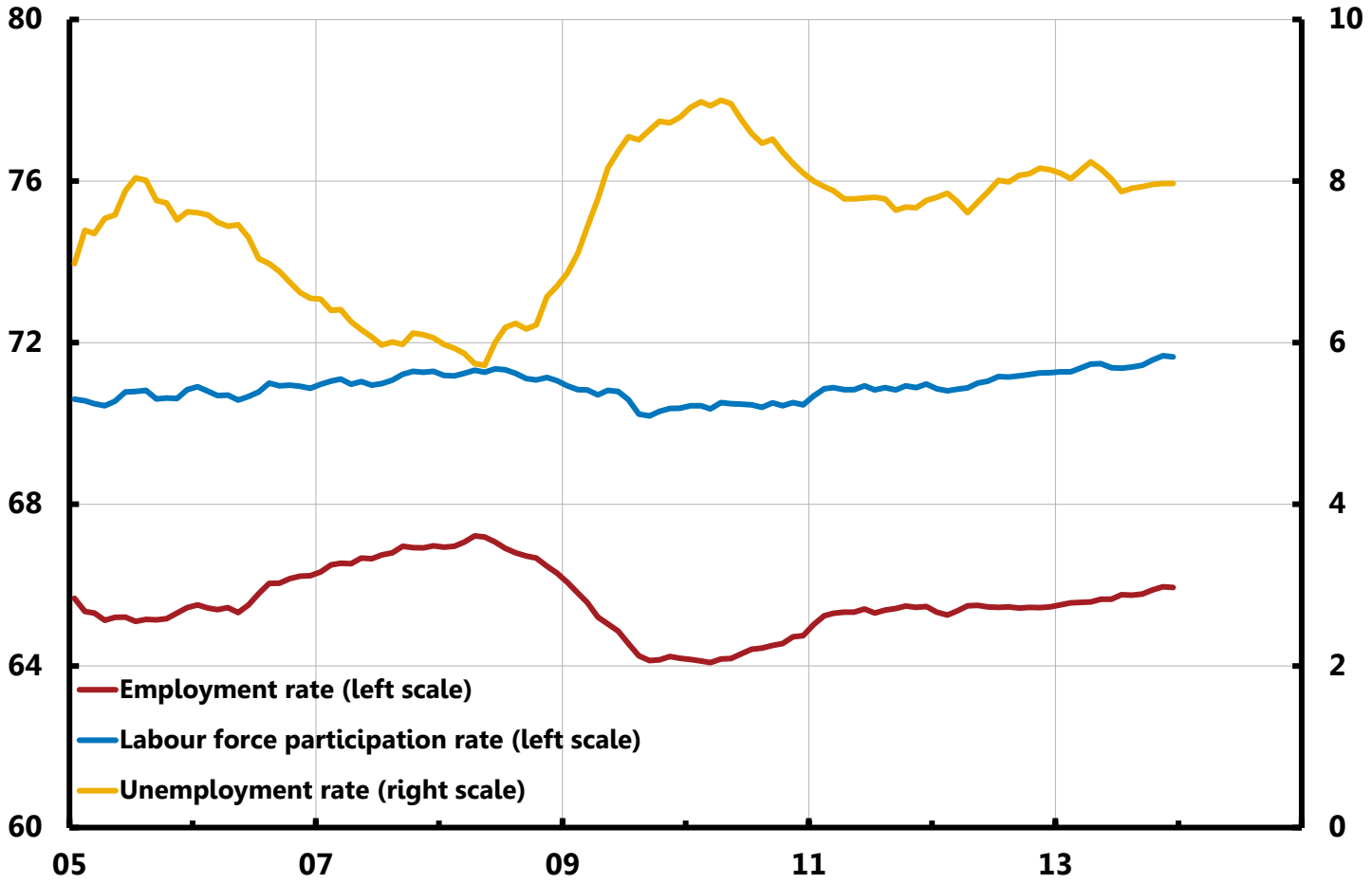
Annual percentage change



Source: Statistics Sweden

Figure 2.3. Labour force, employment and unemployment

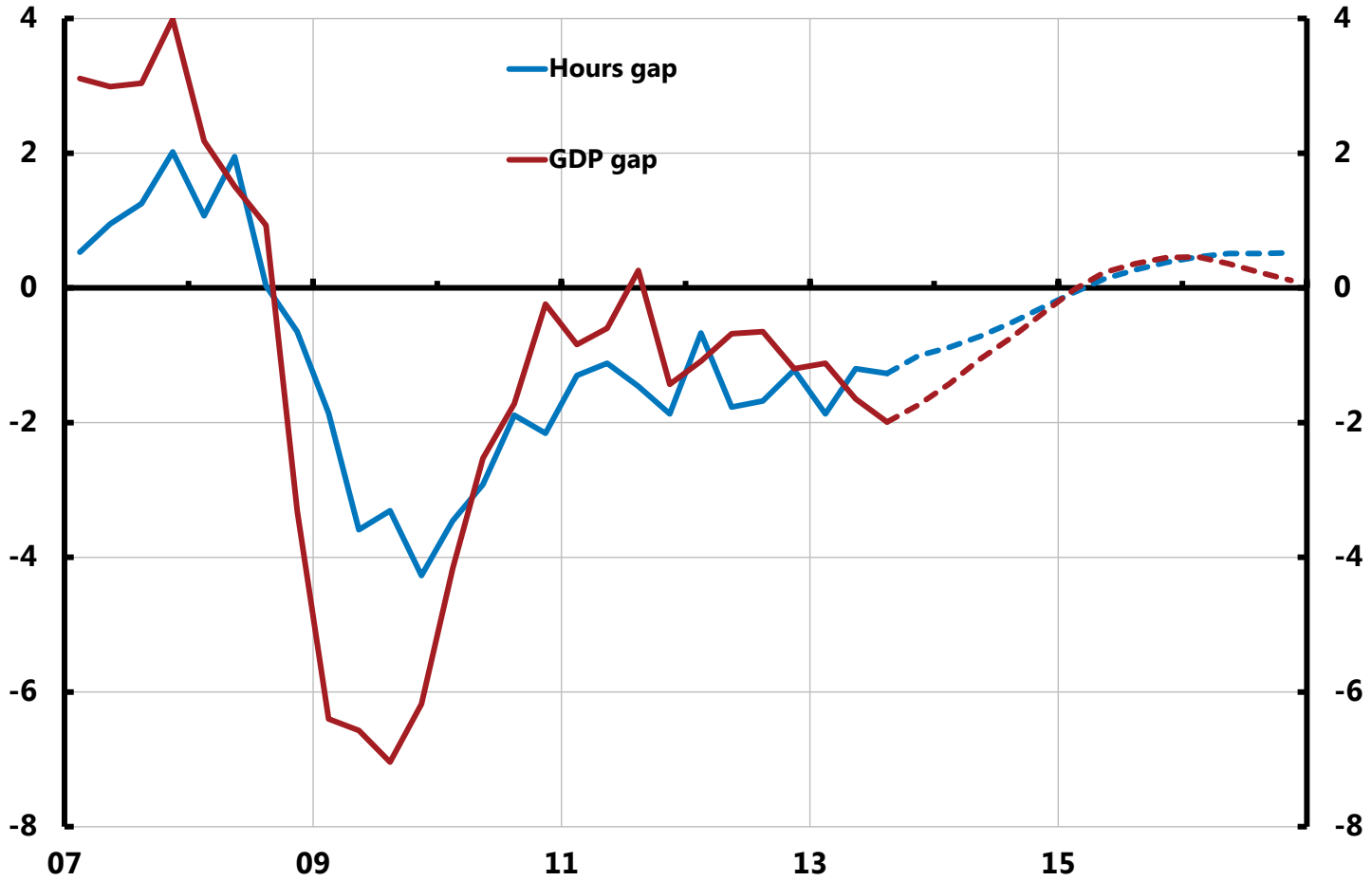
Per cent of the population and per cent of the labour force, aged 15-74, seasonally-adjusted data, three-month moving averages



Sources: Statistics Sweden and the Riksbank

Figure 2.4. GDP and hours gap

Per cent

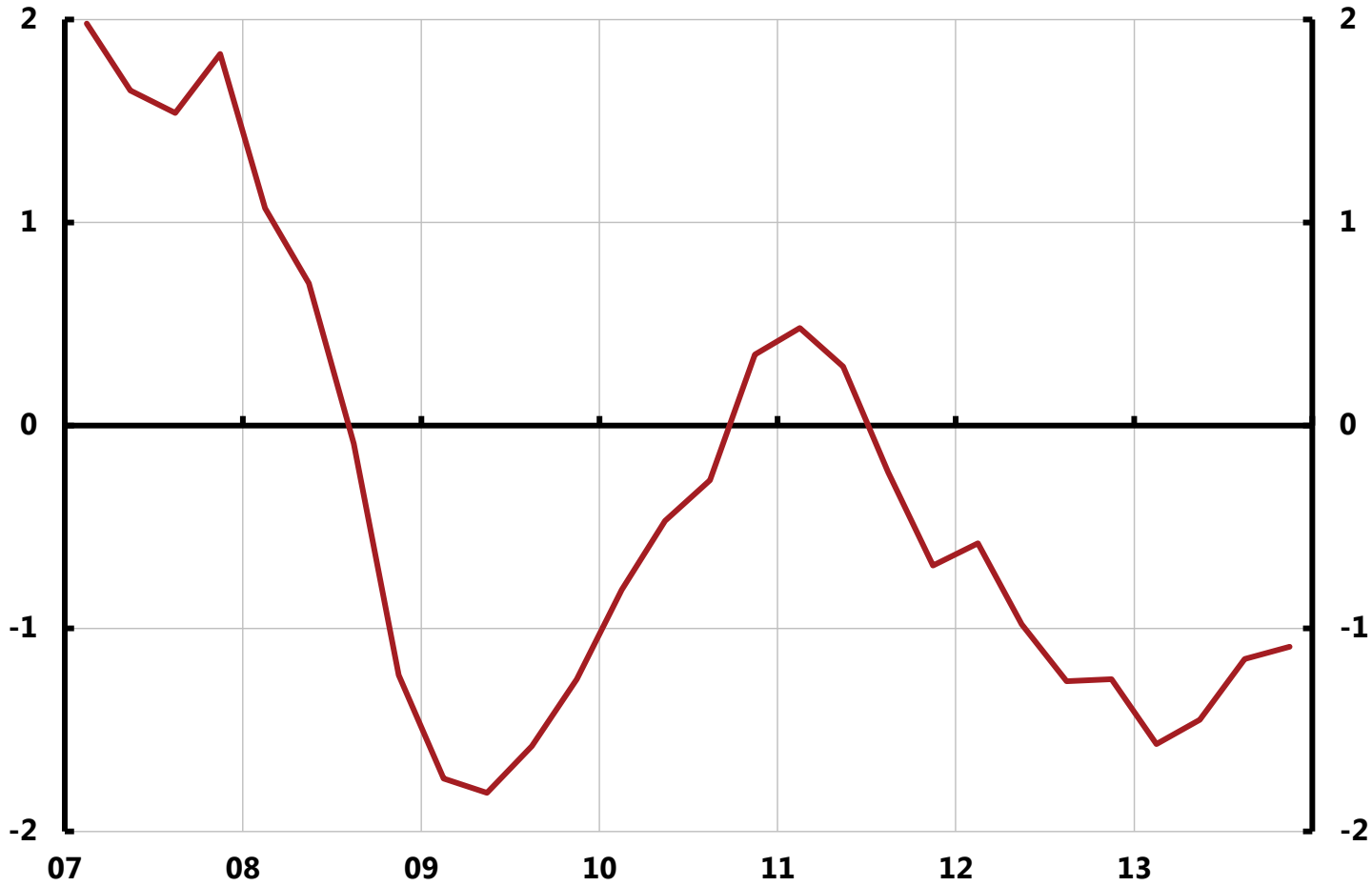


Note. GDP gap refers to the deviation from trend in GDP calculated using a production function. The hours gap refers to the deviation in the number of hours worked from the Riksbank's assessed trend. The broken lines represent the Riksbank's forecast from February 2014.

Sources: Statistics Sweden and the Riksbank

Figure 2.5. RU indicator

Standard deviation

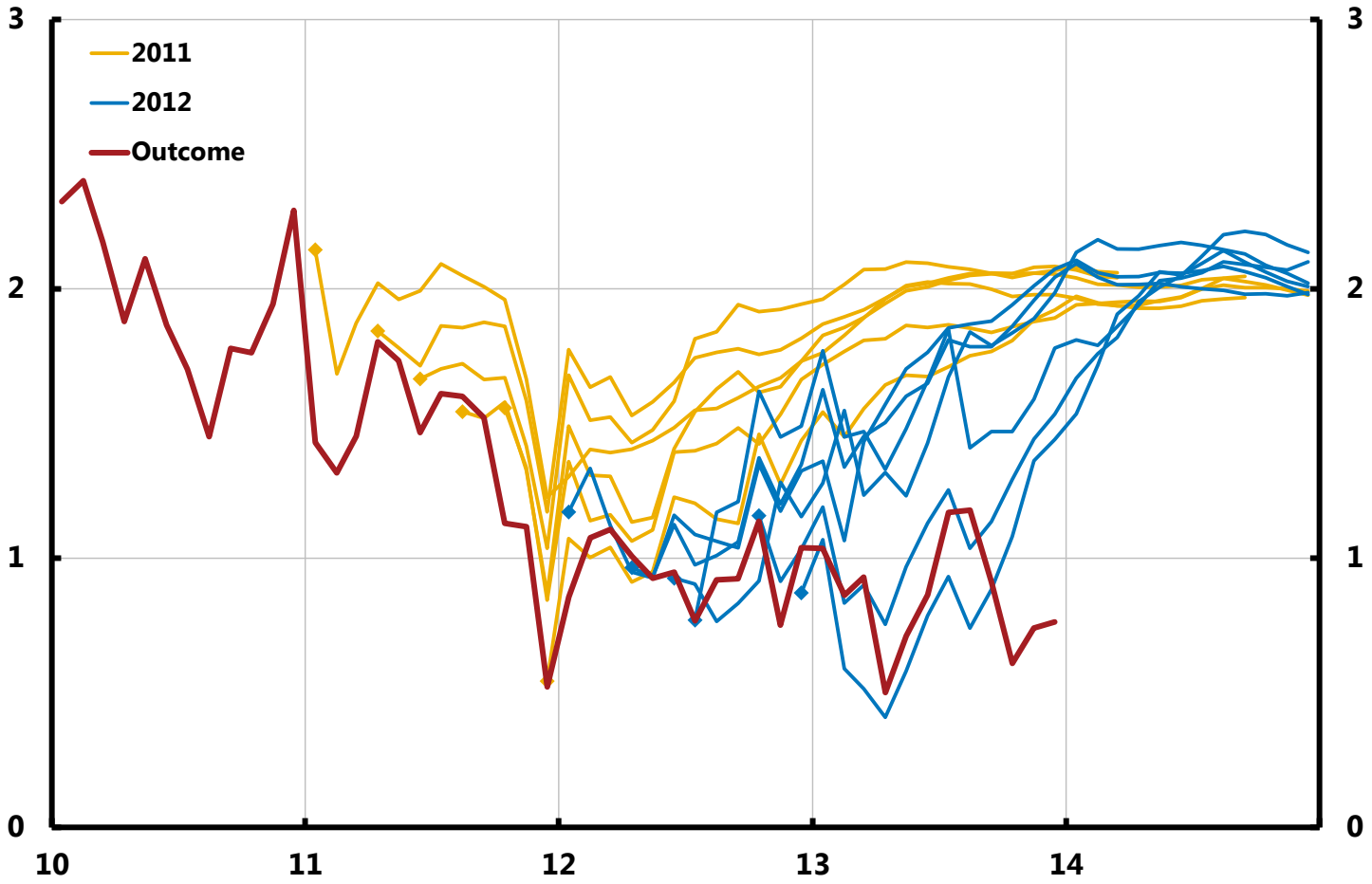


Note. The RU indicator is normalised so that the mean value is 0 and the standard deviation is 1.

Sources: Statistics Sweden and the Riksbank

Figure 2.6. CPIF, outcome and forecasts

Annual percentage change

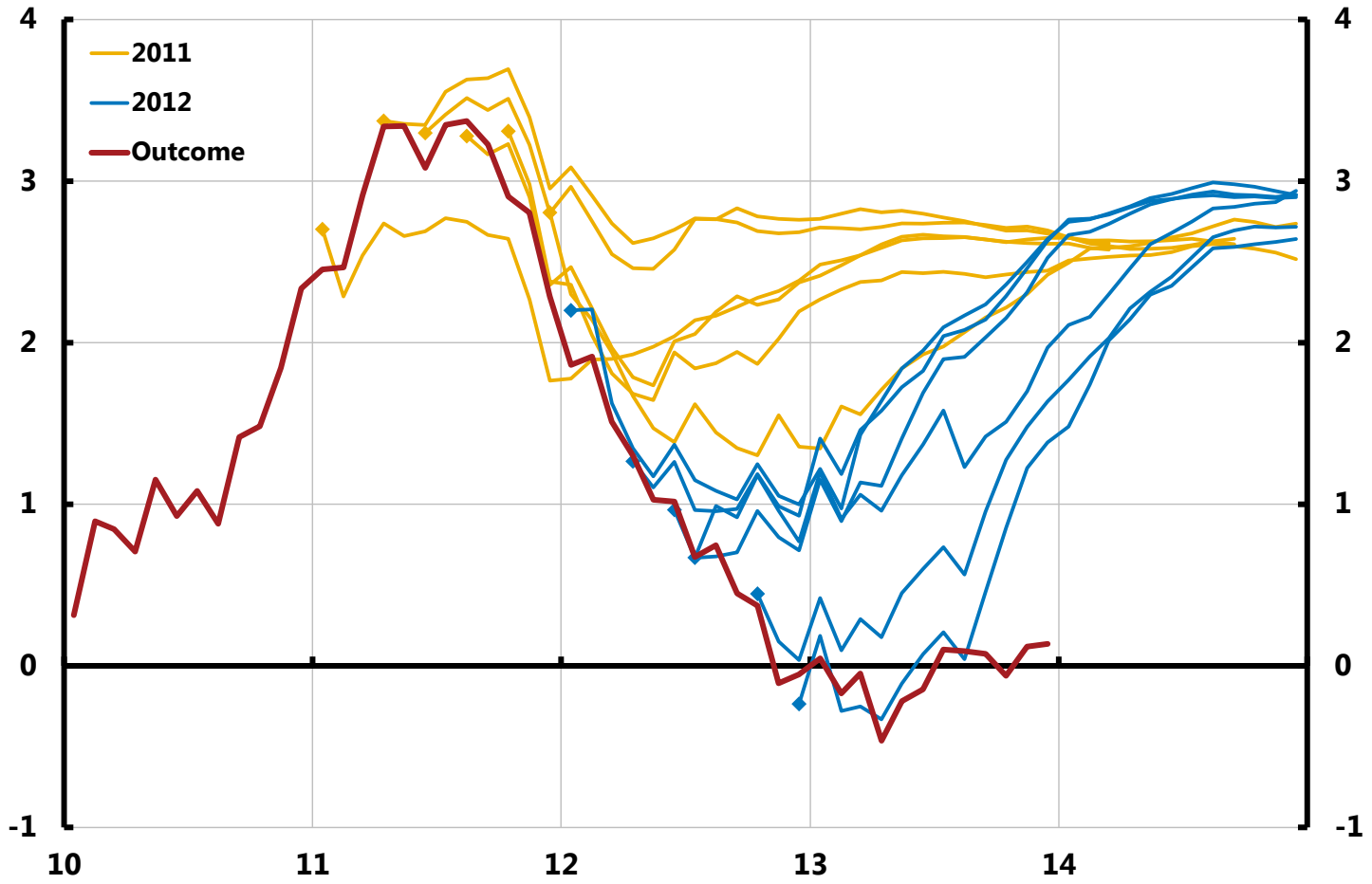


Note. The yellow and blue lines represent the Riksbank's forecasts 2011-2012. The marks show the starting point of each forecast and may therefore deviate from the latest outcome at that point in time. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 2.7. CPI, outcome and forecasts

Annual percentage change

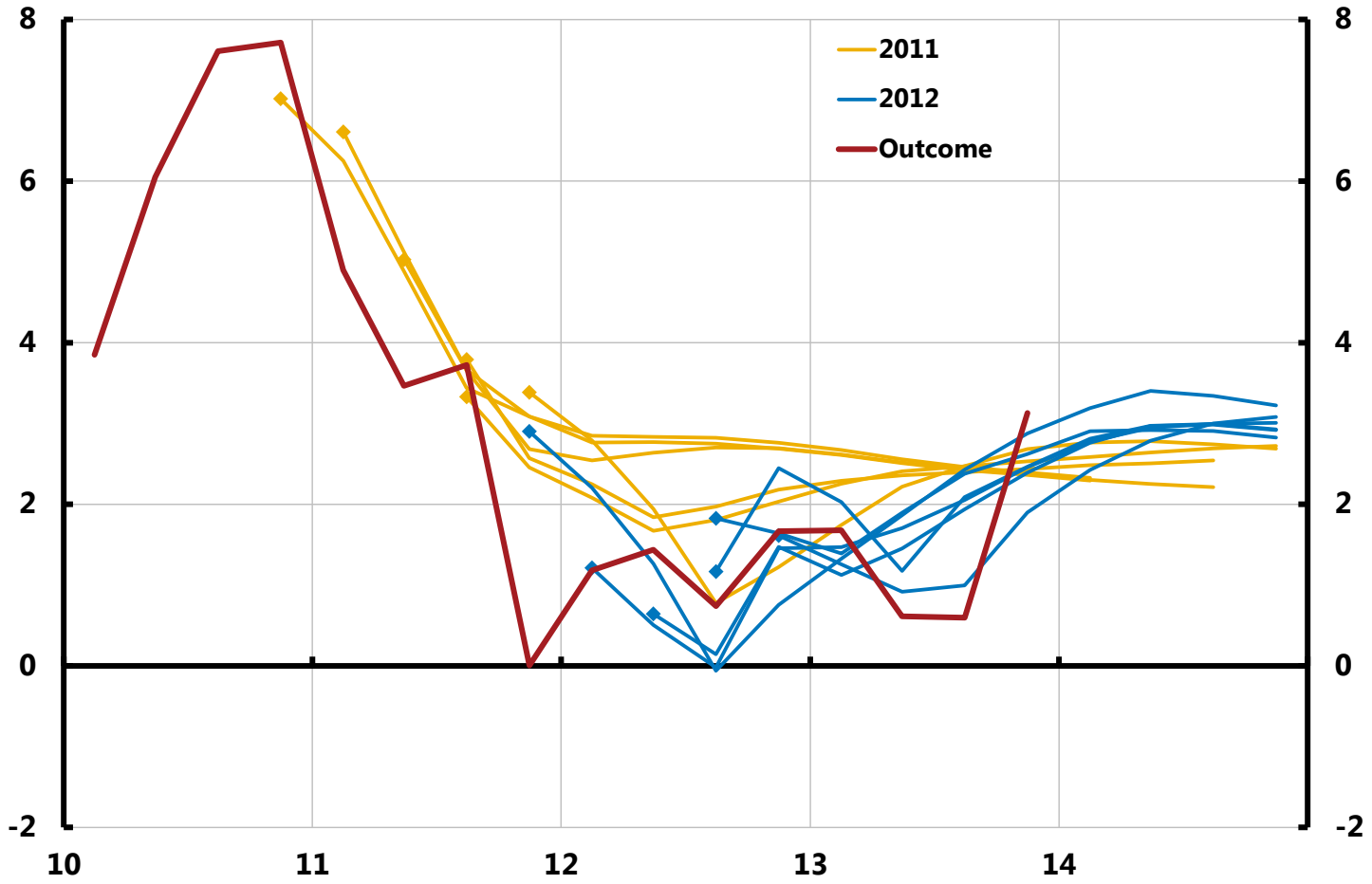


Note. The yellow and blue lines represent the Riksbank's forecasts 2011-2012. The marks show the starting point of each forecast and may therefore deviate from the latest outcome at that point in time.

Sources: Statistics Sweden and the Riksbank

Figure 2.8. GDP growth, outcome and forecasts

Annual percentage change

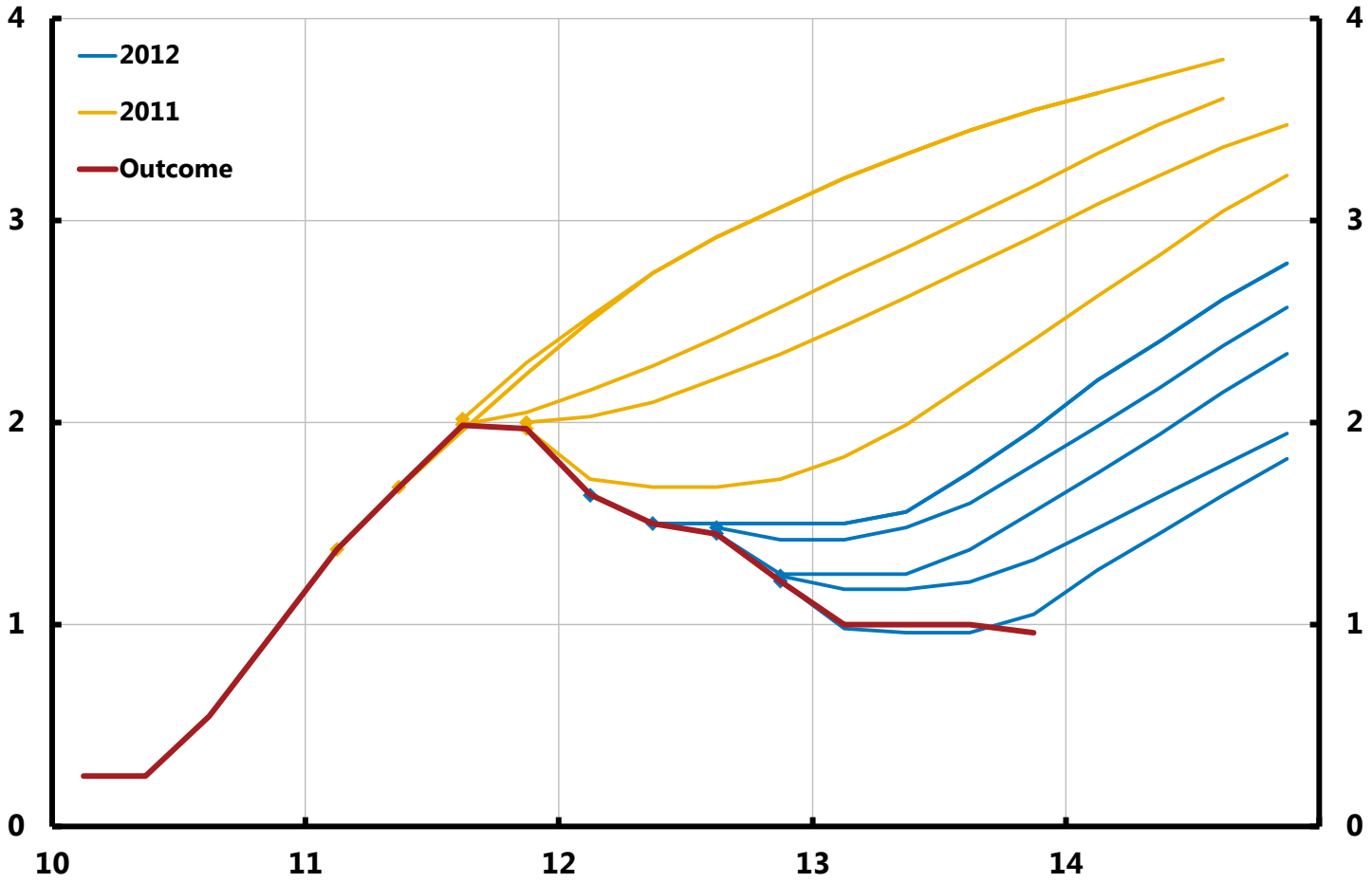


Note. See the note to Figure 2:7.

Sources: Statistics Sweden and the Riksbank

Figure 2.9. Repo rate, outcome and forecasts

Per cent, quarterly averages

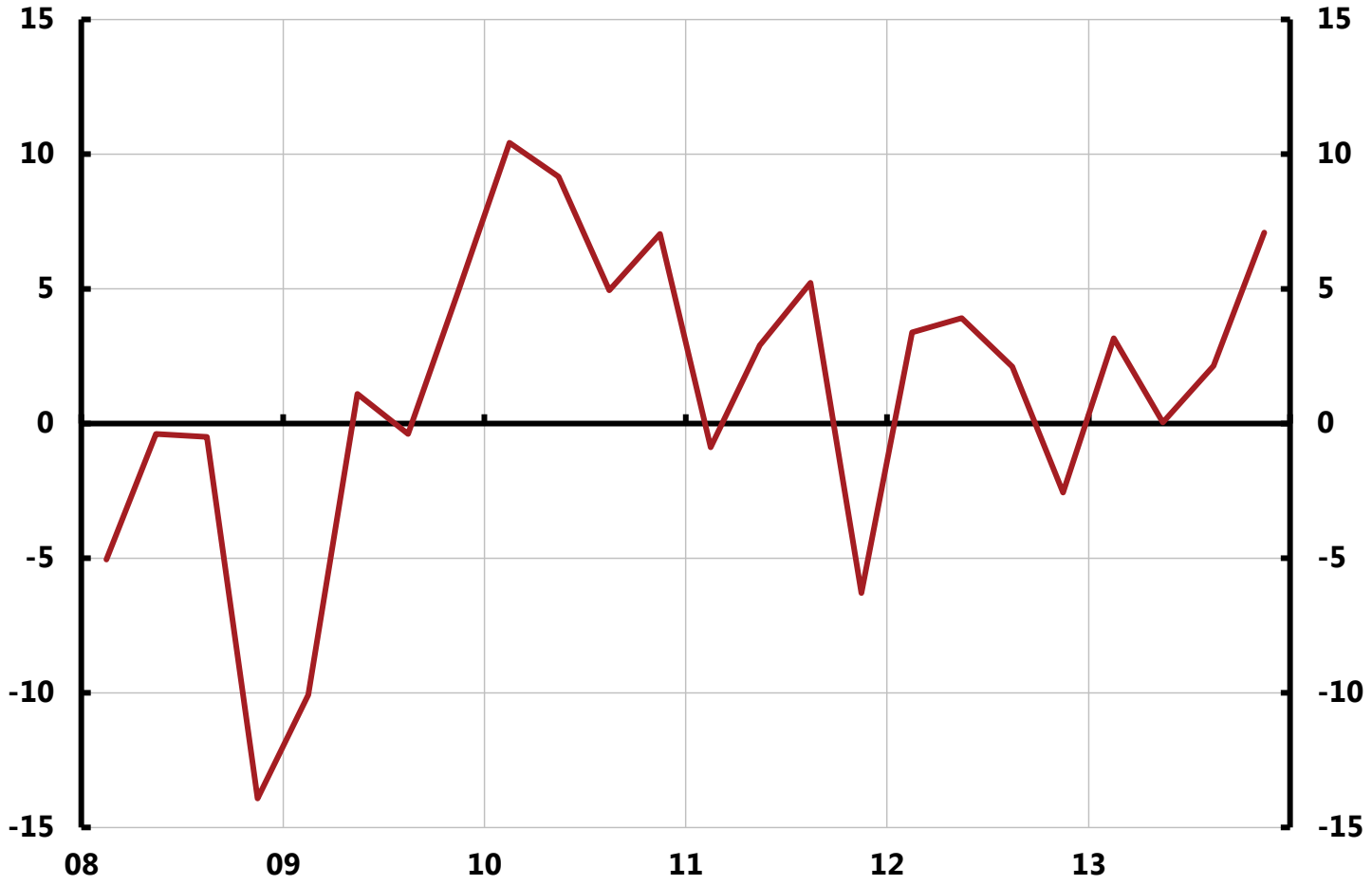


Note. See the note to Figure 2:7.

Source: The Riksbank

Figure 2.10. GDP

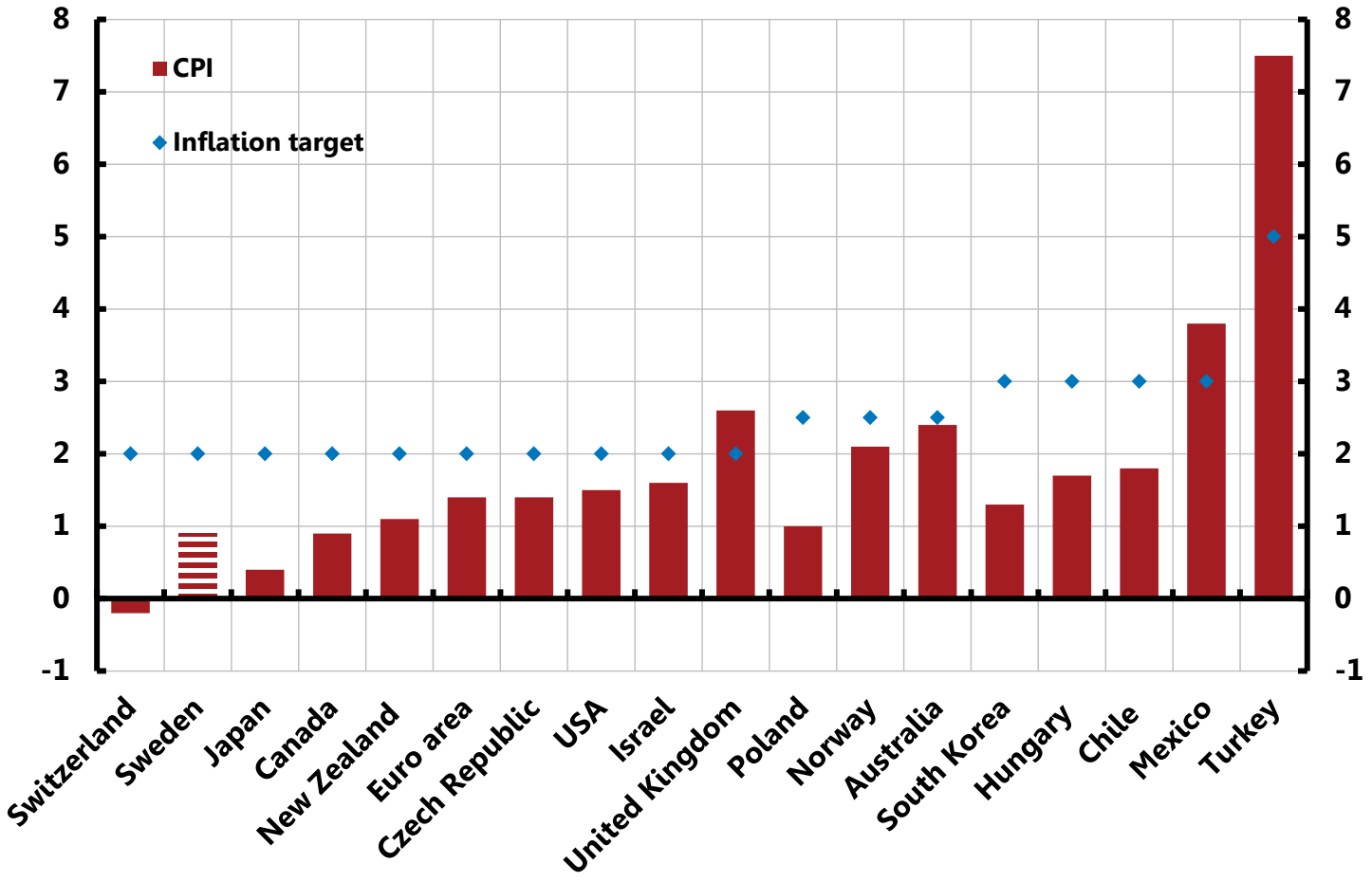
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Source: Statistics Sweden

Figure 2.11. Inflation in 2013 in a number of countries with inflation targets

Per cent

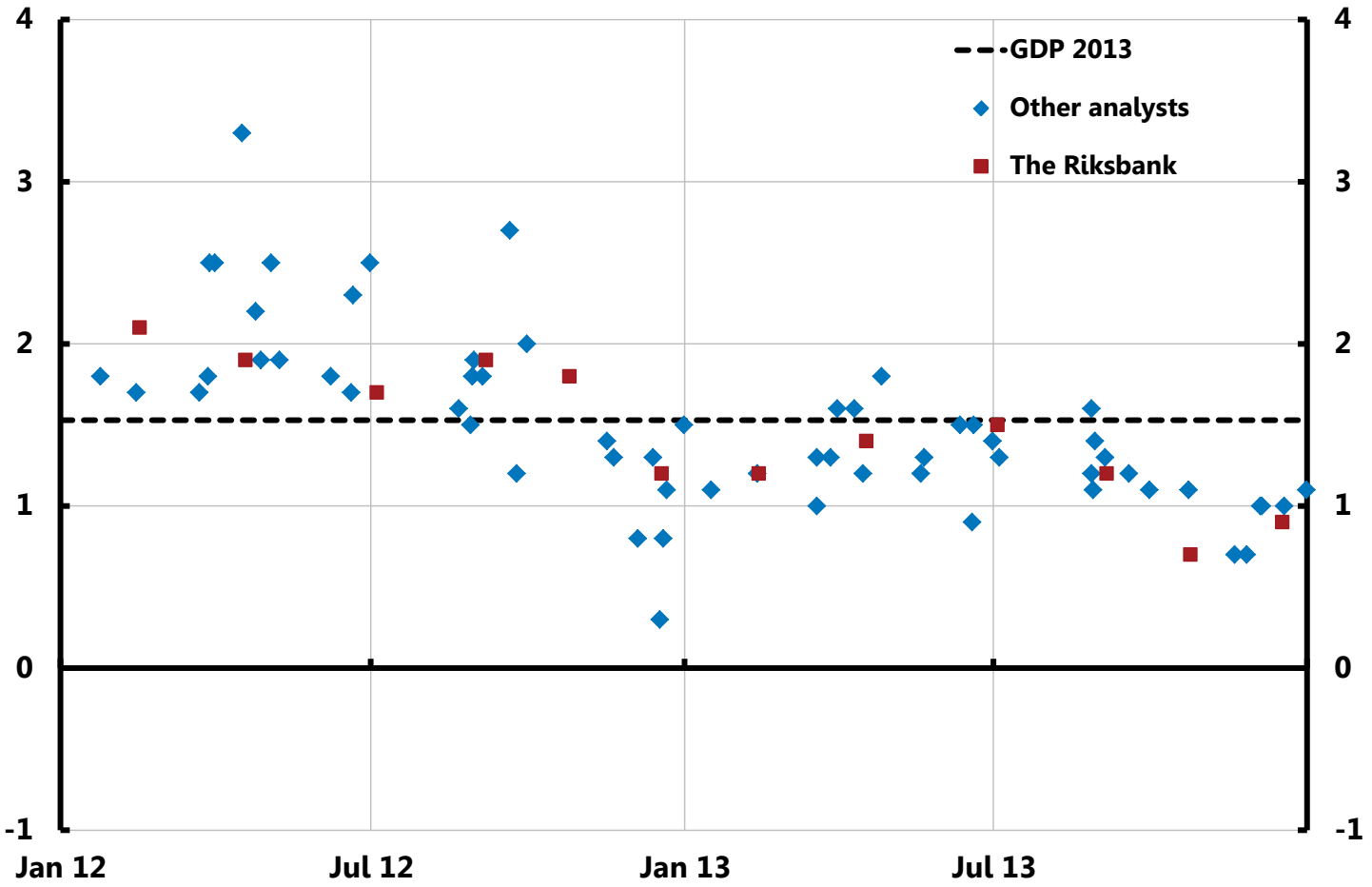


Note. Countries with an inflation target in the form of an interval have their mark in the middle of the interval. Countries with a ceiling for inflation have the ceiling as a mark. Euro area refers to HICP. The broken column for Sweden refers to the CPIF (the CPIF is the CPI with a fixed mortgage rate).

Sources: OECD and respective central bank

Figure 2.12. Forecasts 2012-2013 for GDP growth in 2013

Annual percentage change, annual averages

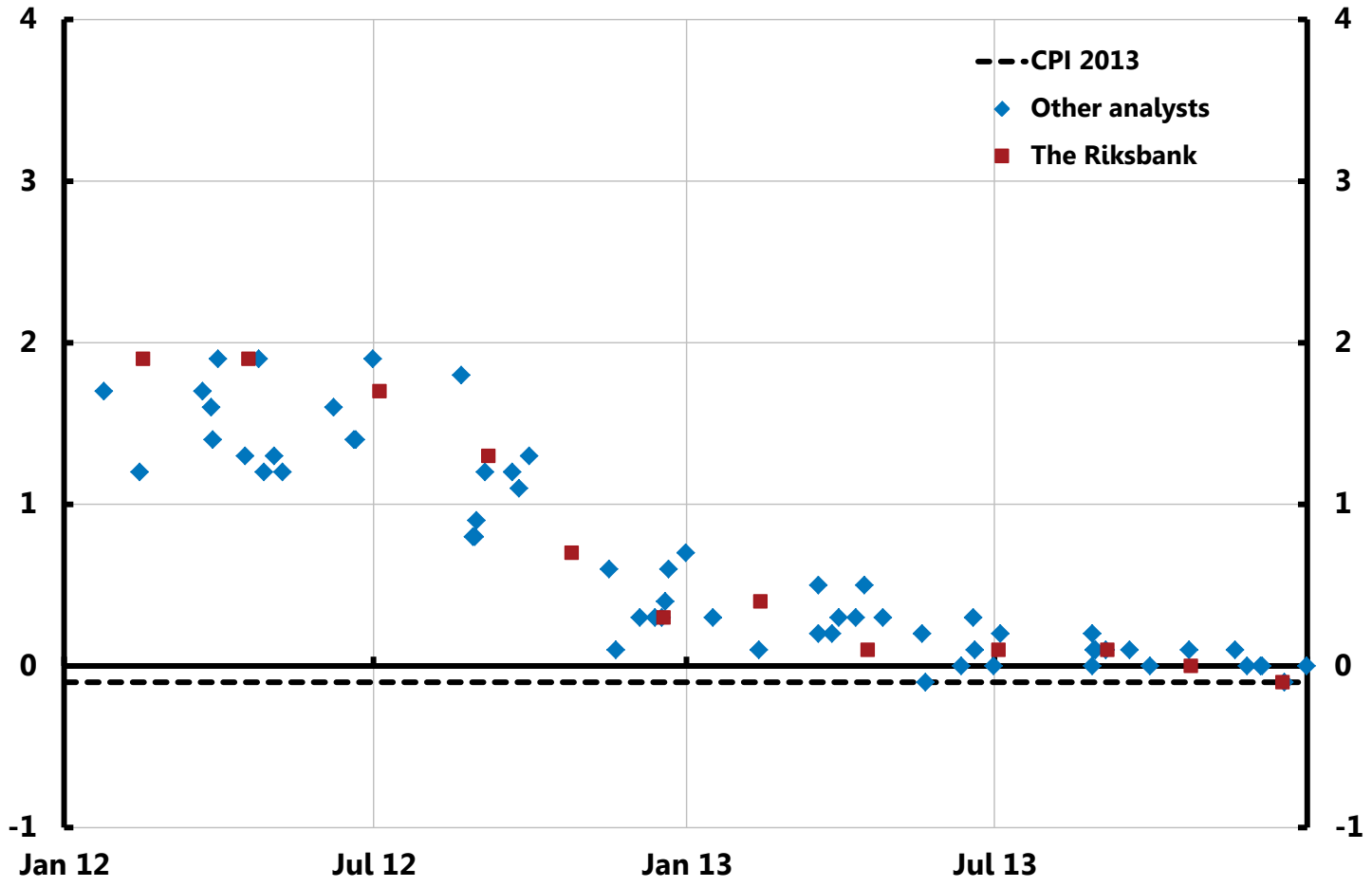


Note. Other analysts refers to the Swedish Ministry of Finance, HUI Research AB, the National Institute of Economic Research, the Swedish Trade Union Confederation (LO), Nordea, SEB, Svenska Handelsbanken, the Confederation of Swedish Enterprise and Swedbank.

Sources: Respective analysts, Statistics Sweden and the Riksbank

Figure 2.13. Forecasts 2012-2013 for CPI inflation in 2013

Annual percentage change, annual averages

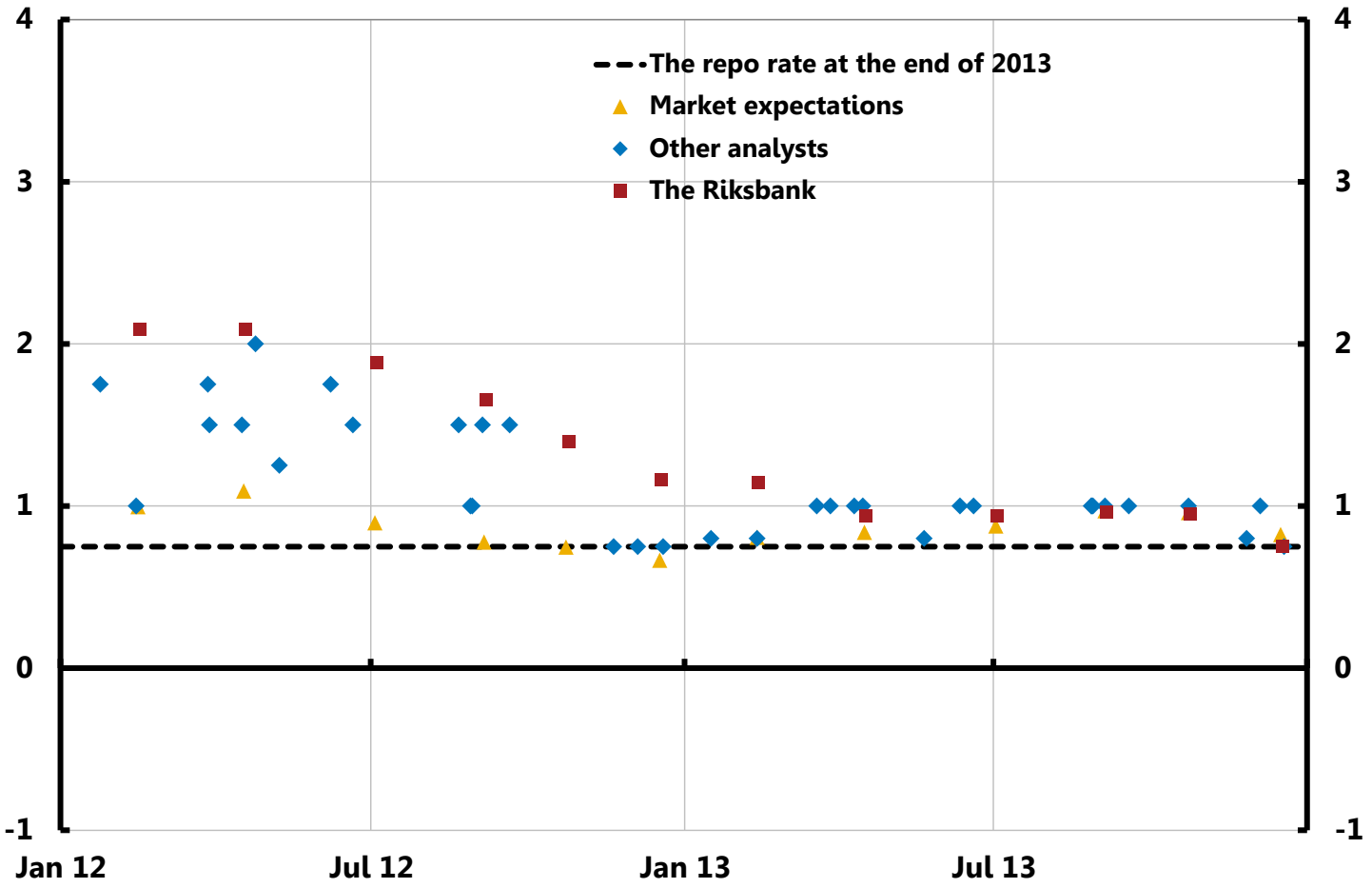


Note. Other analysts refers to those specified in Figure 2:12.

Sources: Respective analysts, Statistics Sweden and the Riksbank

Figure 2.14. Forecasts 2012-2013 for the repo rate at the end of 2013

Per cent

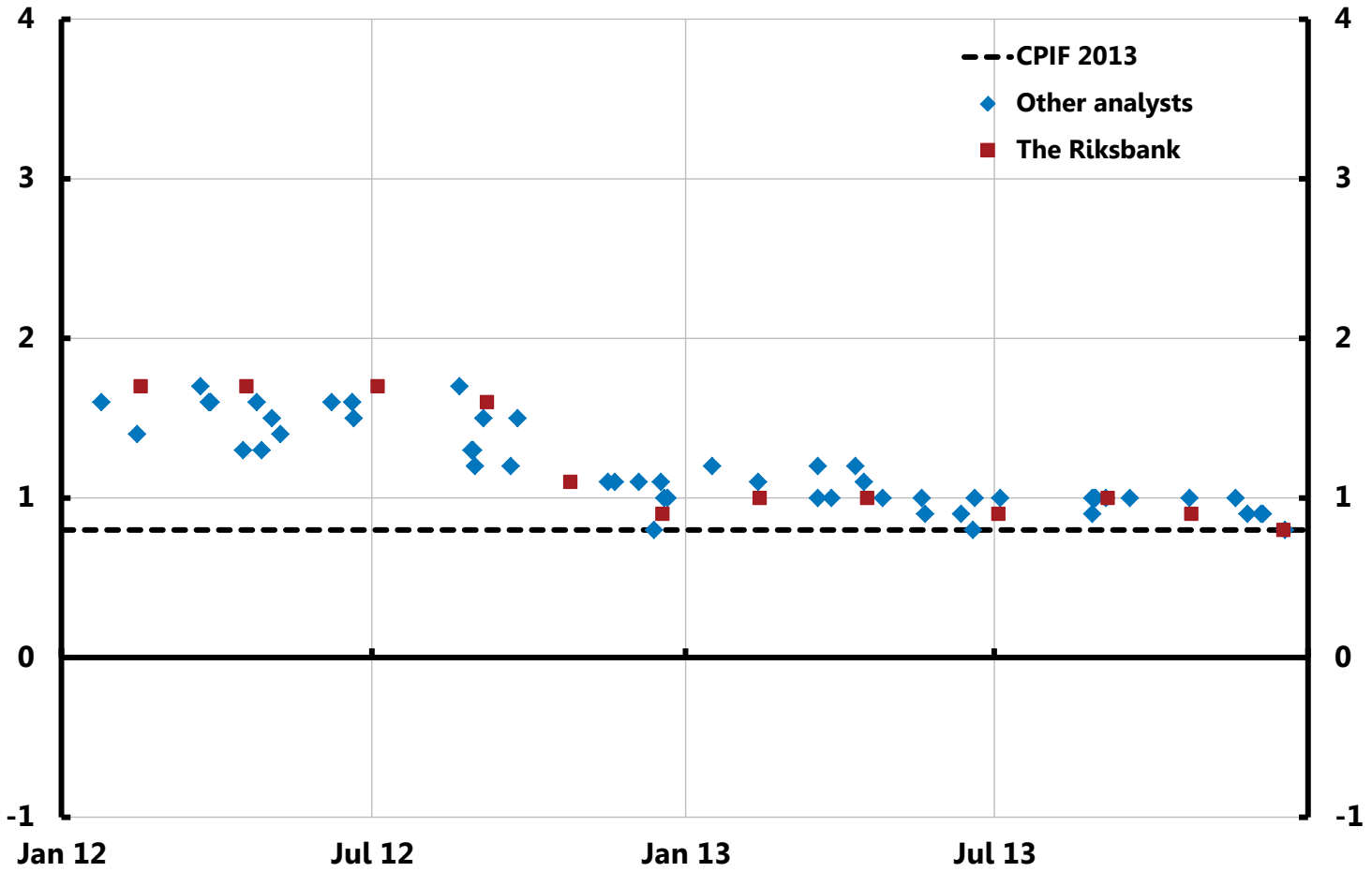


Note. Other analysts are the Ministry of Finance, the National Institute of Economic Research, Nordea, SEB and Swedbank. Market expectations are calculated on the basis of forward rates using interest rates on derivative contracts (RIBA and FRA), adjusted for average risk premiums corresponding to one basis point per month of the maturity period.

Sources: Respective analysts and the Riksbank

Figure 2.15. Forecasts 2012-2013 for CPIF inflation in 2013

Annual percentage change, annual averages

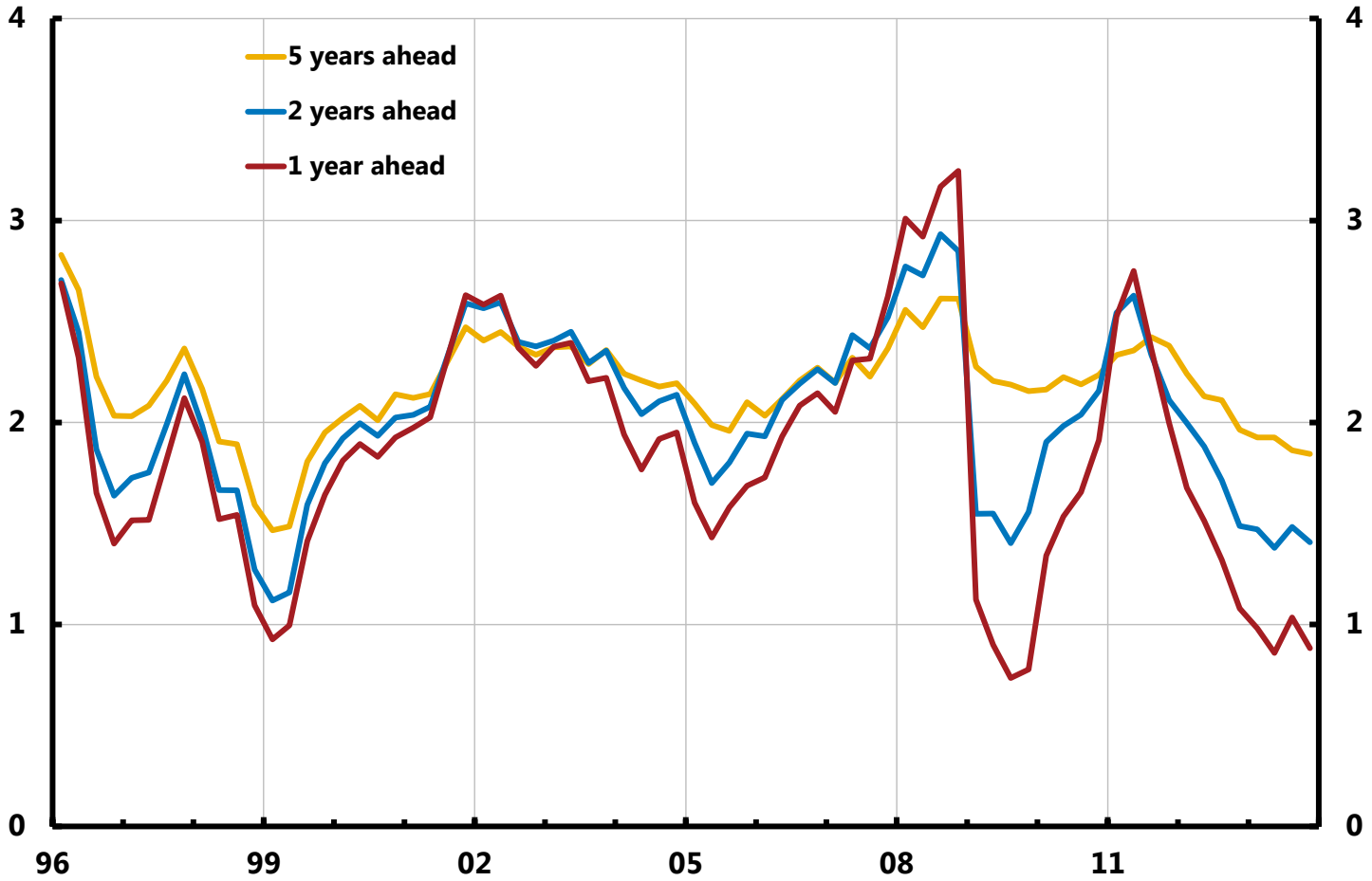


Note. Other analysts refers to those specified in Figure 2:12 except HUI Research AB. The CPIF is the CPI with a fixed mortgage rate.

Sources: Respective analysts, Statistics Sweden and the Riksbank

Figure 2.16. All respondents´ expectations of inflation

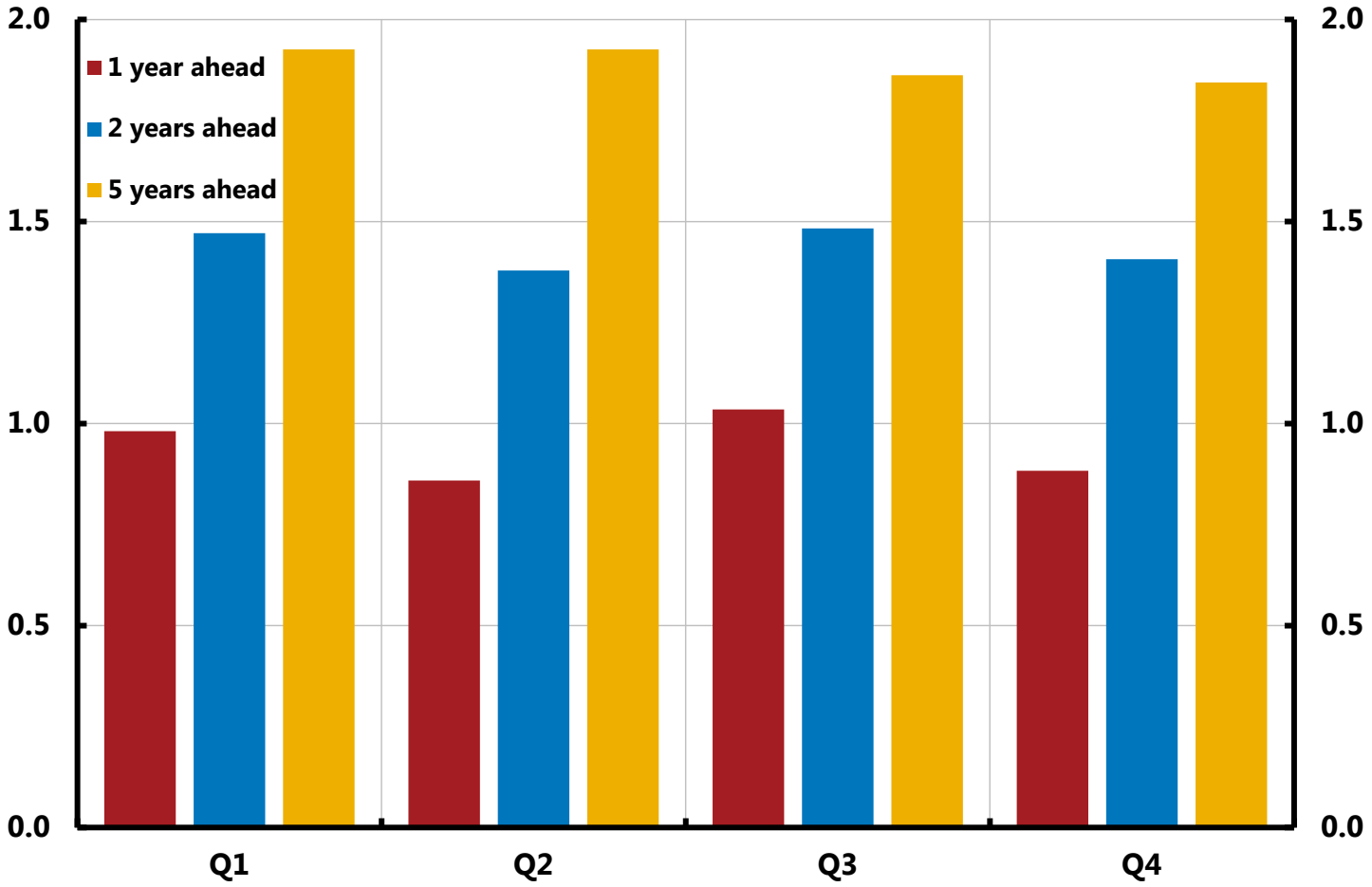
Per cent



Source: TNS SIFO Prospera

Figure 2.17. All respondents' expectations of inflation 2013

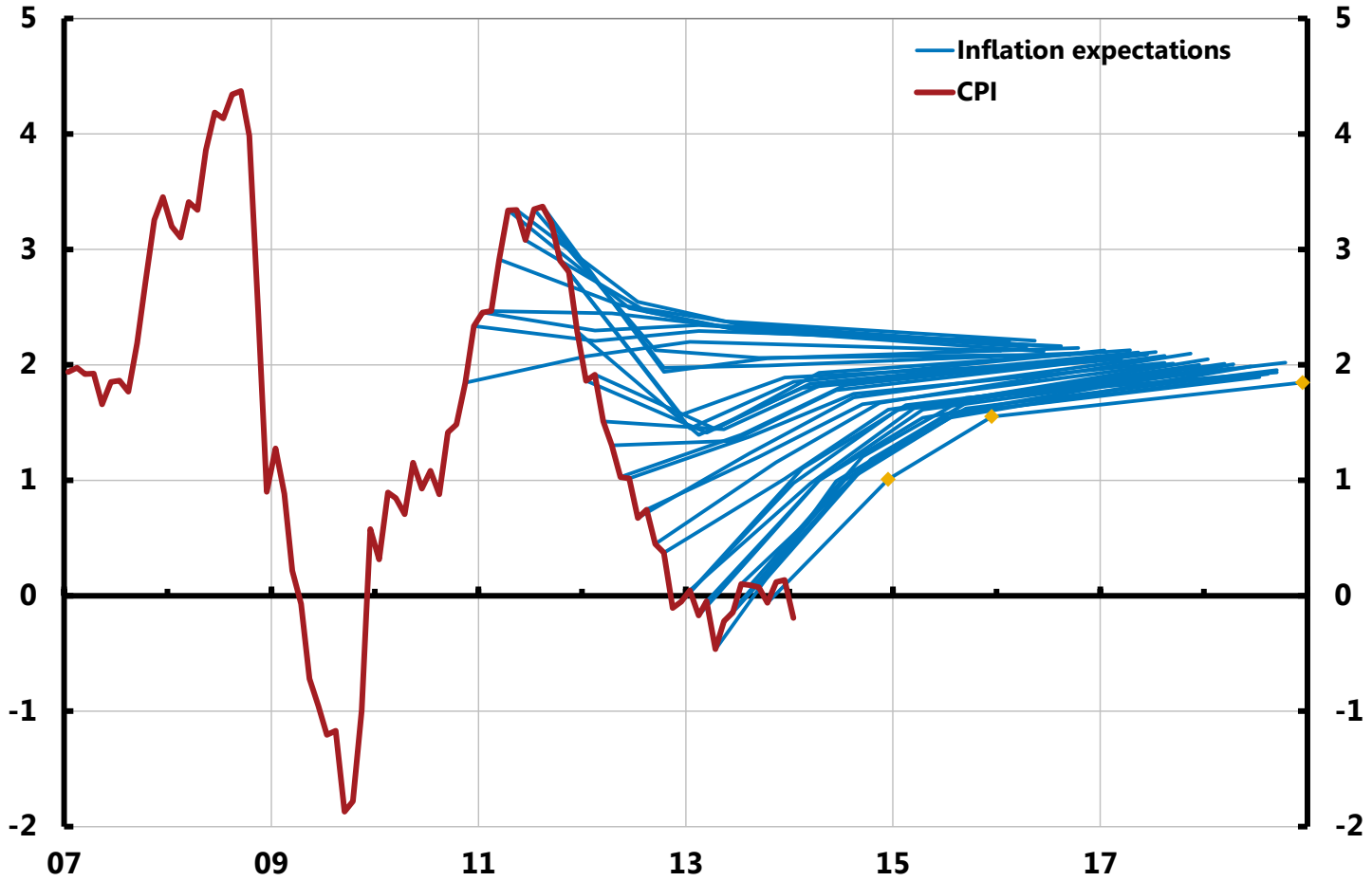
Per cent



Source: TNS SIFO Prospera

Figure 2.18. Money market agents' expectations of inflation 2011-2013

Per cent

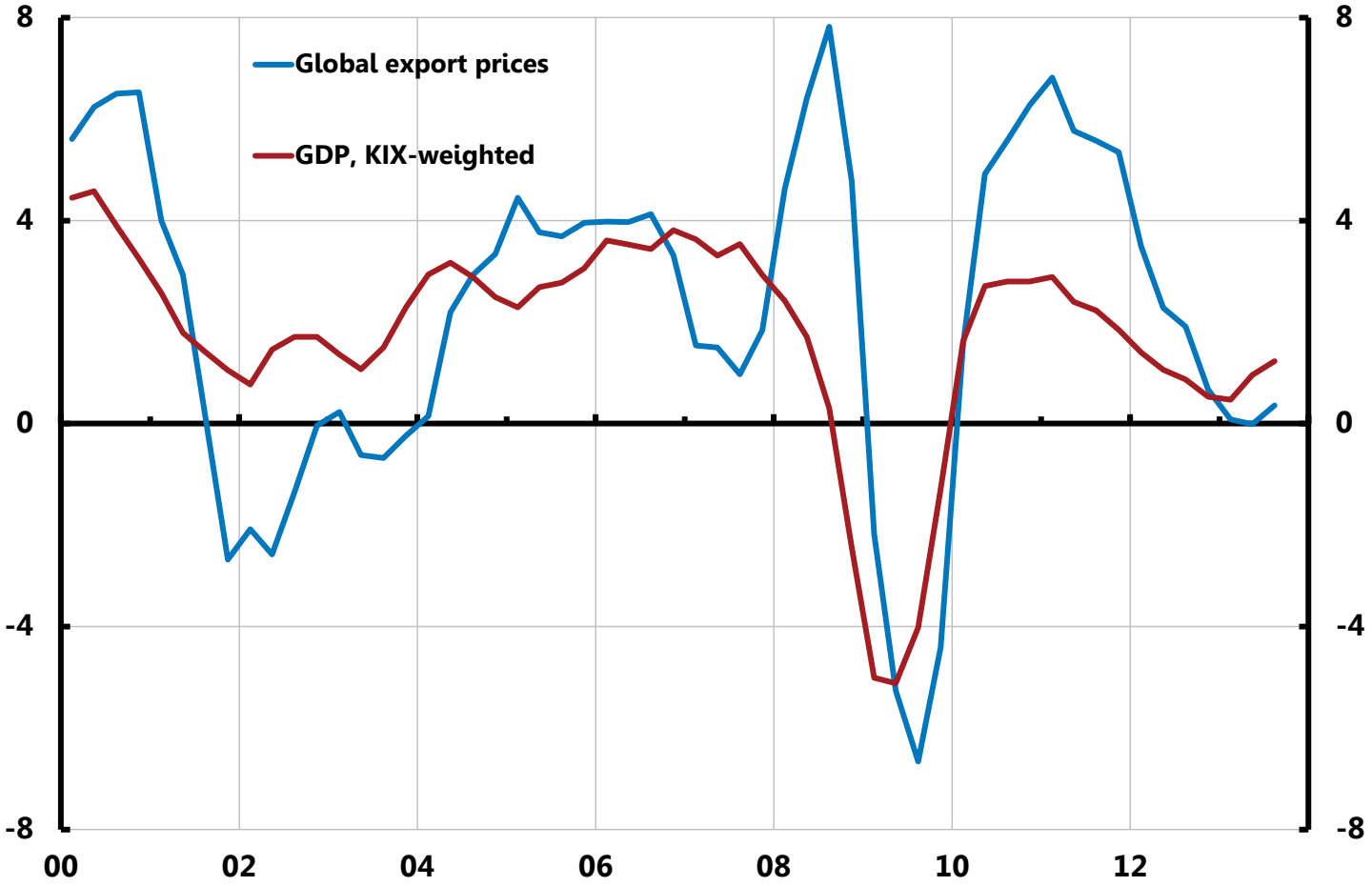


Note. Yellow marks refer to one, two and five years ahead in the survey made in December 2013.

Sources: Statistics Sweden and TNS SIFO Prospera

Figure 2.19. KIX-weighted GDP and global export prices

Annual percentage change

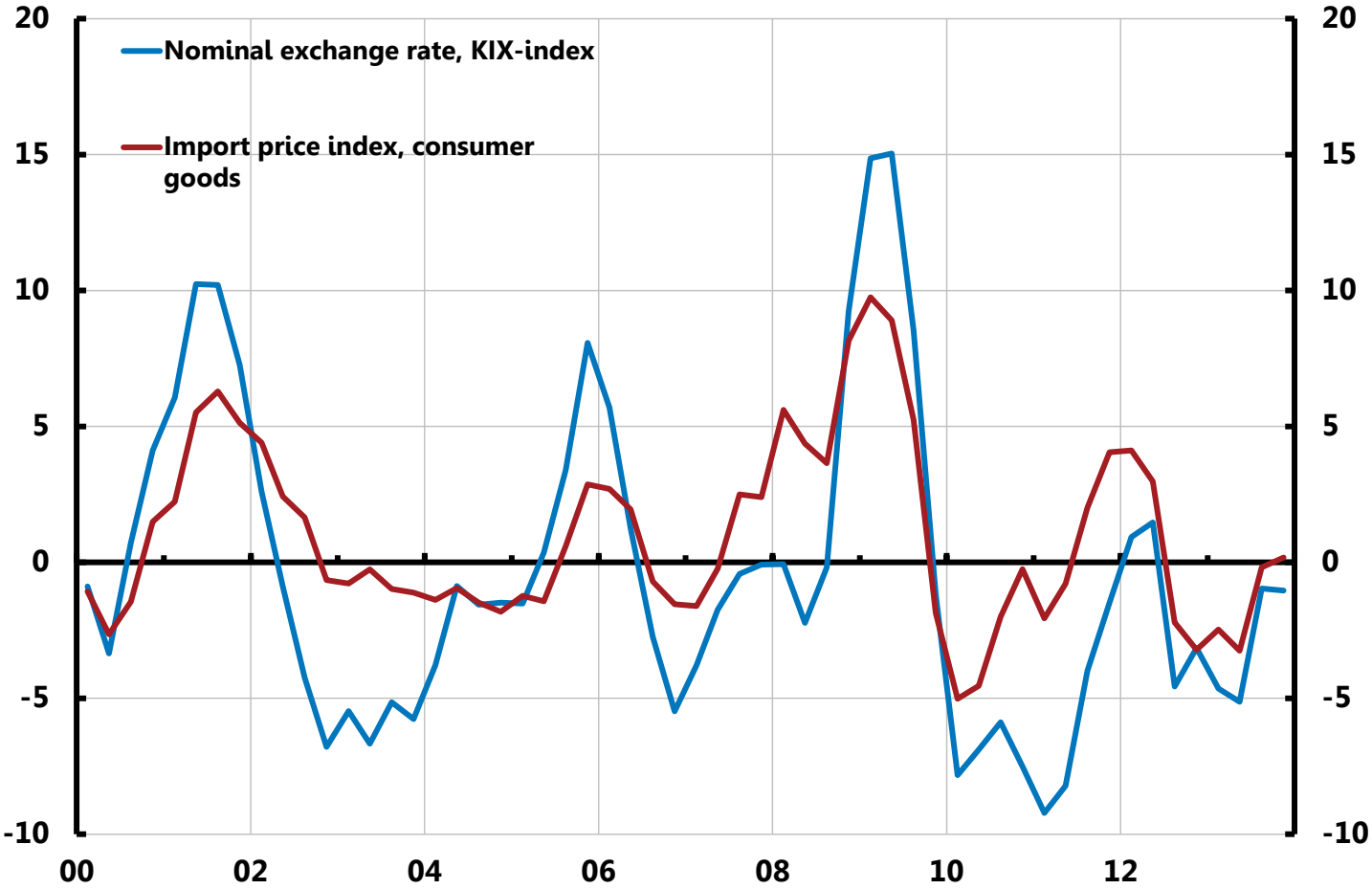


Note. Global export prices are an aggregate of export deflators (in local currencies), where Sweden's import shares are used as weights. KIX is an aggregate of countries that are important for Sweden's international transactions.

Sources: National sources and the Riksbank

Figure 2.20. Nominal exchange rate and import prices

Annual percentage change

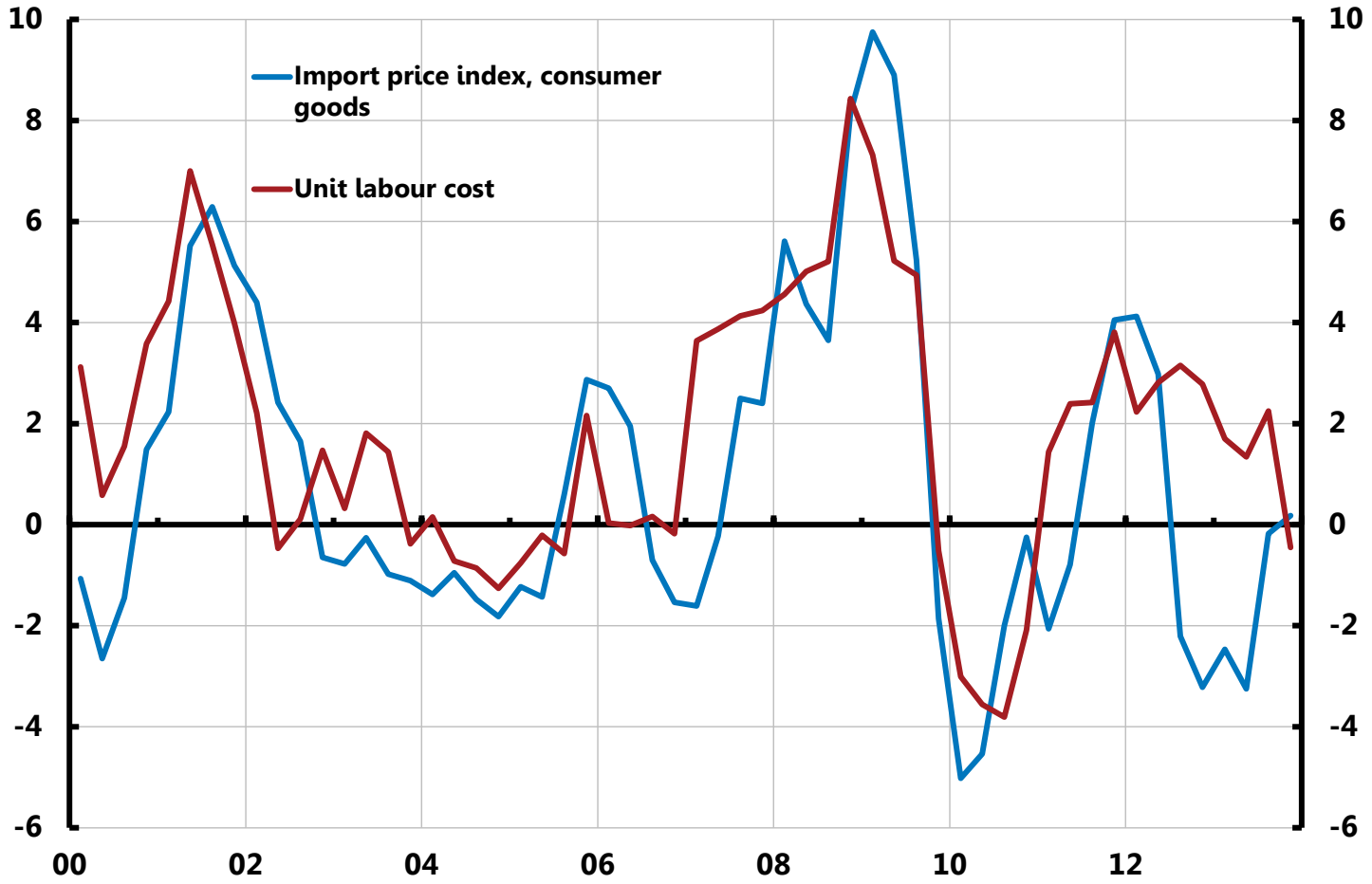


Note. Import prices refer to consumer goods prices according to the producer price index. KIX is an aggregate of countries that are important for Sweden's international transactions.

Sources: Statistics Sweden and the Riksbank

Figure 2.21. Unit labour cost and import prices

Annual percentage change

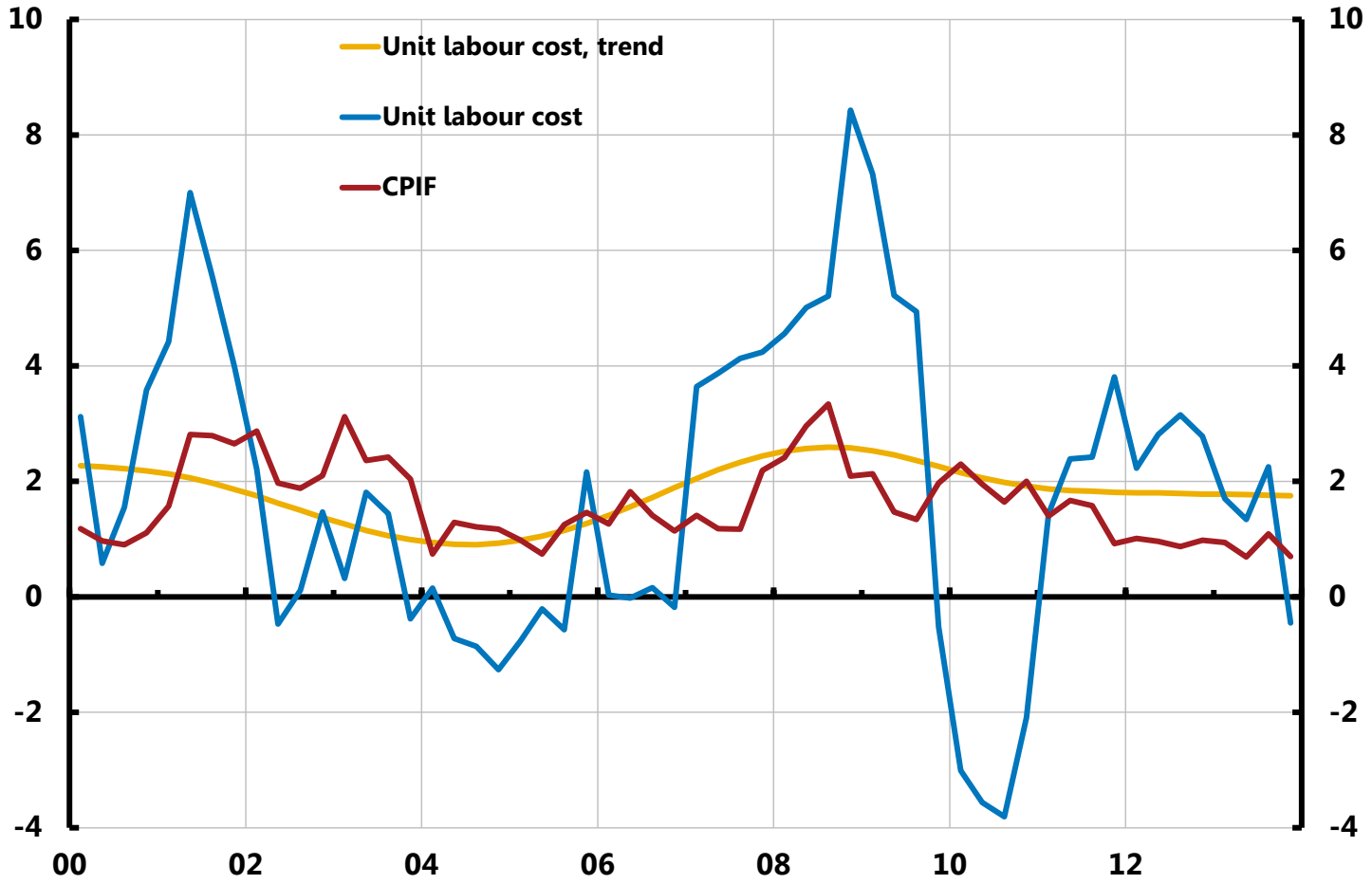


Note. Import prices refer to prices on consumer goods according to the producer price index.

Sources: Statistics Sweden and the Riksbank

Figure 2.22. Unit labour cost and CPIF

Annual percentage change

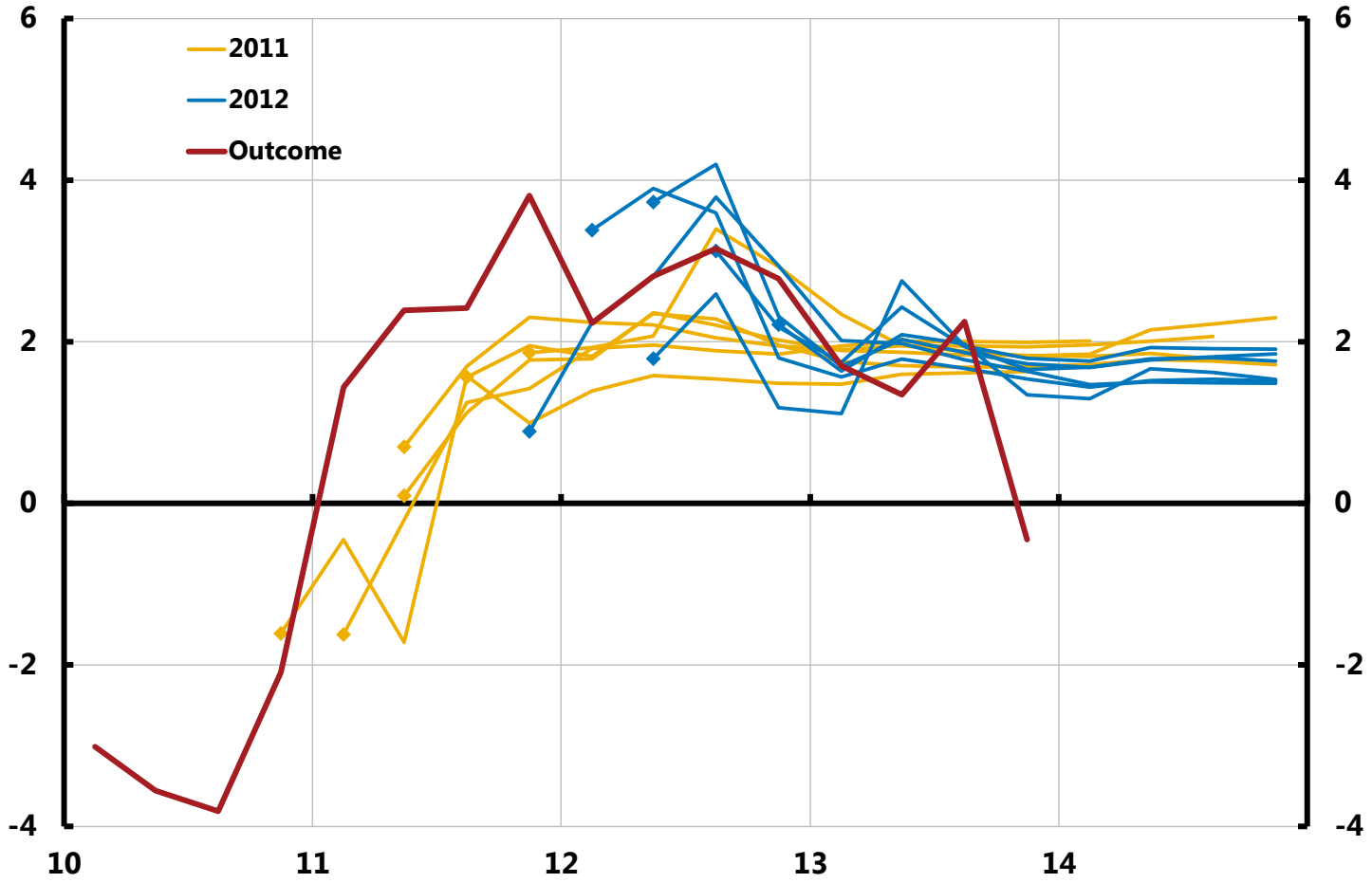


Note. The trend is calculated using a so-called HP filter and refers to the trend in the Riksbank's forecast in February 2014.

Sources: Statistics Sweden and the Riksbank

Figure 2.23. Unit labour cost, outcome and forecasts

Annual percentage change

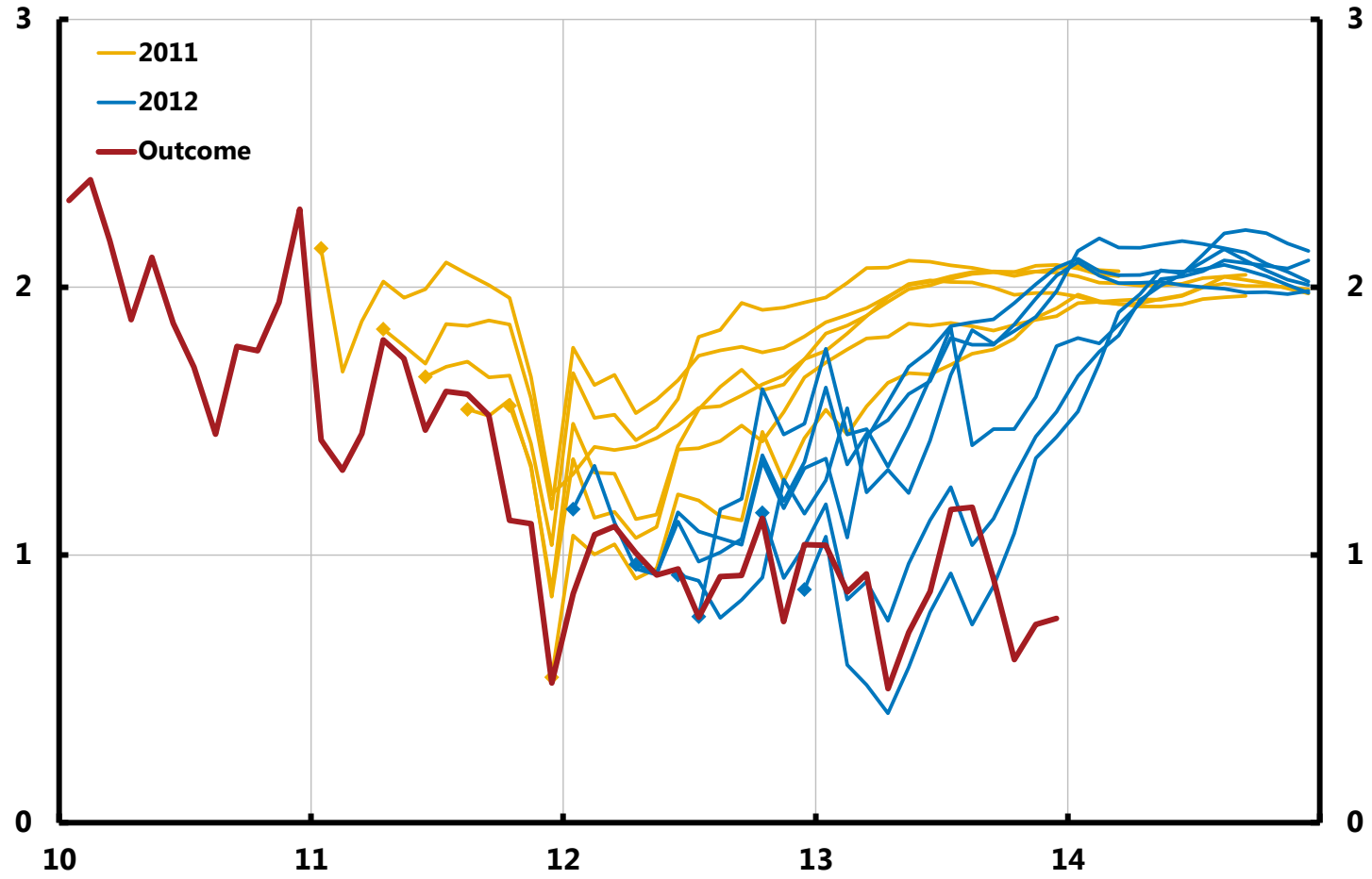


Note. The yellow and blue lines represent the Riksbank's forecasts 2011-2012. The marks show the starting point of each forecast and may therefore deviate from the latest outcome at that point in time.

Sources: Statistics Sweden and the Riksbank

Figure 2.24. CPIF, outcome and forecasts

Annual percentage change

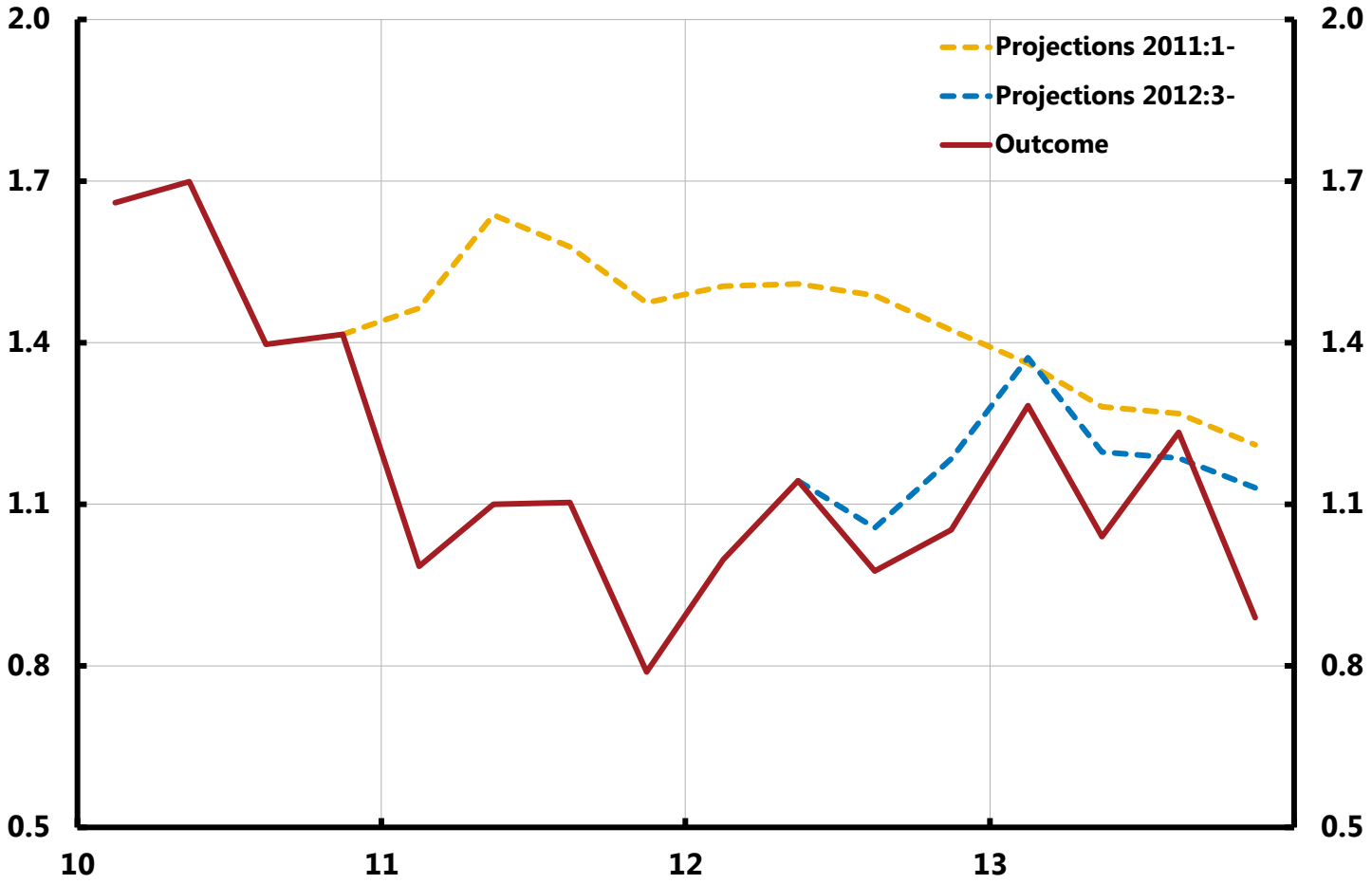


Note. See the note to Figure 2:23. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 2.25. Outcome and projections for CPIF excluding energy

Annual percentage change

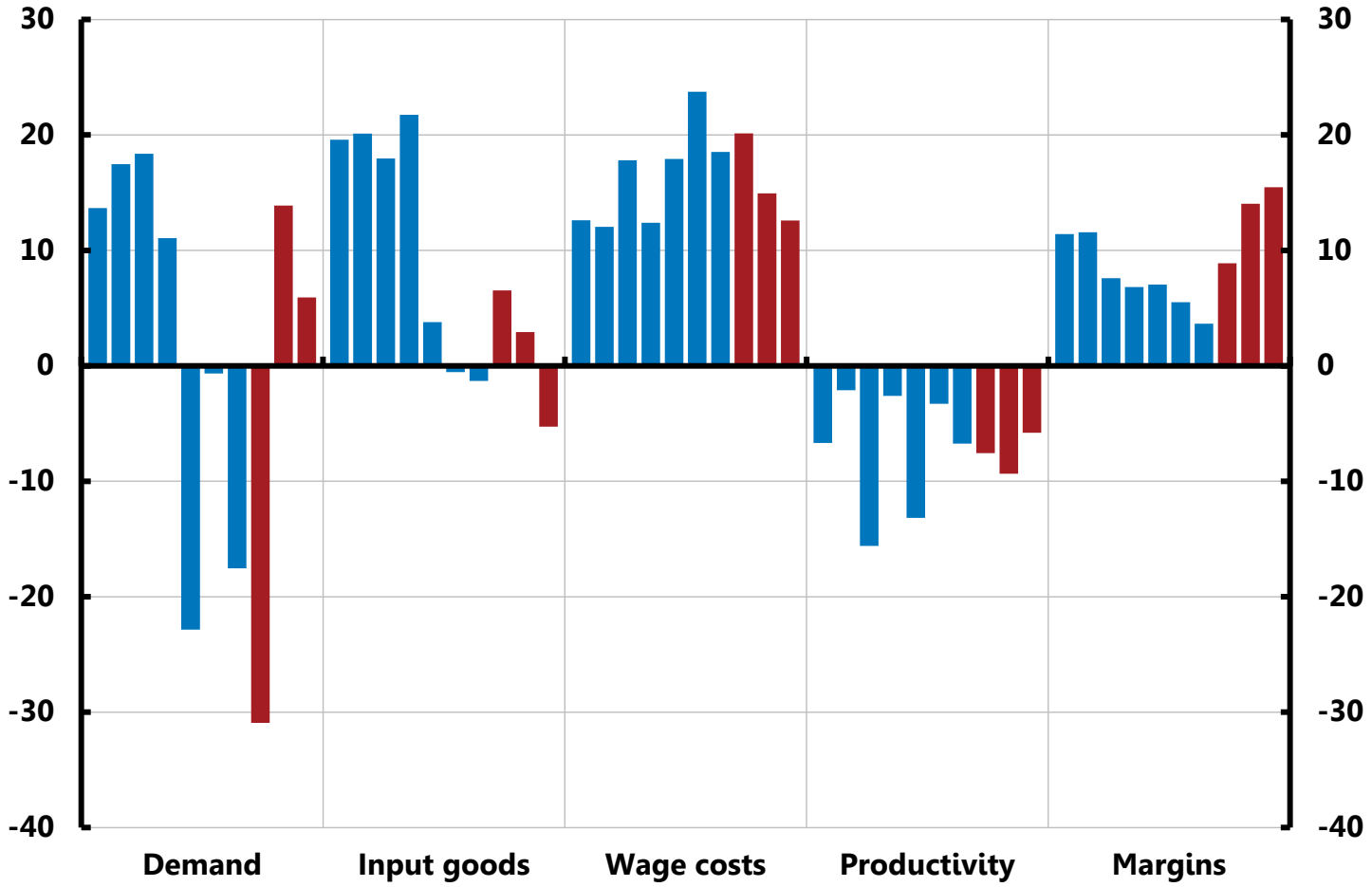


Note. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 2.26. Factors behind pricing in the twelve months ahead

Weighted net percentages

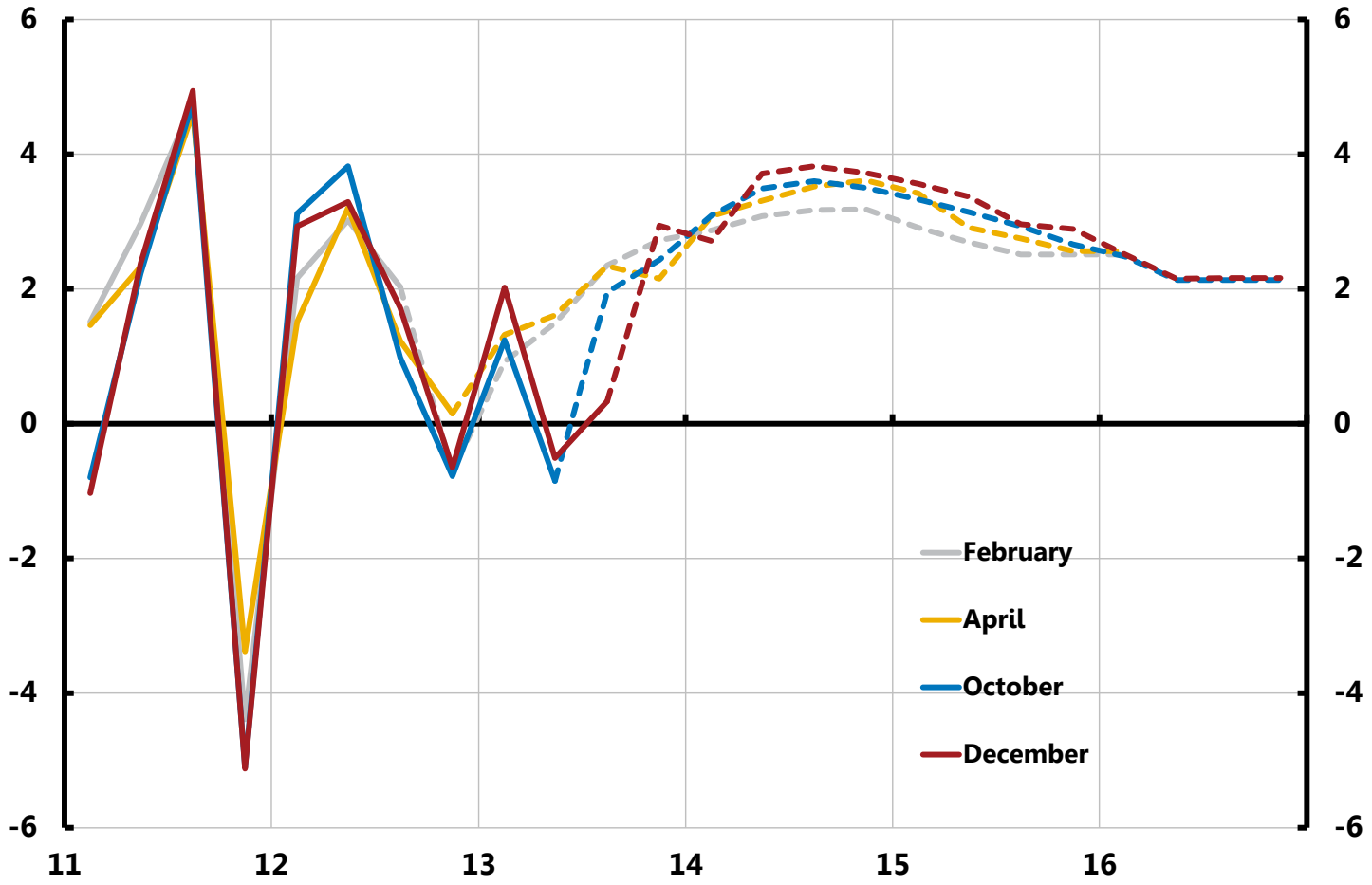


Note. The columns show the relative percentages (net) for five factors that companies state will affect prices upwards or downwards 12 months ahead. The first column for each factor refers to the survey in September 2010 and the final one to the survey in September 2013. The surveys made in 2013 are marked in red.

Source: The Riksbank

Figure 3.1. GDP, forecasts 2013

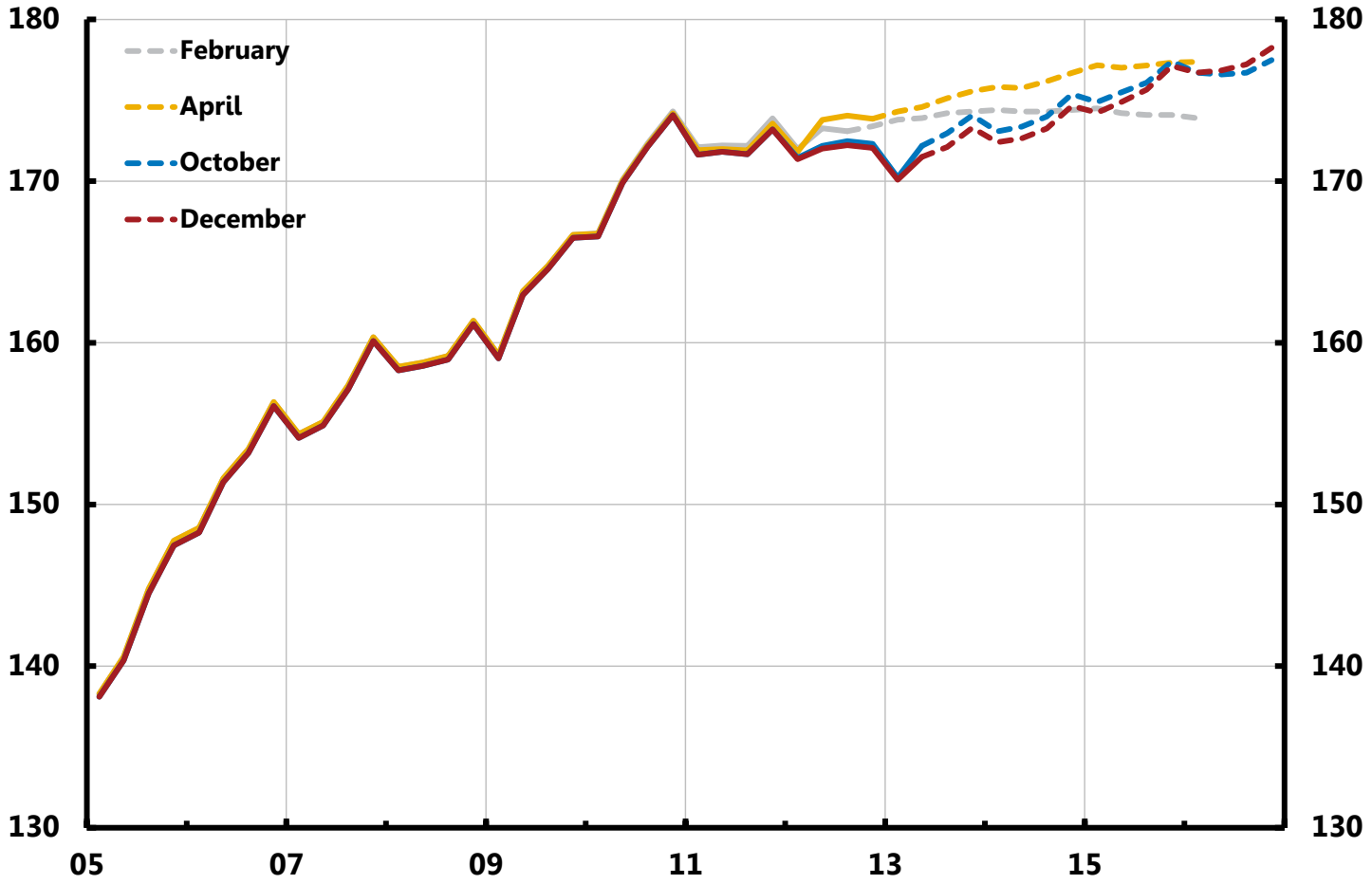
Quarterly changes in per cent calculated in annualised terms, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 3.2. Household debt, forecasts 2013

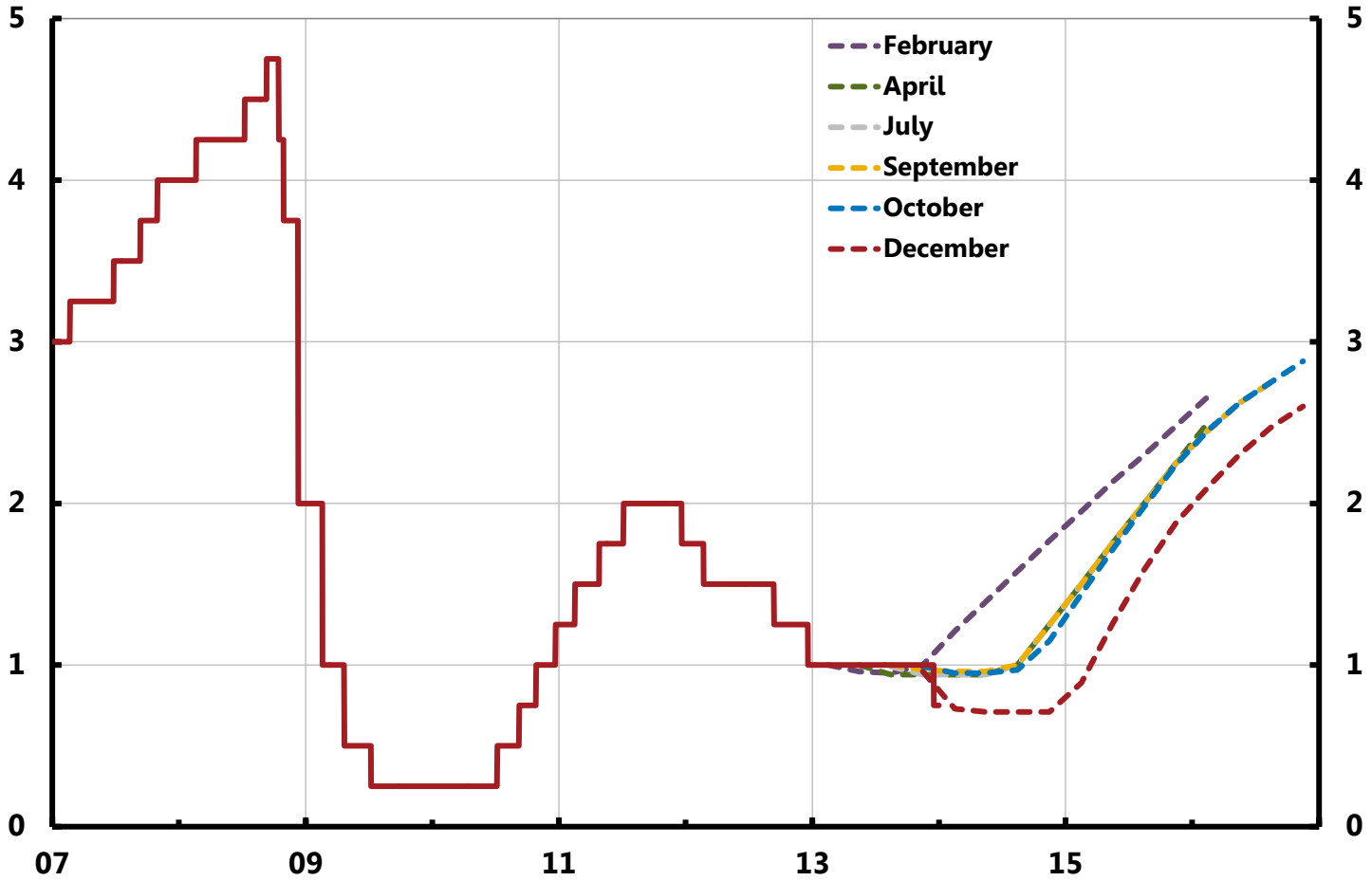
Per cent of disposable income



Sources: Statistics Sweden and the Riksbank

Figure 3.3. Repo rate, forecasts 2013

Per cent

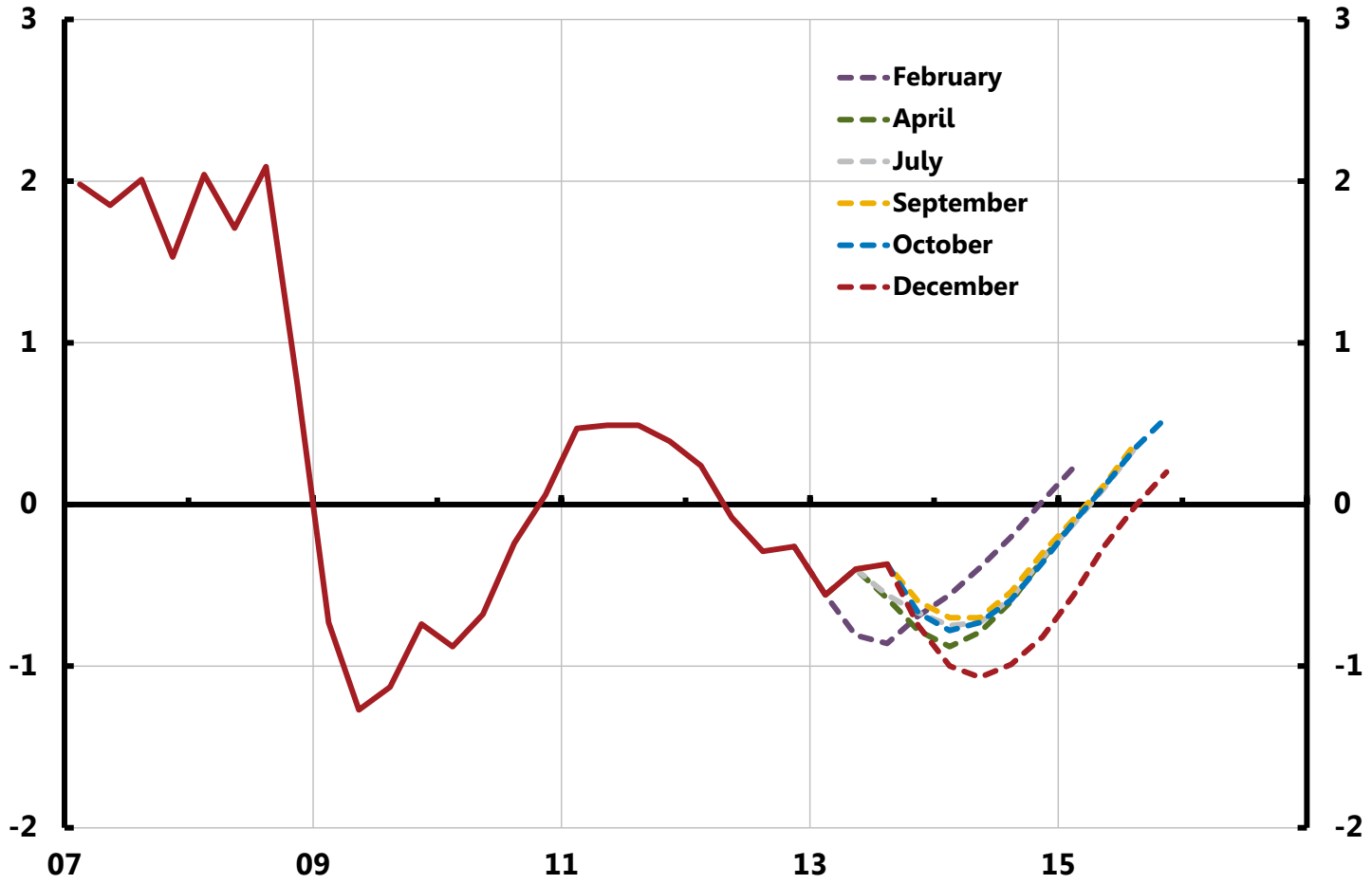


Note. Outcome data are daily rates and forecasts are quarterly averages.

Source: The Riksbank

Figure 3.4. Real repo rate, forecasts 2013

Per cent, quarterly averages

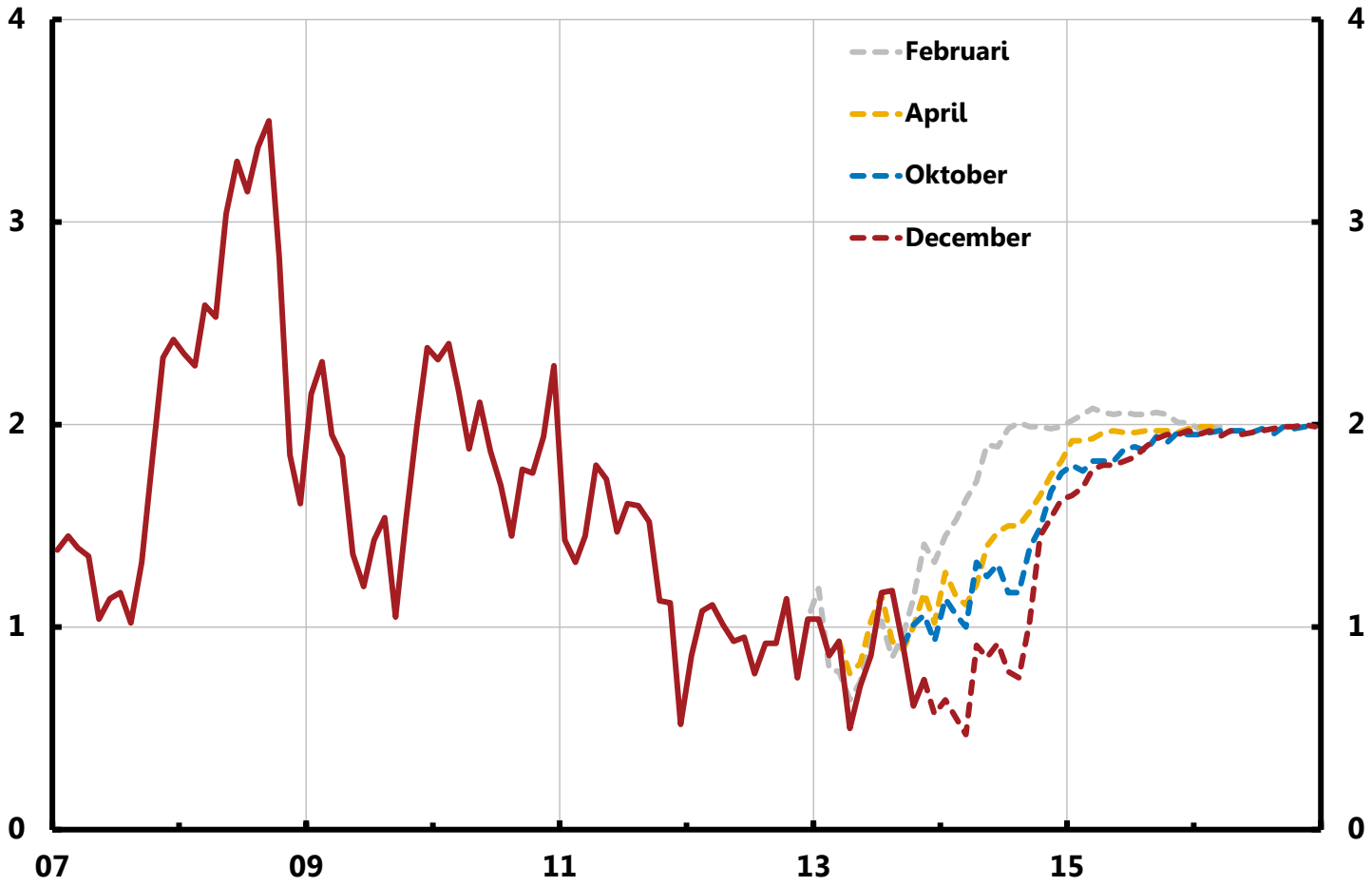


Note. The real repo rate is calculated as an average of the Riksbank's repo-rate forecasts for the coming year minus the inflation forecast (CPIF) for the corresponding period.

Source: The Riksbank

Figure 3.5. CPIF, forecasts 2013

Annual percentage change

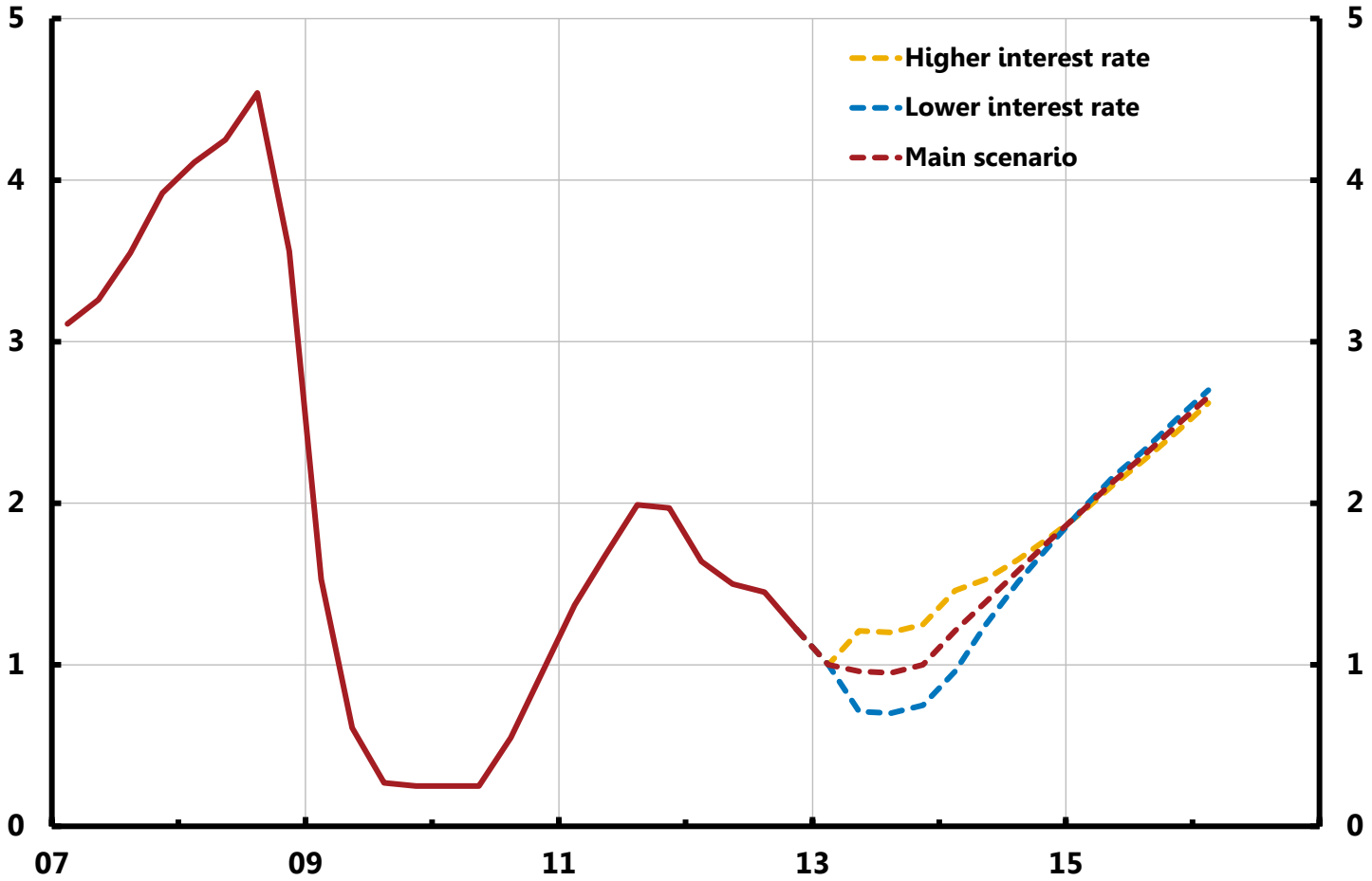


Note. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 3.6. Alternative repo-rate paths, February 2013

Per cent, quarterly averages

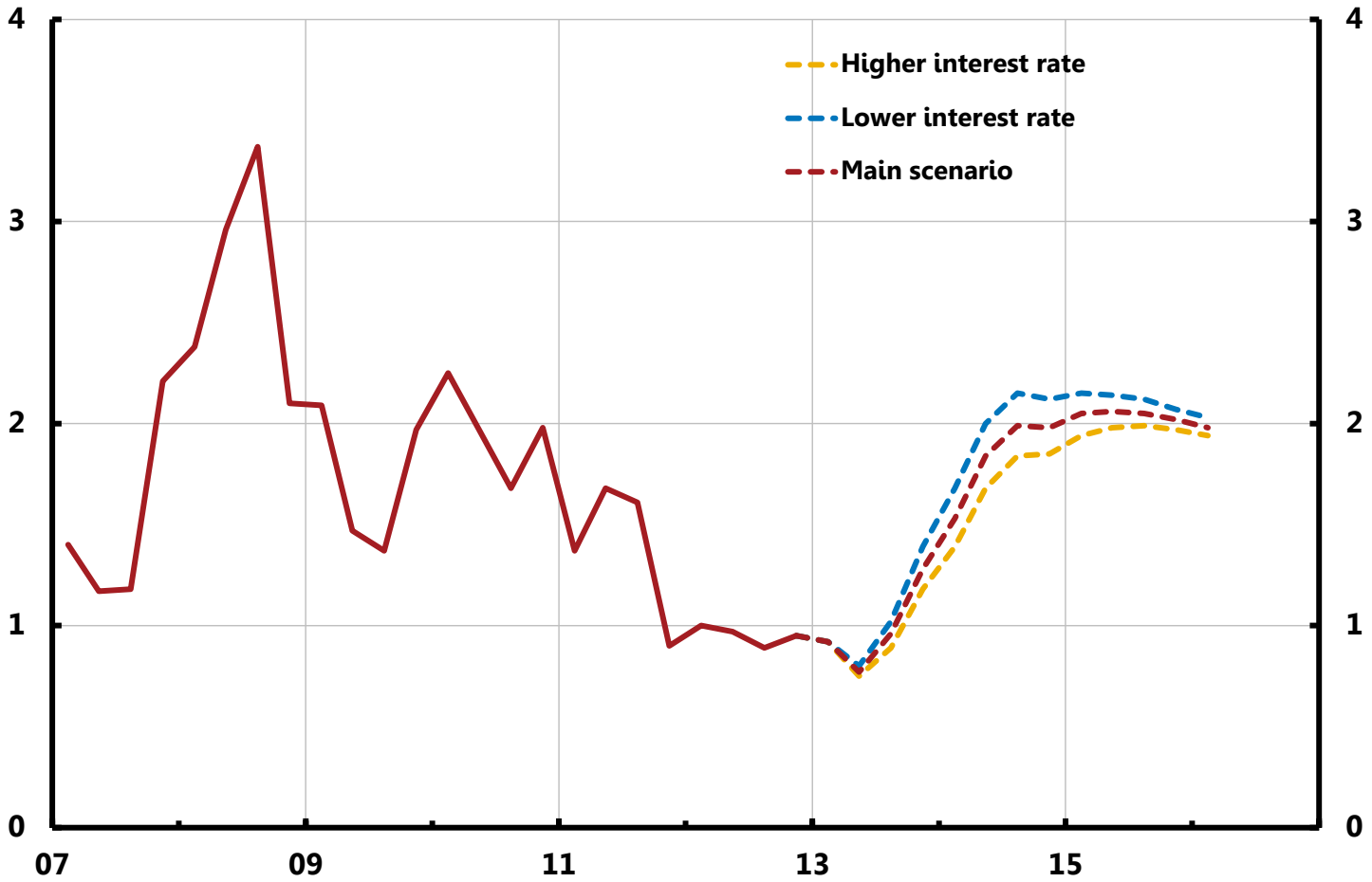


Note. Scenarios in Monetary Policy Report February 2013.

Source: The Riksbank

Figure 3.7. CPIF, alternative repo-rate paths, February 2013

Annual percentage change, quarterly averages

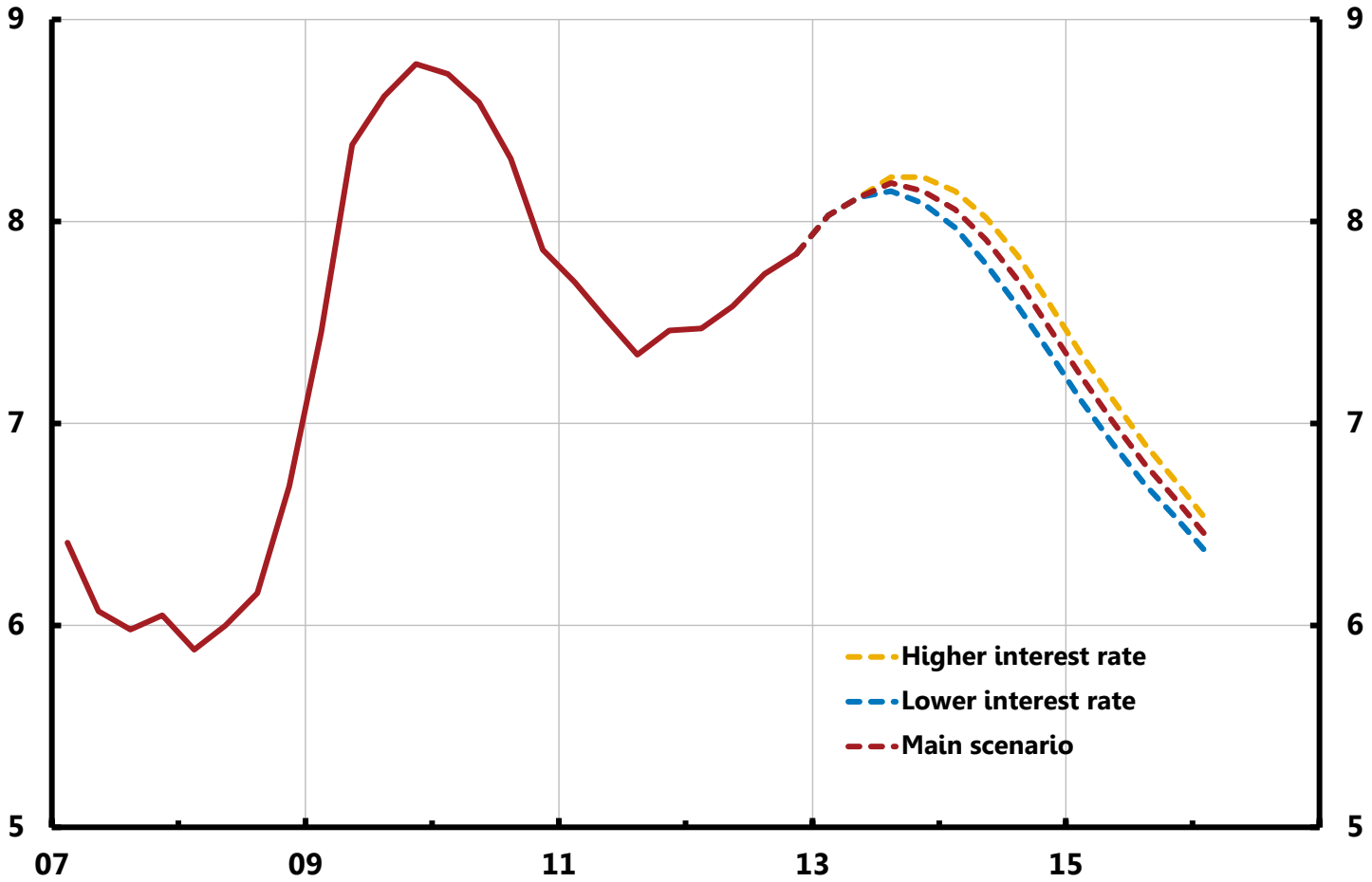


Note. Scenarios in Monetary Policy Report February 2013. The CPIF is the CPI with a fixed mortgage rate.

Sources: Statistics Sweden and the Riksbank

Figure 3.8. Unemployment, alternative repo-rate paths, February 2013

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



Note. Scenarios in Monetary Policy Report February 2013.

Sources: Statistics Sweden and the Riksbank

Figure 3.9. KIX-weighted nominal exchange rate, forecasts 2013

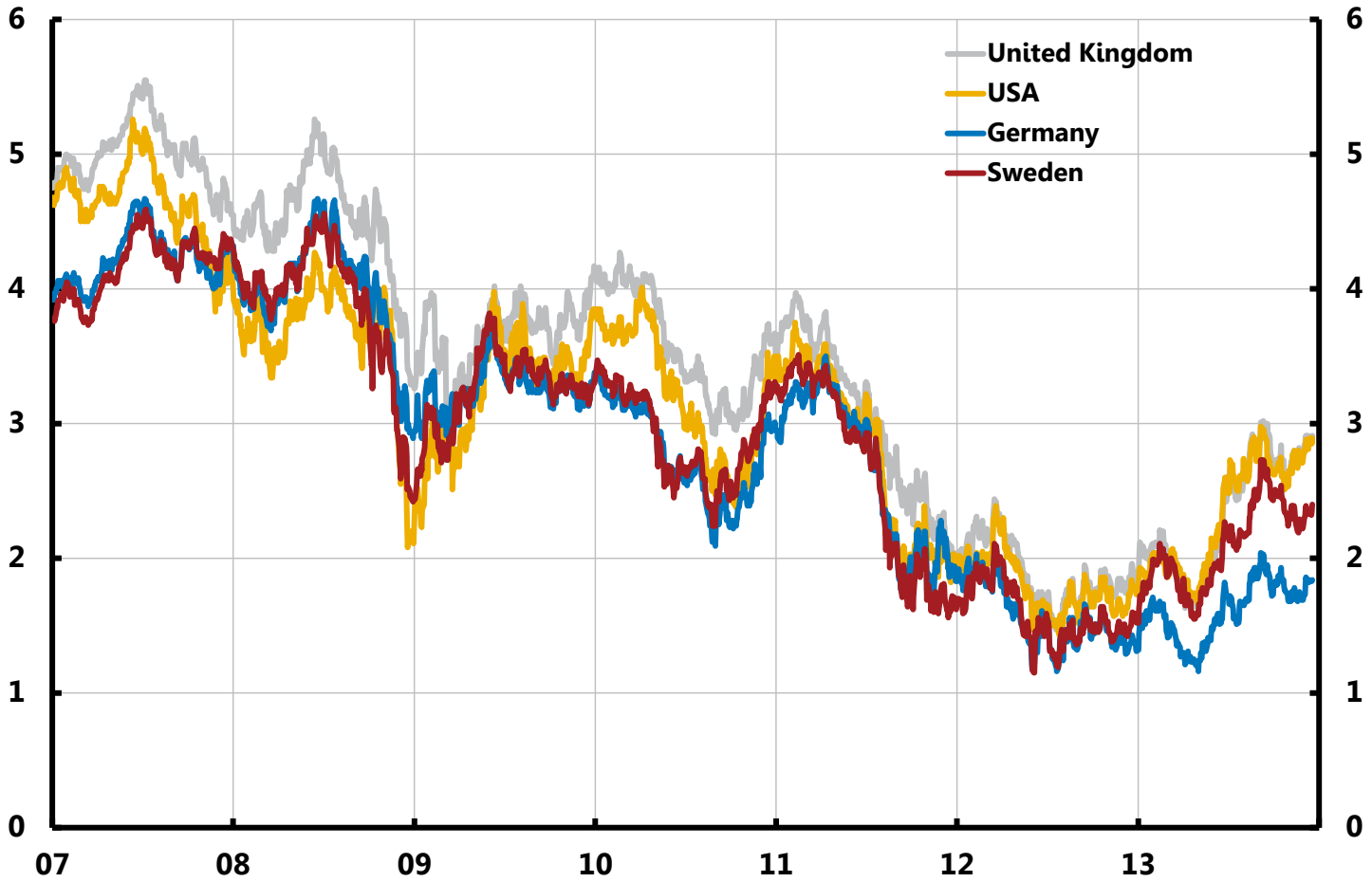
Index, 18 November 1992 = 100

Note. KIX is an aggregate of countries that are important for Sweden's international transactions. Outcome data are daily rates and forecasts are quarterly averages.

Source: The Riksbank

Figure 3.10. Government bond rates with 10 years left to maturity

Per cent



Source: Macrobond

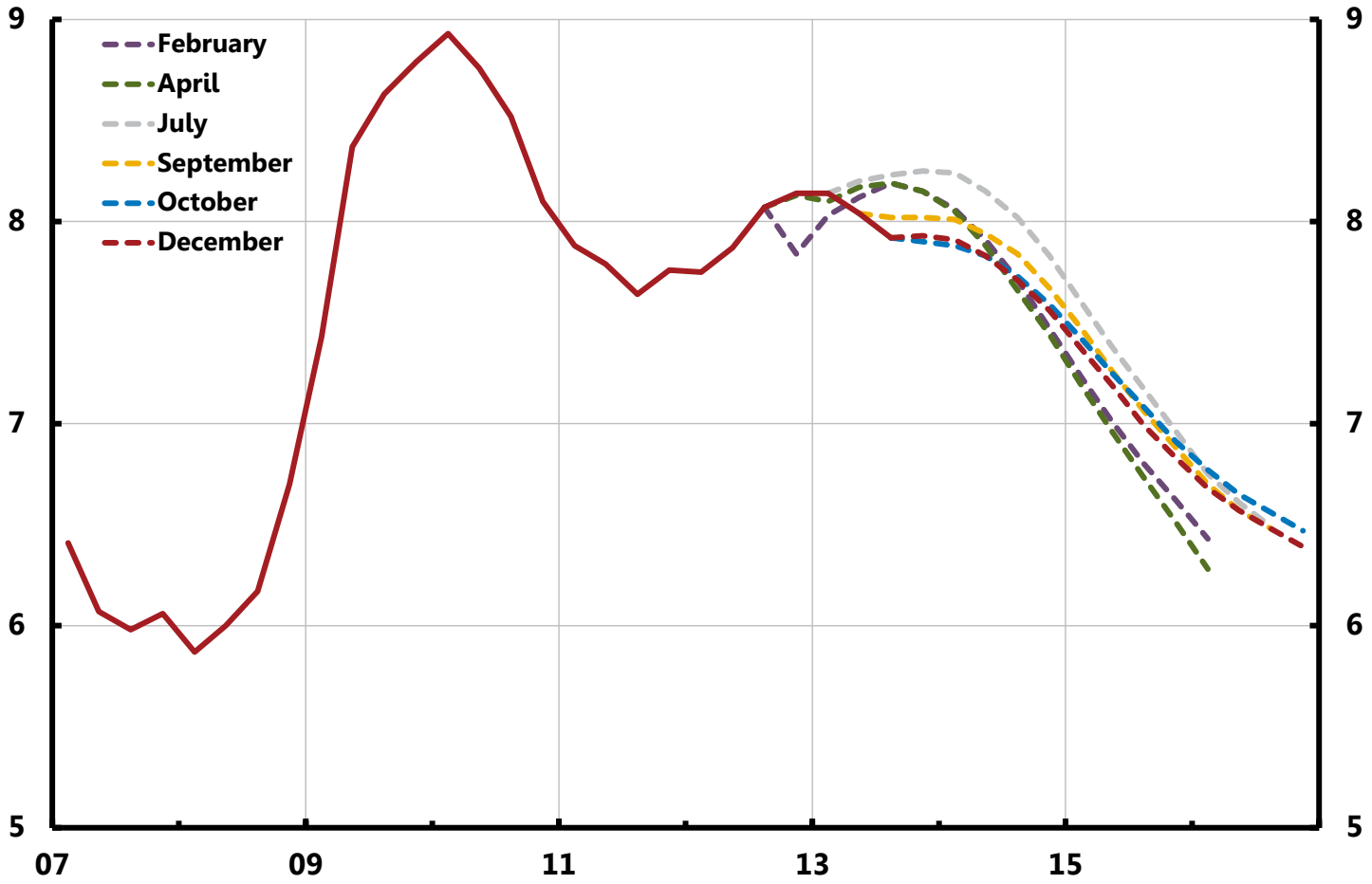
Figure 3.11. The Economic Tendency Indicator

Index, mean = 100, standard deviation = 10

Source: National Institute of Economic Research

Figure 3.12. Unemployment, forecasts 2013

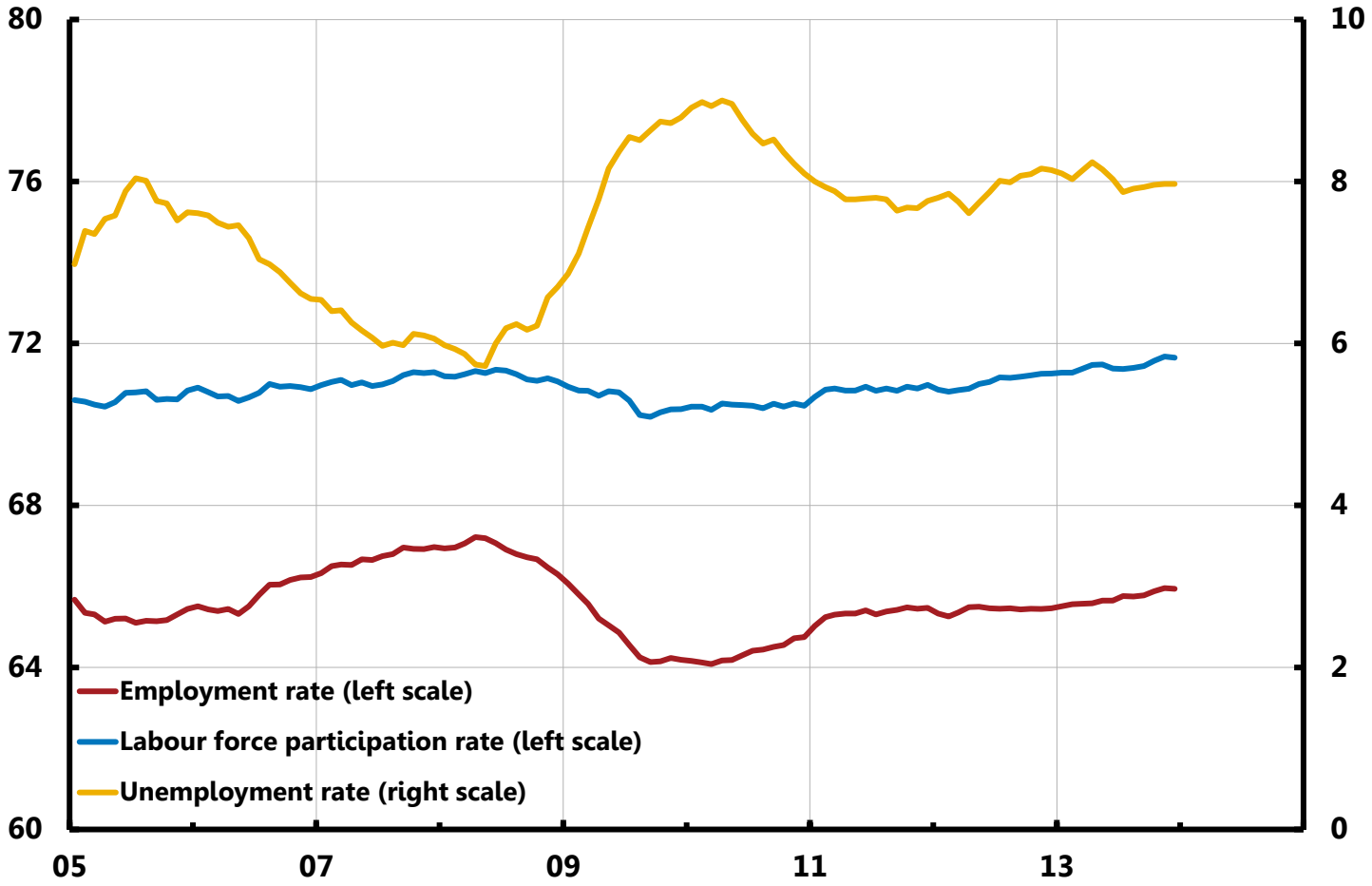
Per cent of the labour force, aged 15-74, seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 3.13. Labour force, employment and unemployment

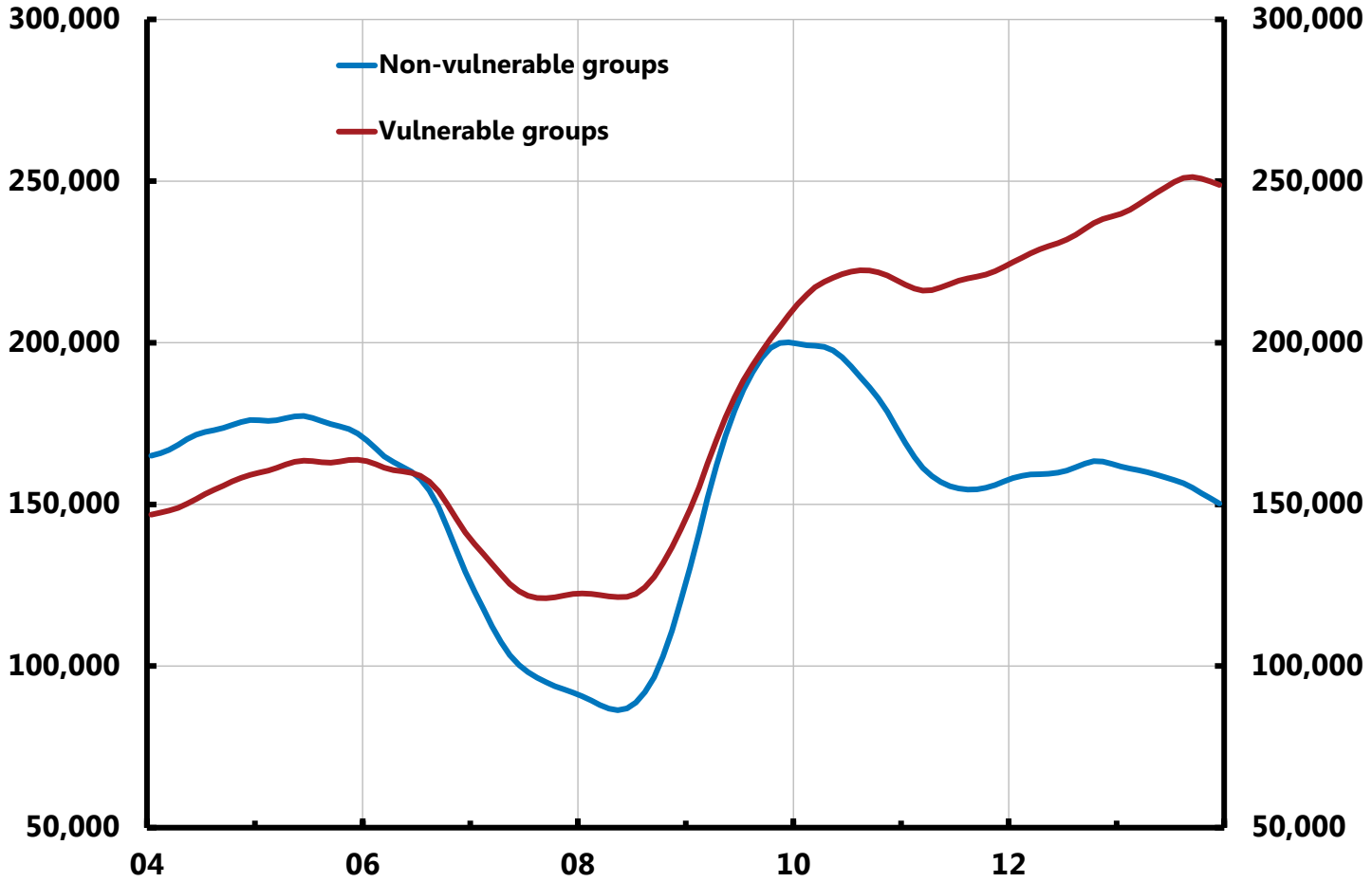
Per cent of the population and per cent of the labour force, aged 15-74, seasonally-adjusted data, three-month moving averages



Sources: Statistics Sweden and the Riksbank

Figure 3.14. Unemployed, vulnerable groups on the labour market

Number of unemployed, seasonally-adjusted data and trend-adjusted data

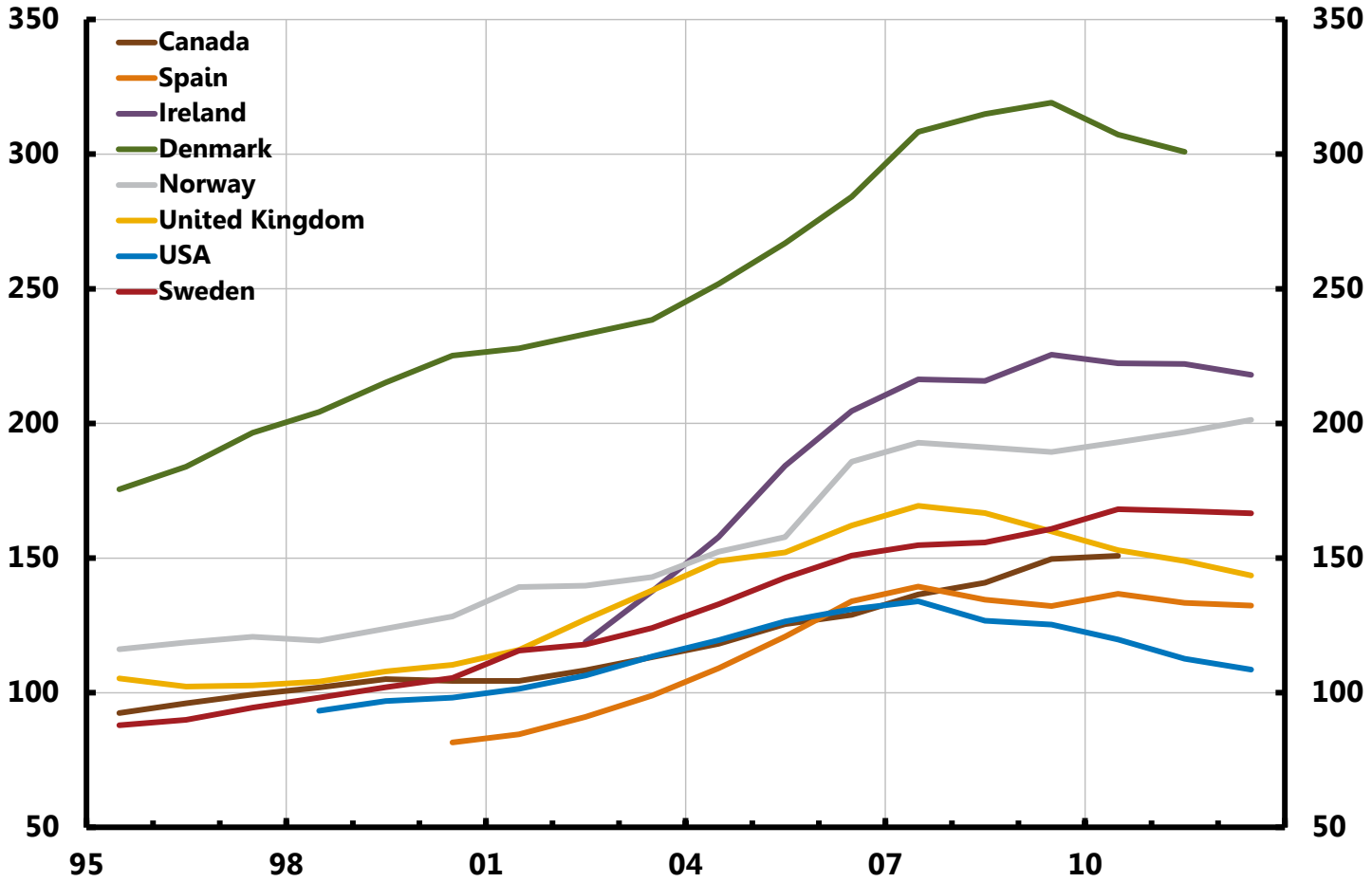


Note. Unemployed including people in programmes with activity grants. According to the Swedish Public Employment Service, there are four groups who have a relatively vulnerable position on the labour market and who find it more difficult to get a new job if they become unemployed: people born outside Europe, people without upper-secondary school education, people in the age group 55–64, and people with a disability that reduces their capacity to work.

Source: The Swedish Public Employment Service

Figure 3.15. Household debt, international comparison

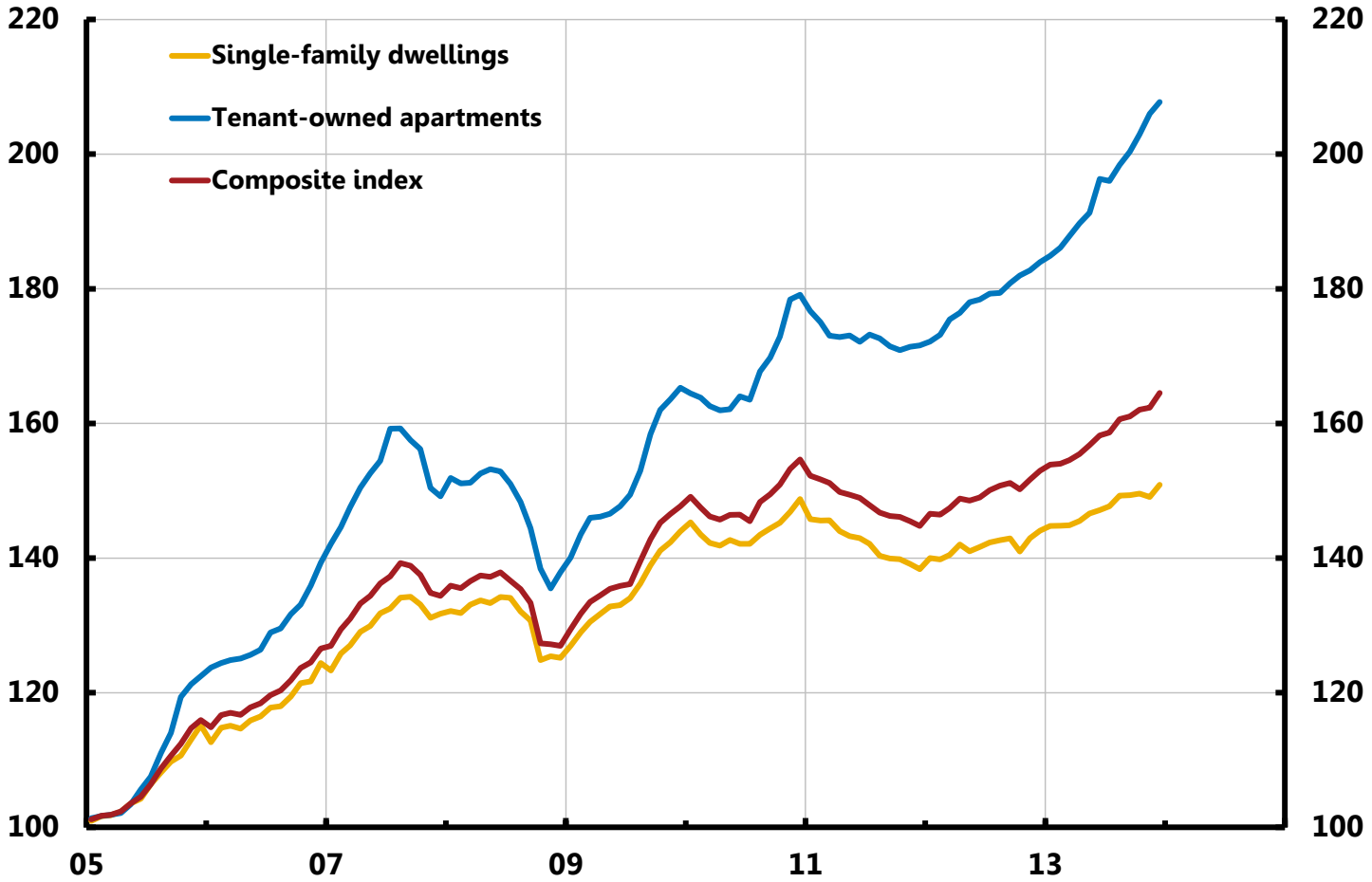
Per cent of disposable income



Source: OECD

Figure 3.16. Housing prices

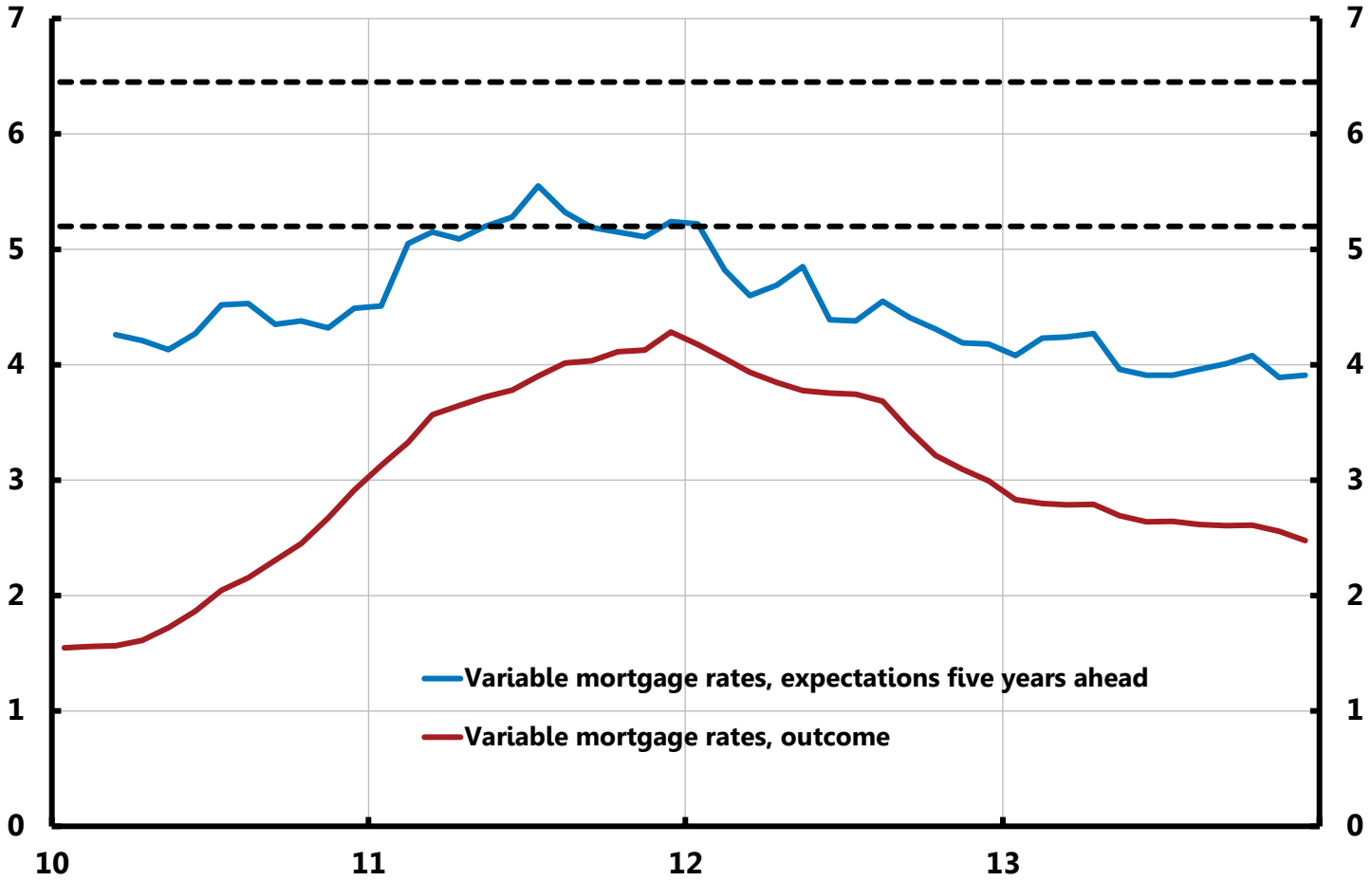
Index, January 2005 = 100, seasonally-adjusted data



Sources: Valueguard and the Riksbank

Figure 3.17. Interest-rate expectations among households regarding variable mortgage rates five years ahead

Per cent

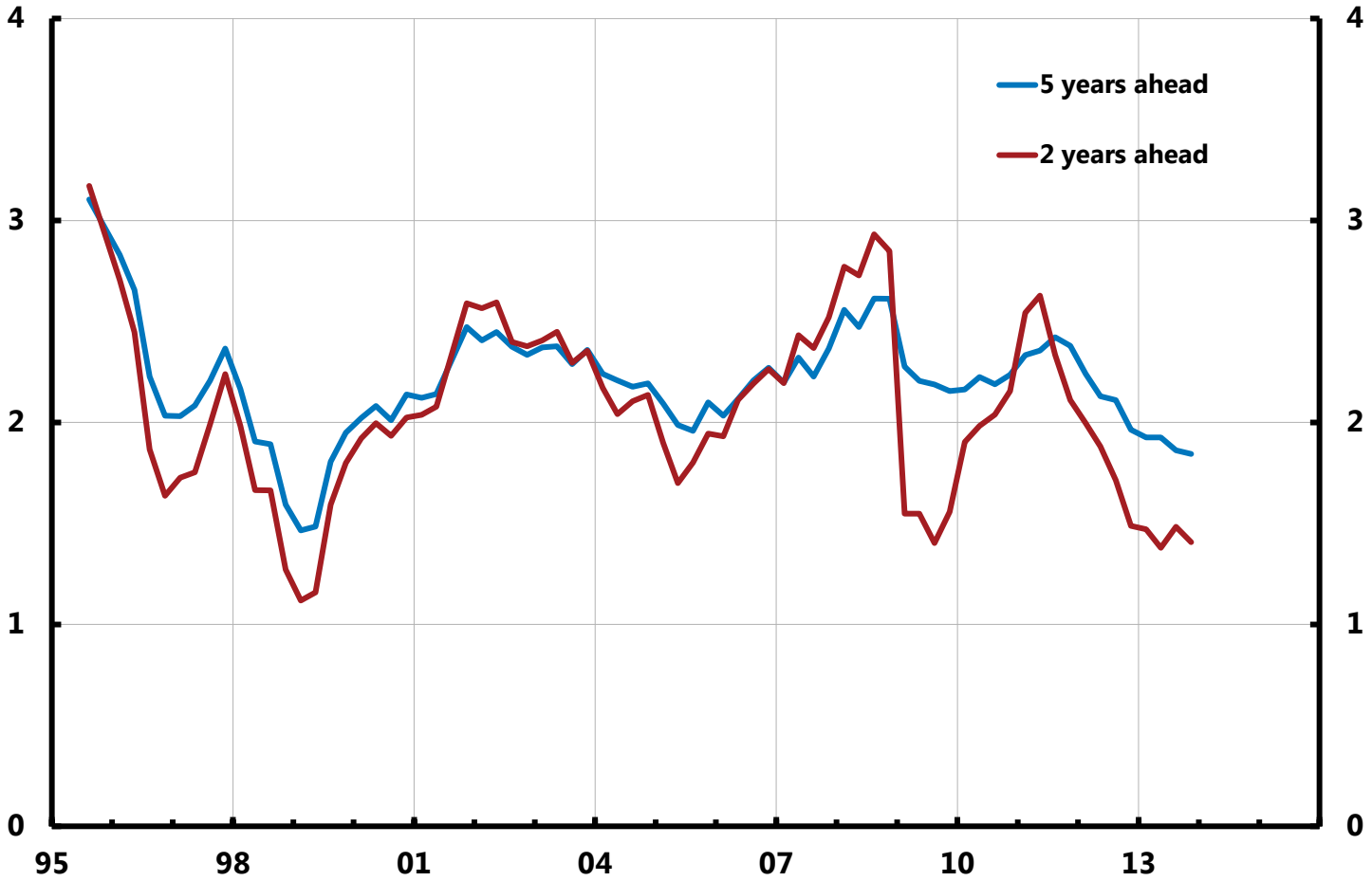


Note. The broken lines show an interval for the long-term level of the variable mortgage rate. The interval is based partly on an interval for the long-term repo rate of 3.5-4.5 per cent and partly on an interval for the difference between a three-month mortgage rate and the repo rate of 1.7-2 percentage points.

Sources: National Institute of Economic Research and the Riksbank

Figure 3.18. All respondents´expectations of inflation

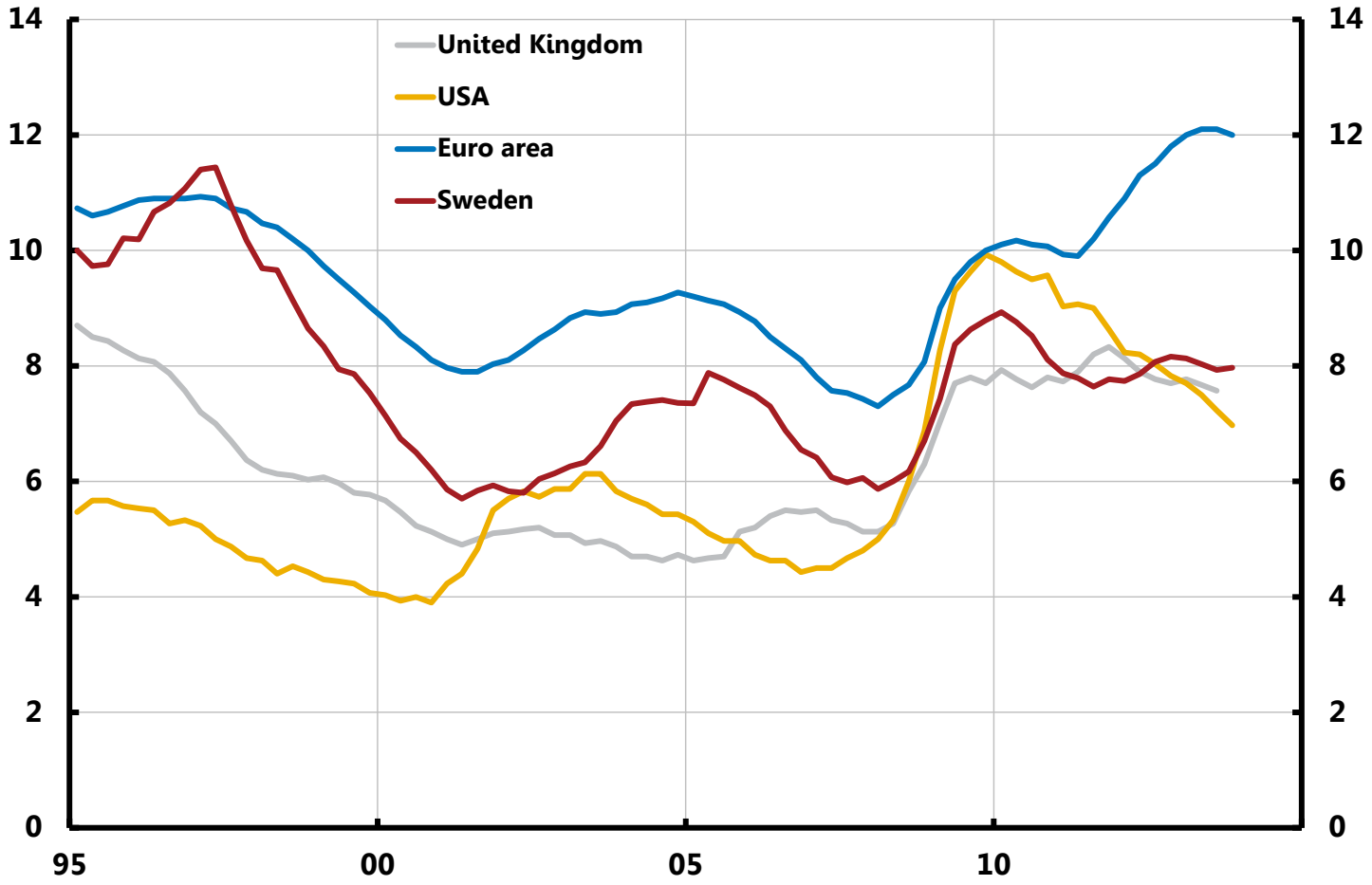
Per cent



Source: TNS SIFO Prospera

Figure 3.19. Unemployment, international comparison

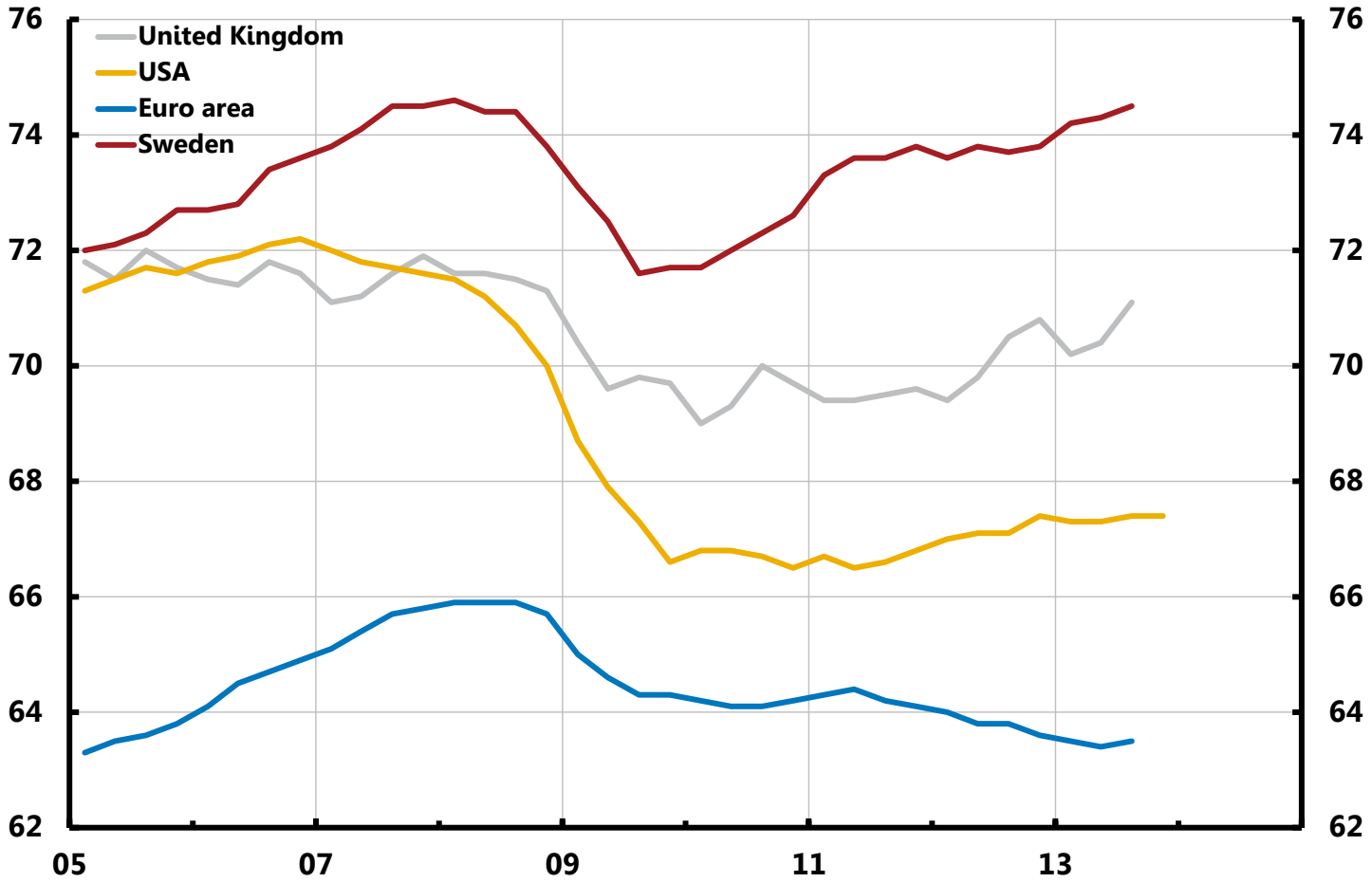
Per cent of the labour force, aged 15-74, seasonally-adjusted data



Sources: Eurostat, Statistics Sweden and the Riksbank

Figure 3.20. Employment rate, international comparison

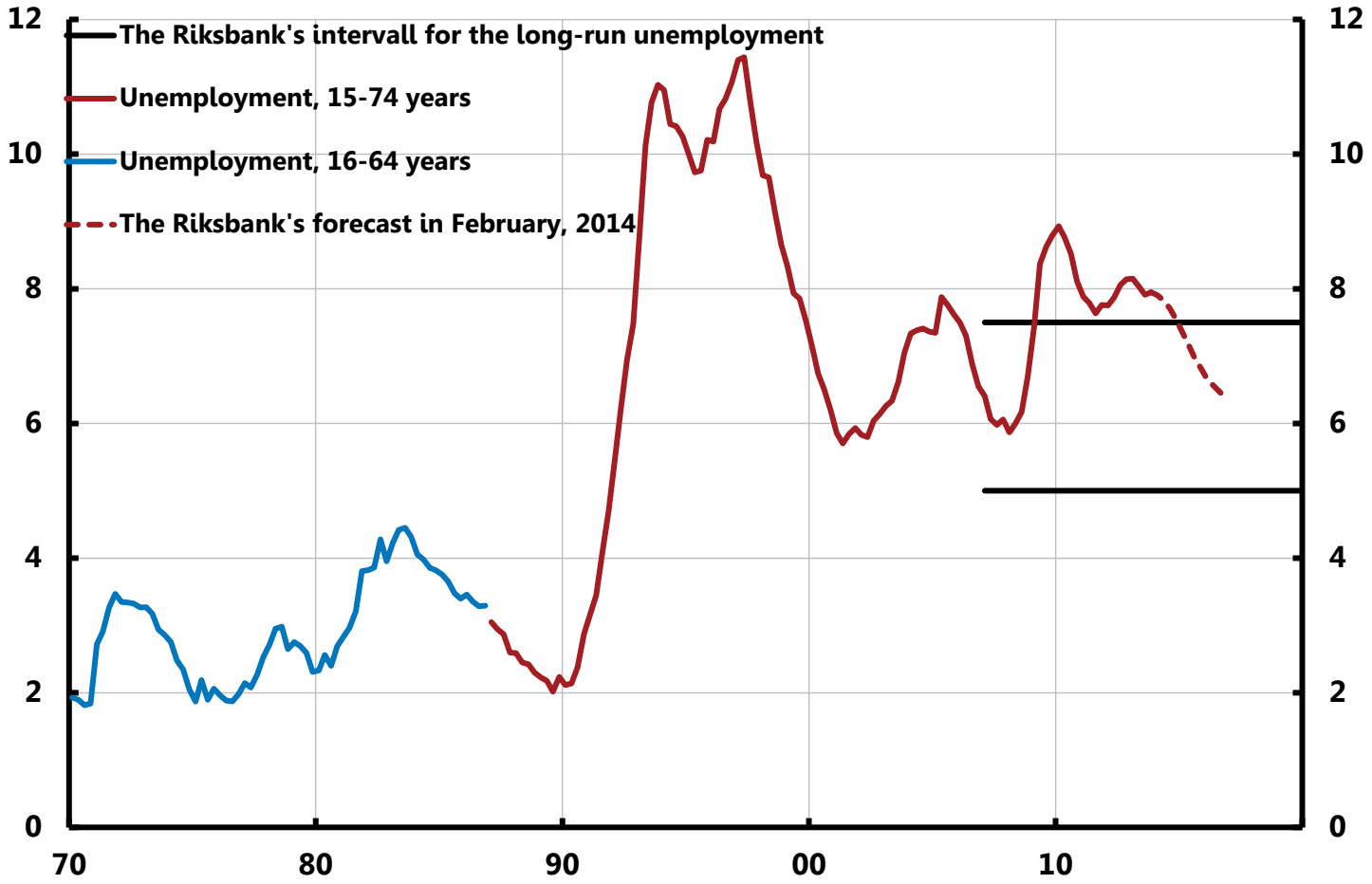
Per cent of the population, aged 15-64, seasonally-adjusted data



Sources: Eurostat and OECD

Figure 3.21. Unemployment and sustainable unemployment rate

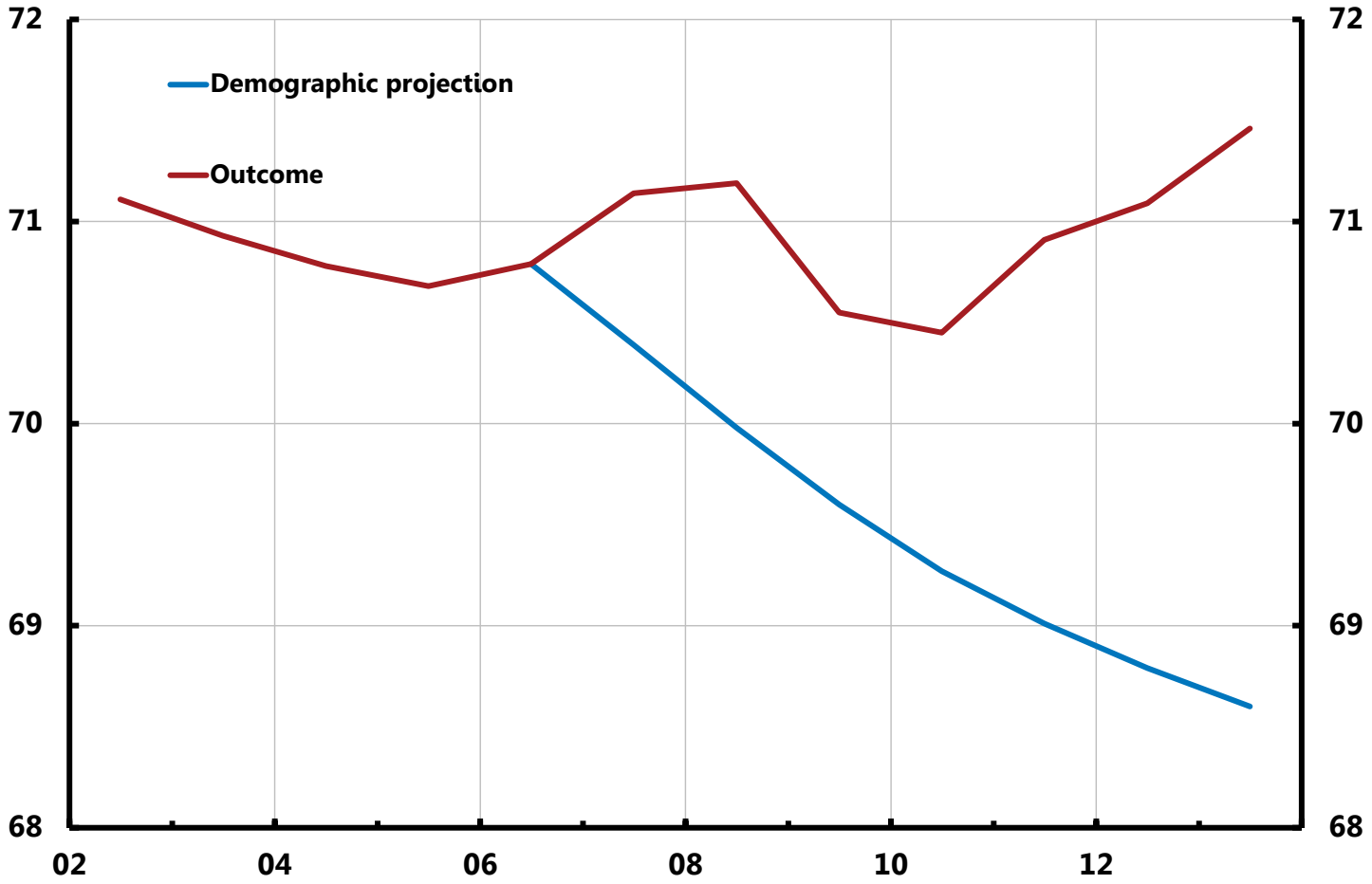
Per cent of the labour force , seasonally-adjusted data



Sources: Statistics Sweden and the Riksbank

Figure 3.22. Labour force participation, outcome compared with demographic projection

Per cent of the population, aged 15-74

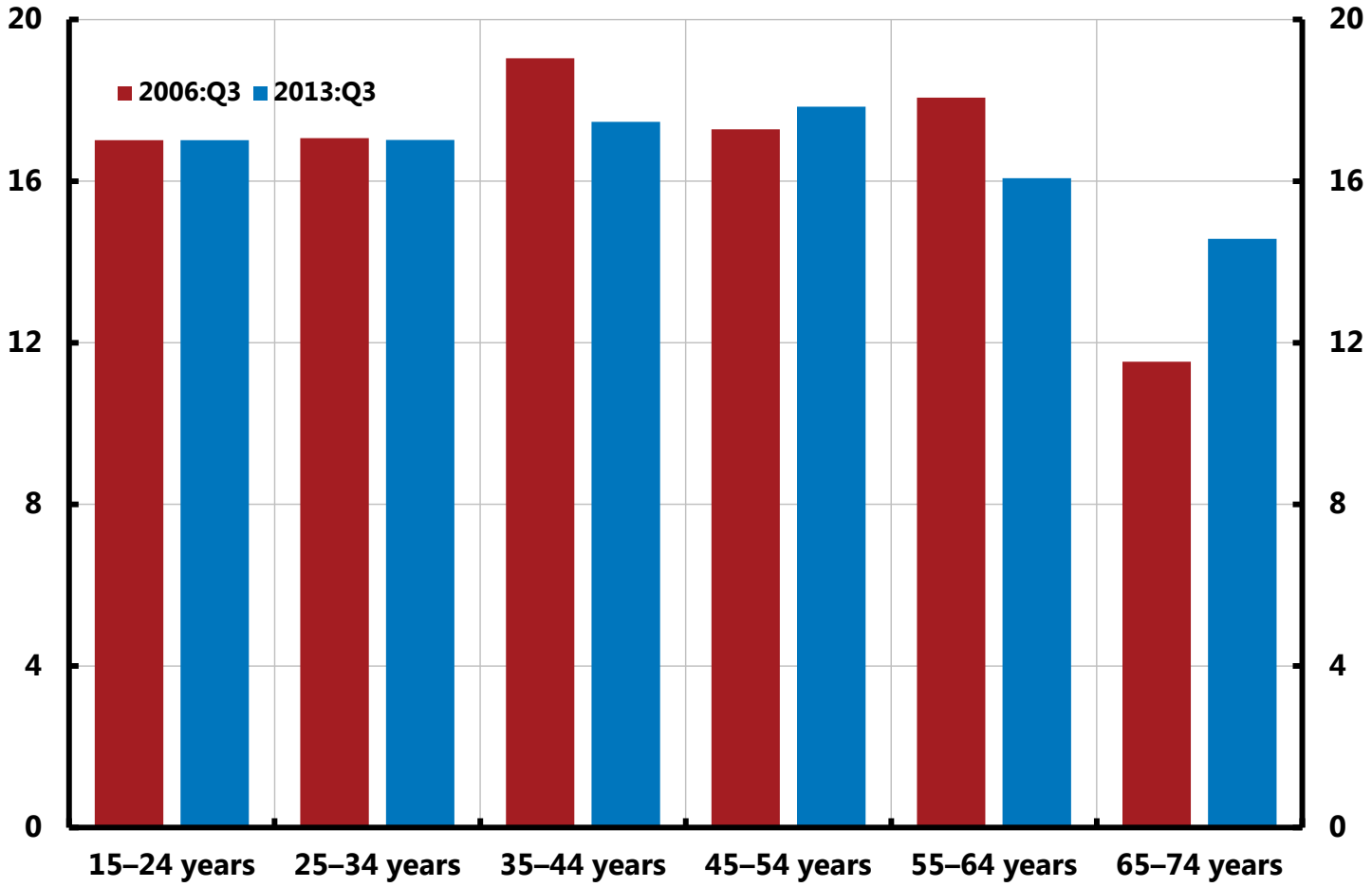


Note. Demographic projection hold constant detailed relationships in the labour market situation in 2006 and show for the following years the effects on the labour market of changes in the number and composition of the population with respect to age, origin and gender.

Sources: Statistics Sweden and the Riksbank

Figure 3.23. Population in various age groups

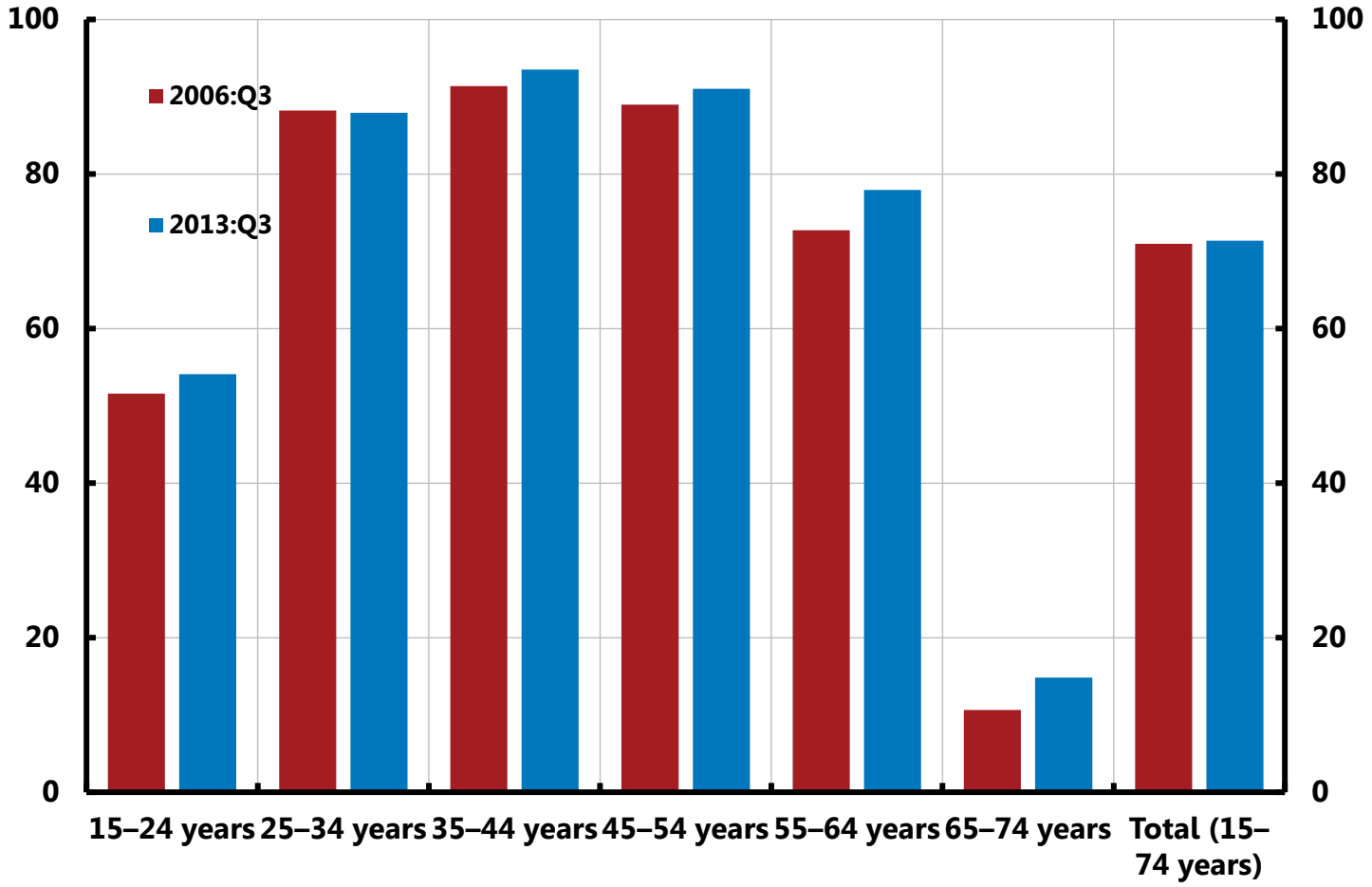
Per cent of work force population, aged 15-74



Source: Statistics Sweden

Figure 3.24. Laour force participation in different age groups

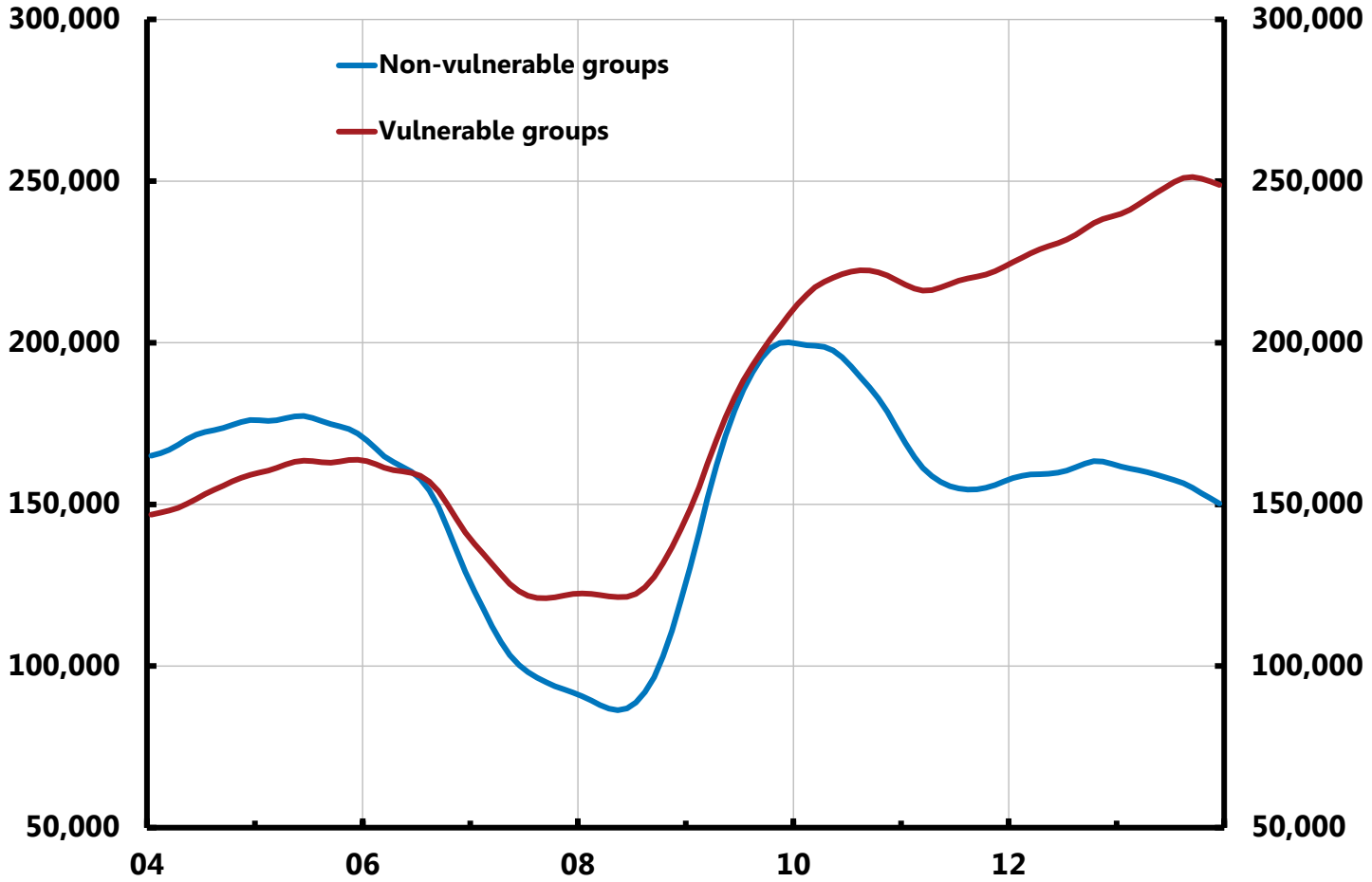
Per cent of the labour force, aged 15-74, seasonally-adjusted data



Source: Statistics Sweden

Figure 3.25. Unemployed, vulnerable groups on the labour market

Number of unemployed, seasonally-adjusted data and trend-adjusted data

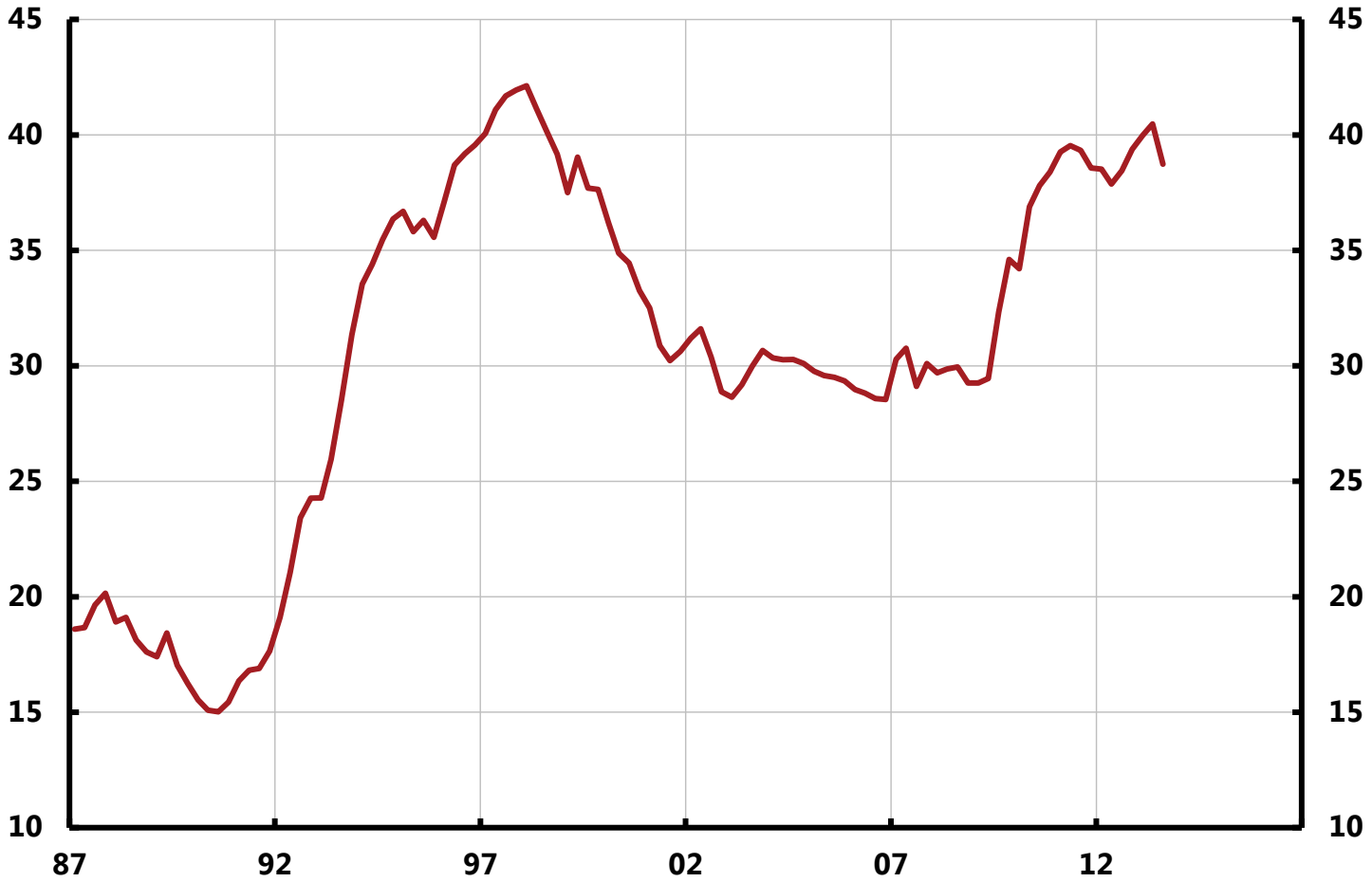


Note. Unemployed including people in programmes with activity grants. According to the Swedish Public Employment Service, there are four groups who have a relatively vulnerable position on the labour market and who find it more difficult to get a new job if they become unemployed: people born outside Europe, people without upper-secondary school education, people in the age group 55–64, and people with a disability that reduces their capacity to work.

Source: The Swedish Public Employment Service

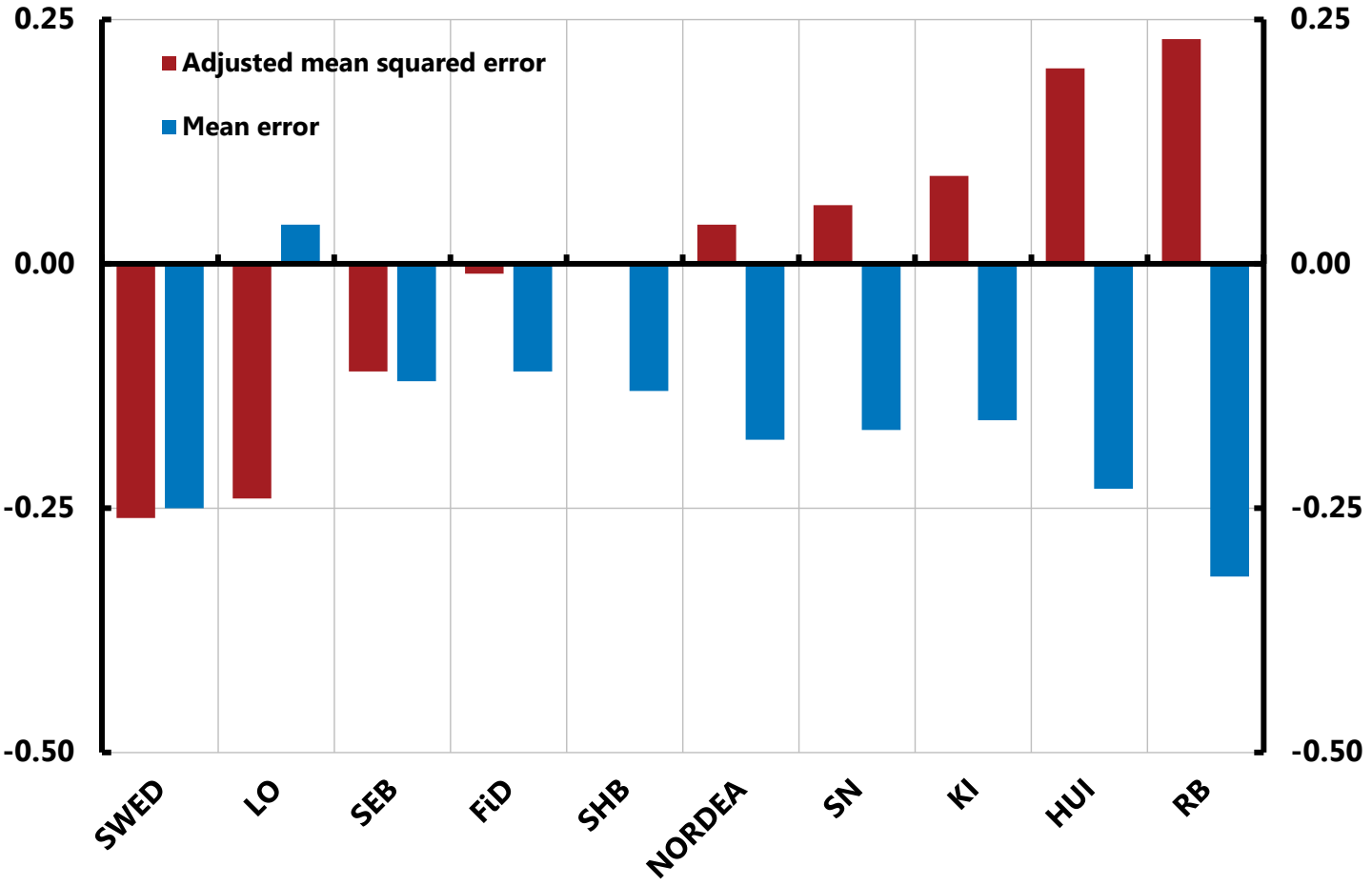
Figure 3.26. Average length of unemployment, 20-64 years

Number of weeks, seasonally-adjusted data



Source: Statistics Sweden

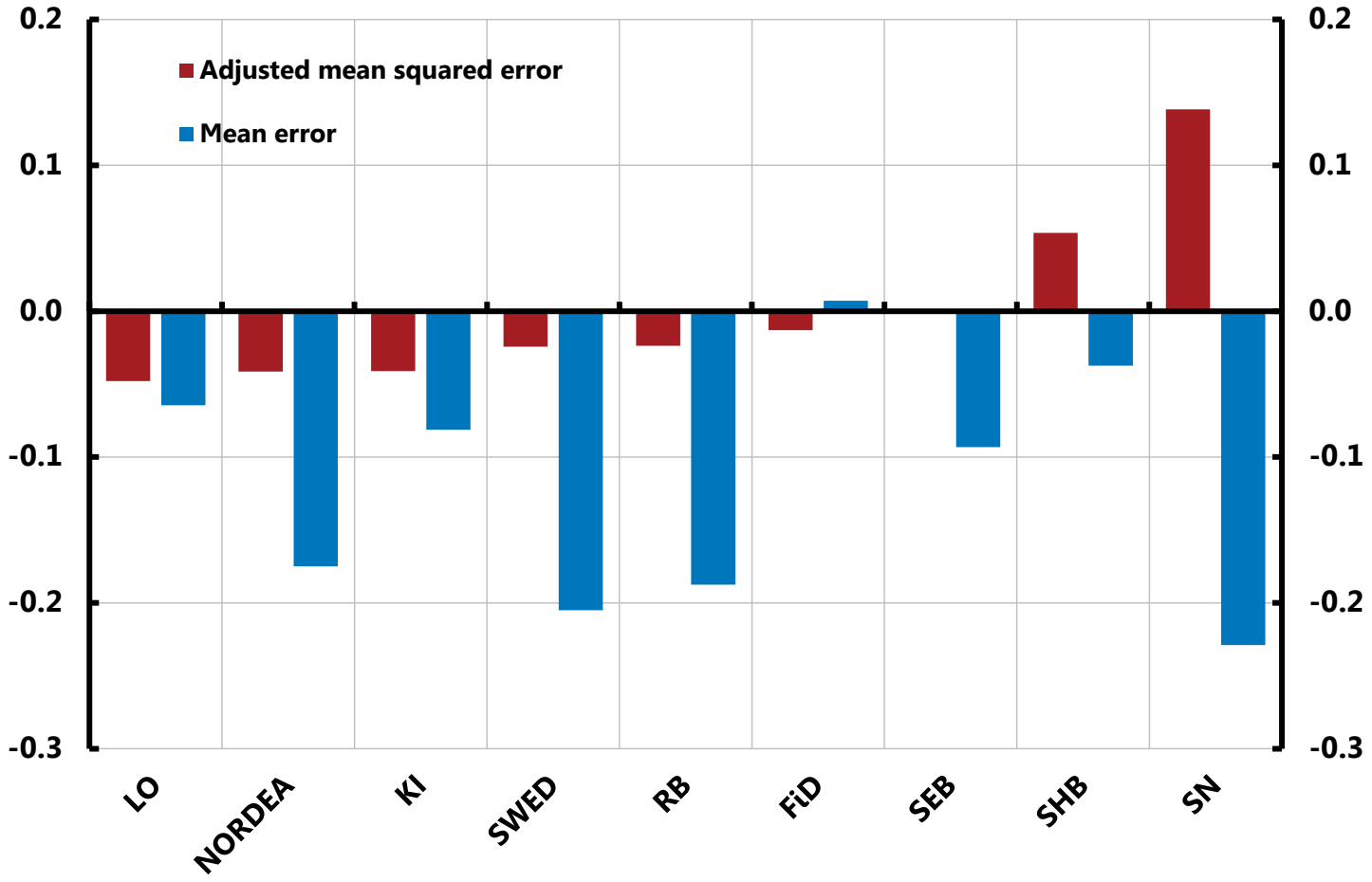
Figure 4.1. Accuracy of the forecasts of various forecasters for CPI inflation 2007-2013



Note. FiD = Swedish Ministry of Finance, HUI = HUI Research AB, KI = National Institute of Economic Research, LO = Swedish Trade Union Confederation, RB = the Riksbank, SHB = Svenska Handelsbanken, SN = Confederation of Swedish Enterprise and SWED = Swedbank. See footnote 34 and 35 for information on the data on which the Figure is based.

Sources: Respective analysts and the Riksbank

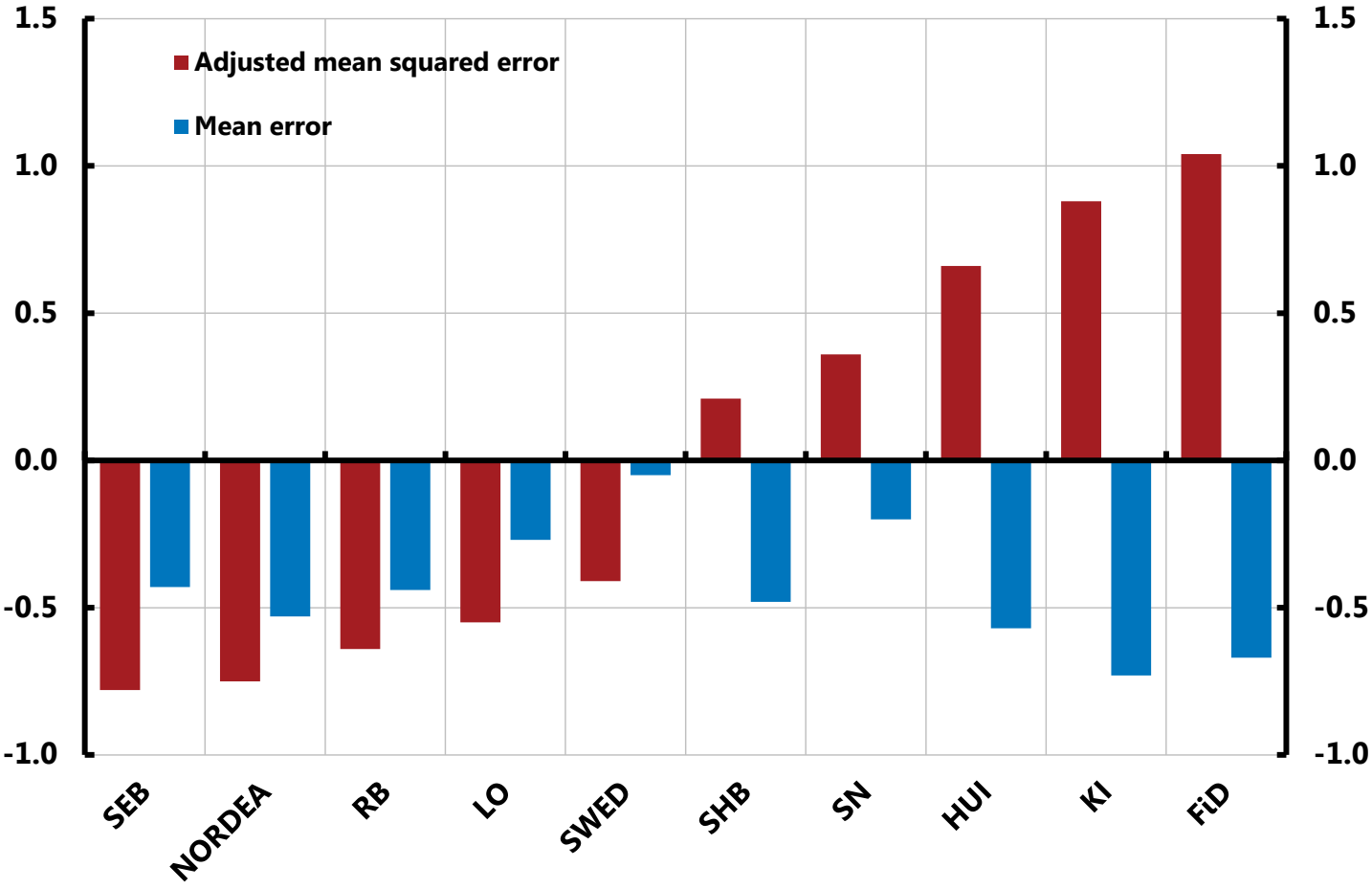
Figure 4.2. Accuracy of the forecasts of various forecasters for CPIF inflation 2008-2013



Note. See Figure 4:1 for an explanation of the abbreviations. See footnote 34 and 35 for information on the data on which the Figure is based. The CPIF is the CPI with a fixed mortgage rate.

Sources: Respective analysts and the Riksbank

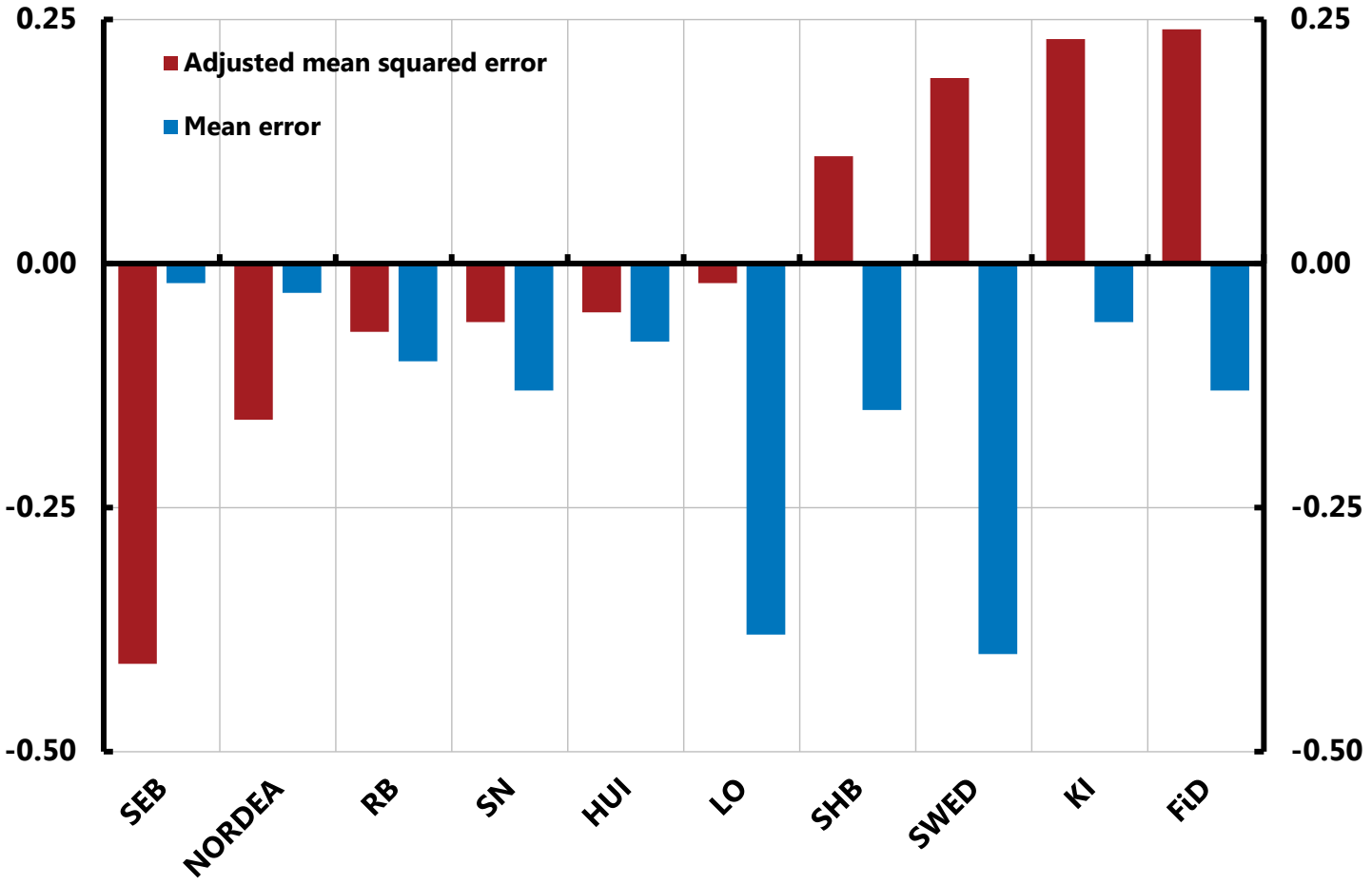
Figure 4.3. Accuracy of the forecasts of various forecasters for GDP growth 2007-2013



Note. See Figure 4:1 for an explanation of the abbreviations. See footnote 34 and 35 for information on the data on which the Figure is based.

Sources: Respective analysts and the Riksbank

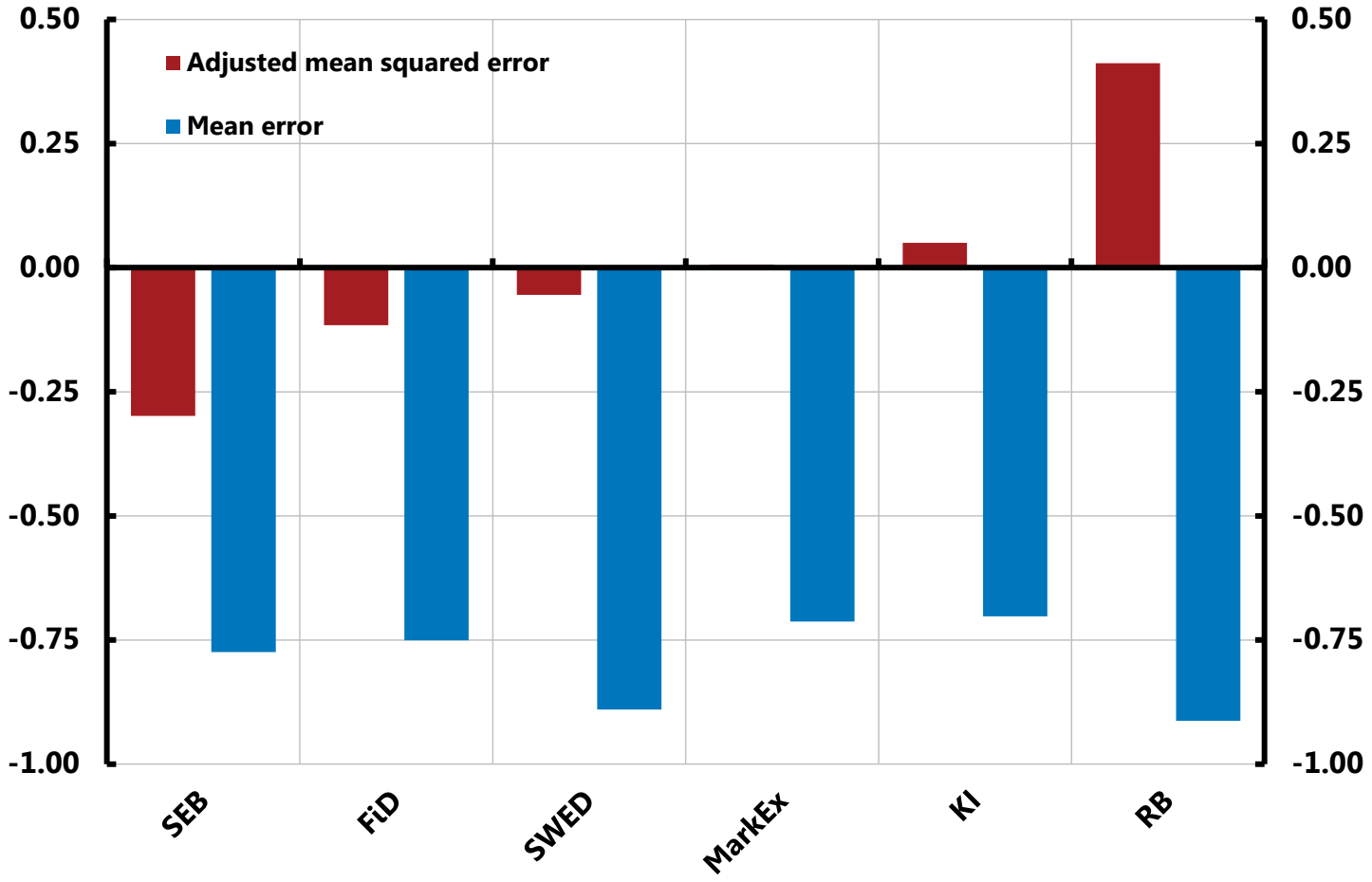
Figure 4.4. Accuracy of the forecasts of various forecasters for unemployment 2007-2013



Note. See Figure 4:1 for an explanation of the abbreviations. See footnote 34 and 35 for information on the data on which the Figure is based.

Sources: Respective analysts and the Riksbank

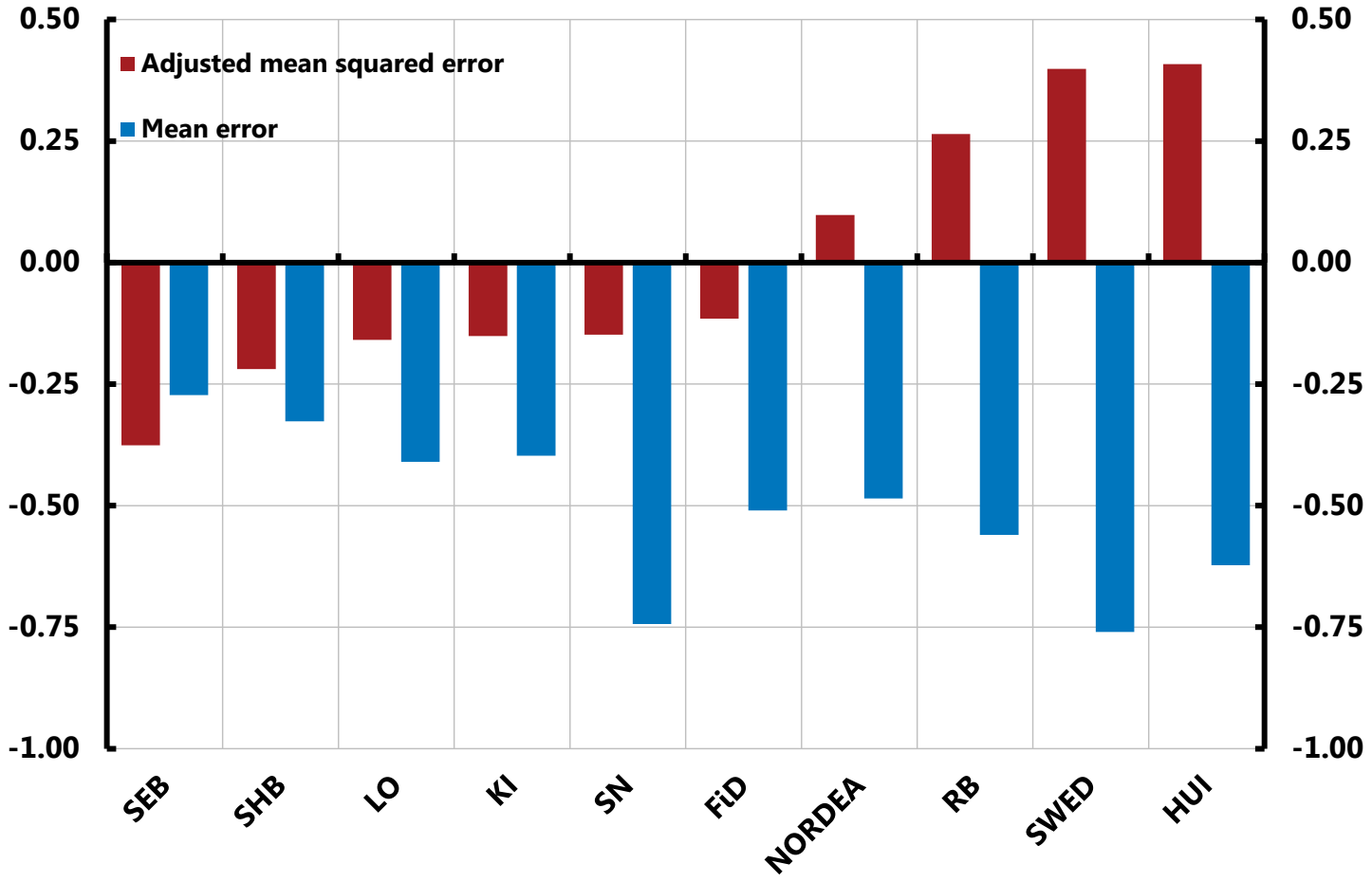
Figure 4.5. Accuracy of the forecasts of various forecasters for the year-end repo rate 2007-2013



Note. See Figure 4:1 for an explanation of the abbreviations. See footnotes 34 and 35 for information on the data on which the Figure is based. MarkEx = Market expectations are calculated on the basis of forward rates using interest rates on derivative contracts (RIBA and FRA), adjusted for average risk premiums corresponding to one basis point per month of the maturity period. Prior to 2007, the Riksbank did not publish forecasts for the repo rate. The Riksbank's quarterly forecasts have been estimated to daily values to produce a value at the end of the year.

Sources: Respective analysts and the Riksbank

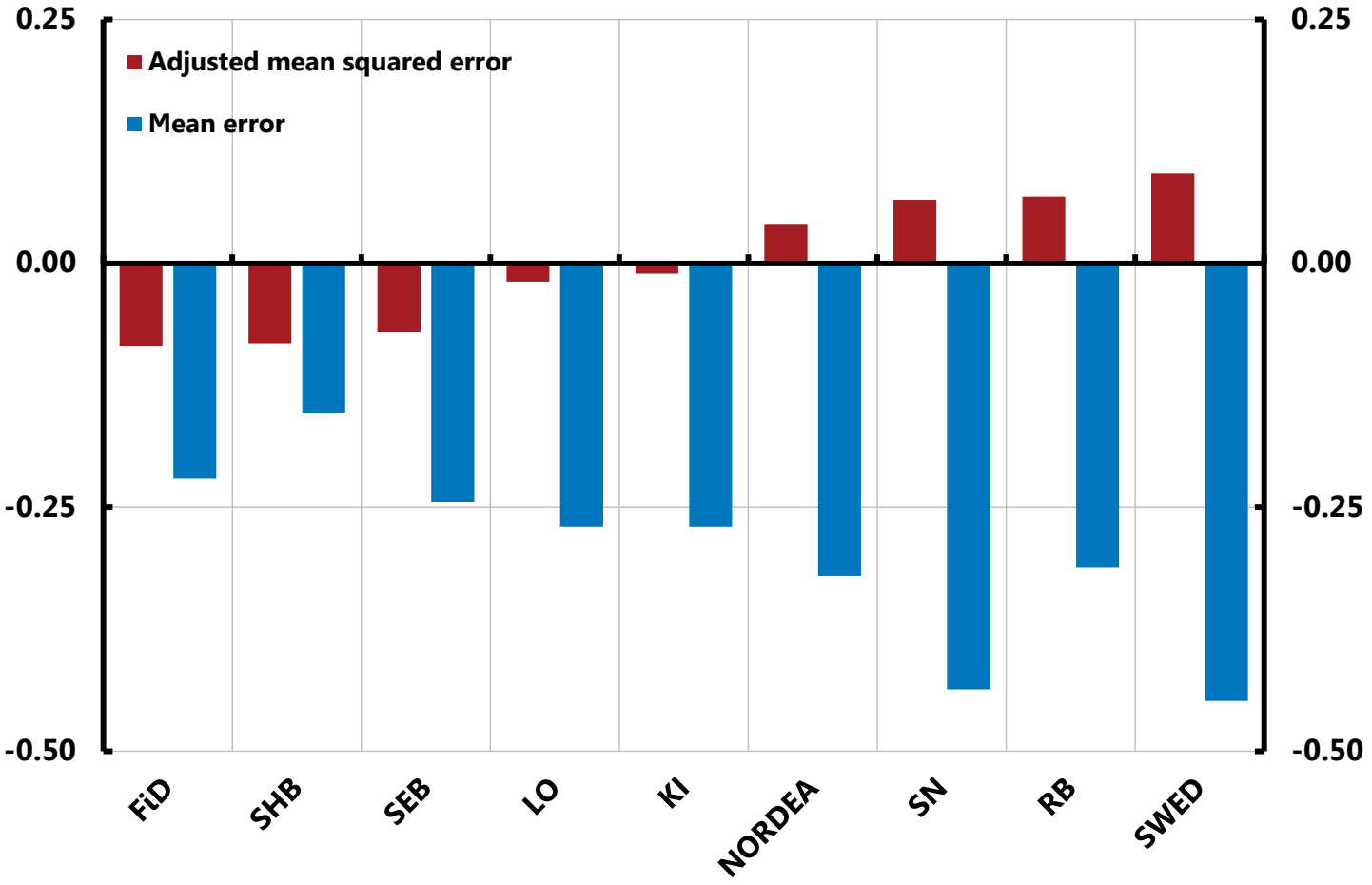
Figure A1. Accuracy of the forecasts of various forecasters for CPI inflation 2013



Note. FiD = Ministry of Finance, HUI = HUI Research AB, KI = national Institute of Economic Research, LO = Swedish Trade Union Confederation, RB = the Riksbank, SHB = Svenska Handelsbanken, SN = Confederation of Swedish Enterprise and SWED = Swedbank.

Sources: Respective analysts and the Riksbank

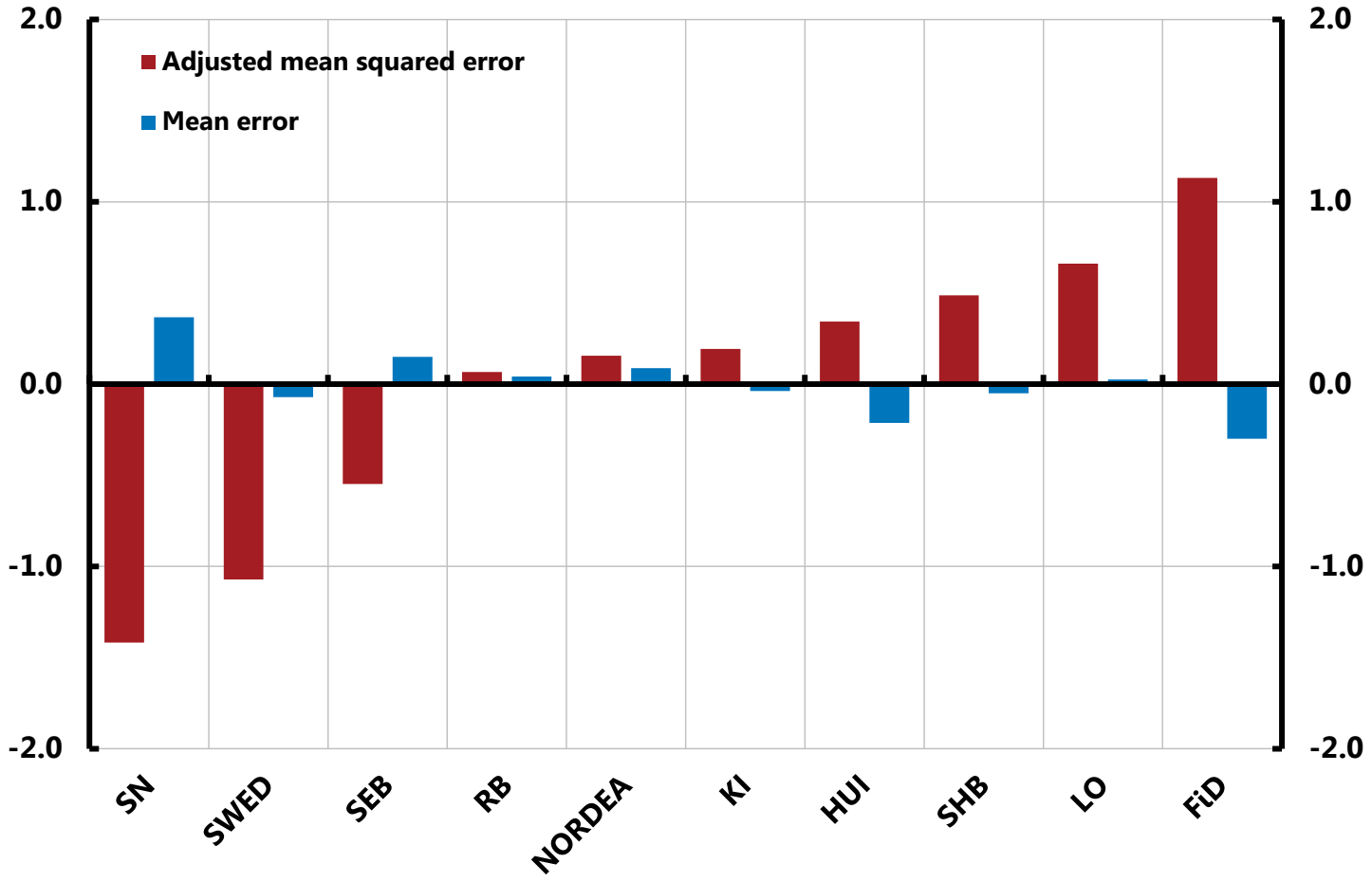
Figure A2. Accuracy of the forecasts of various forecasters for CPIF inflation 2013



Note. See the note to Figure A1 for an explanation of the abbreviations.

Sources: Respective analysts and the Riksbank

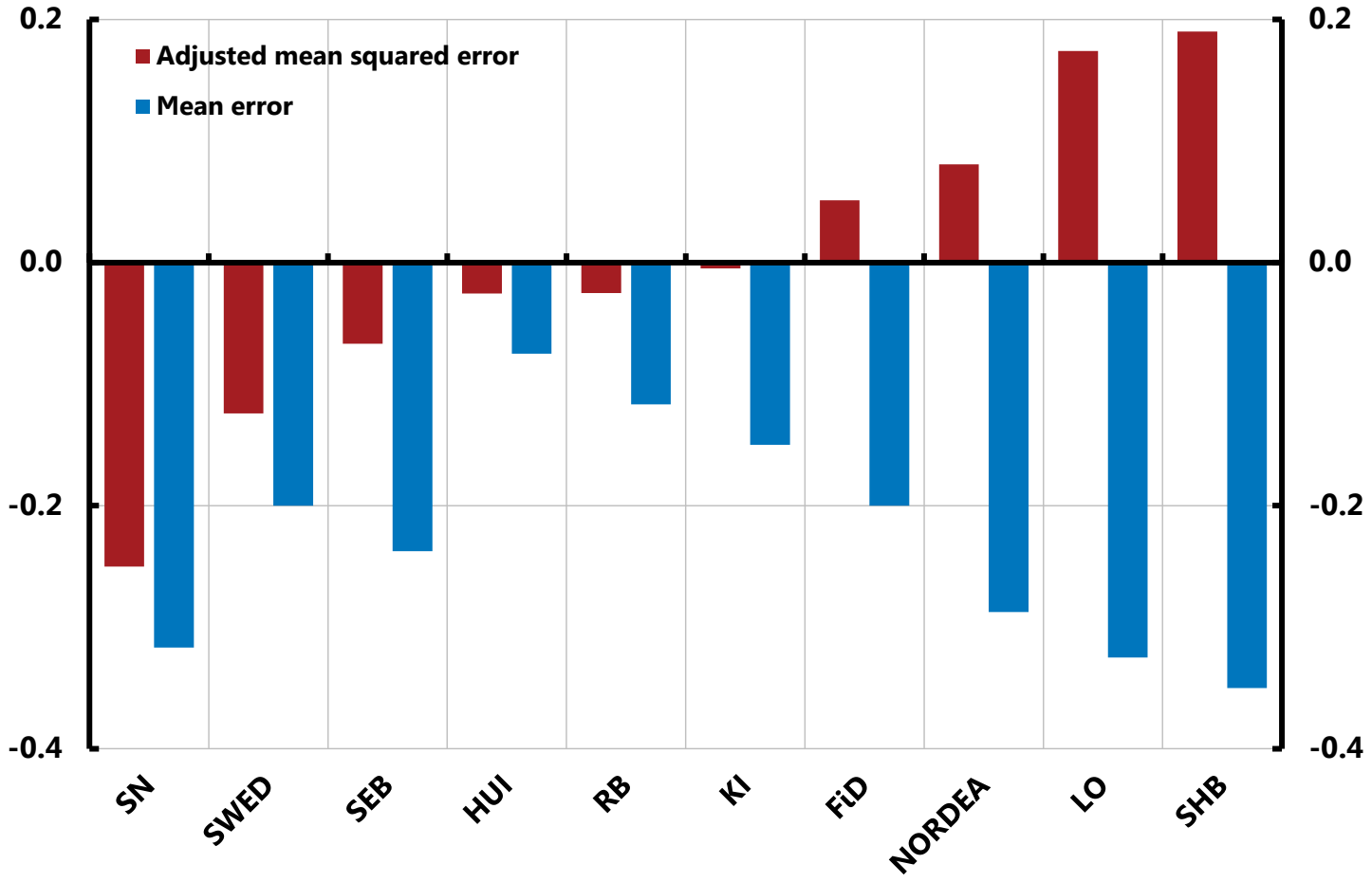
Figure A3. Accuracy of the forecasts of various forecasters for GDP growth 2013



Note. See the note to Figure A1 for an explanation of the abbreviations.

Sources: Respective analysts and the Riksbank

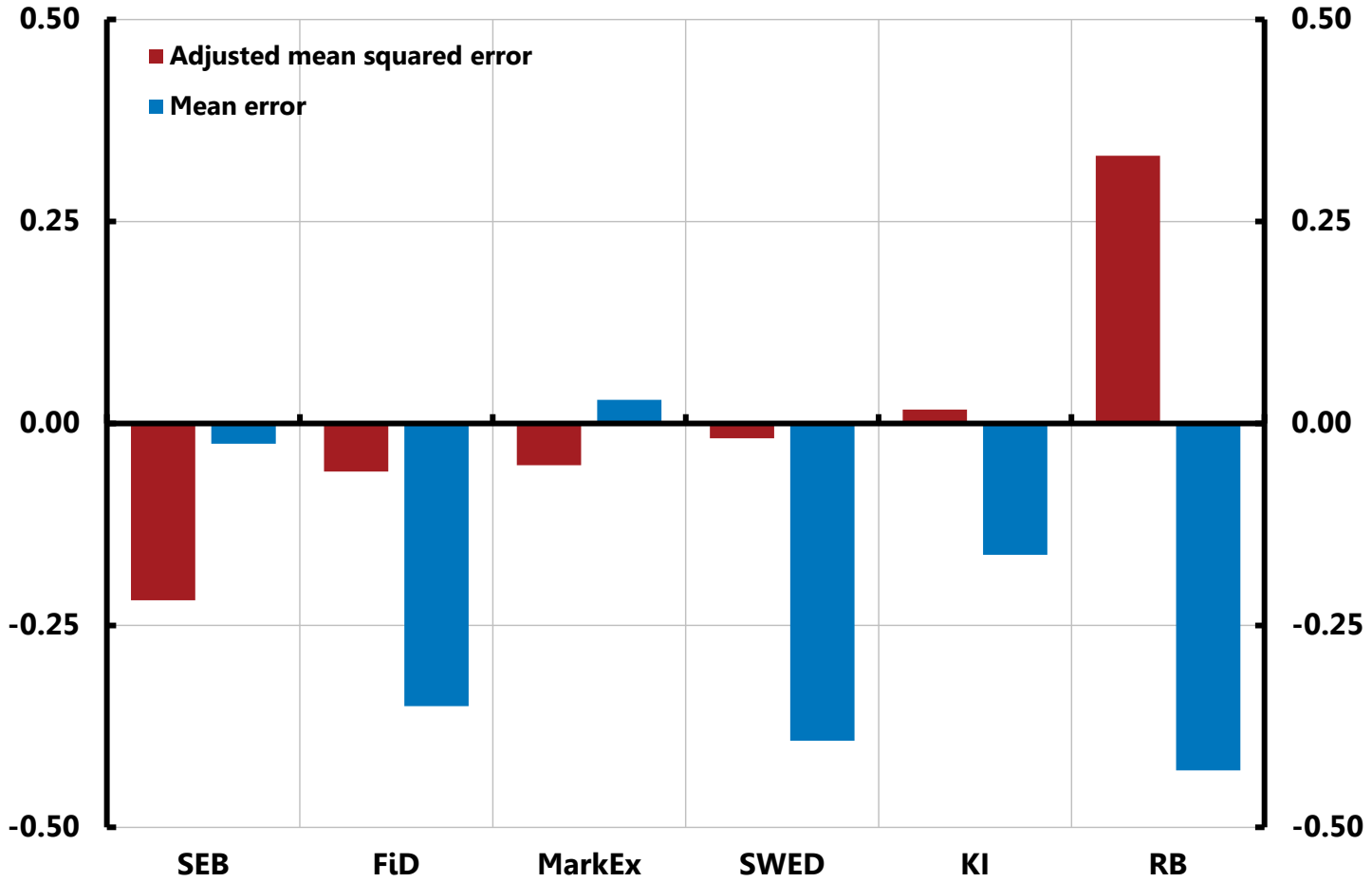
Figure A4. Accuracy of forecasts of various forecasters for unemployment 2013



Note. See the note to Figure A1 for an explanation of the abbreviations. Some adjustments have been made to some forecasts made during 2012-2013. See footnote 37.

Sources: Respective analysts and the Riksbank

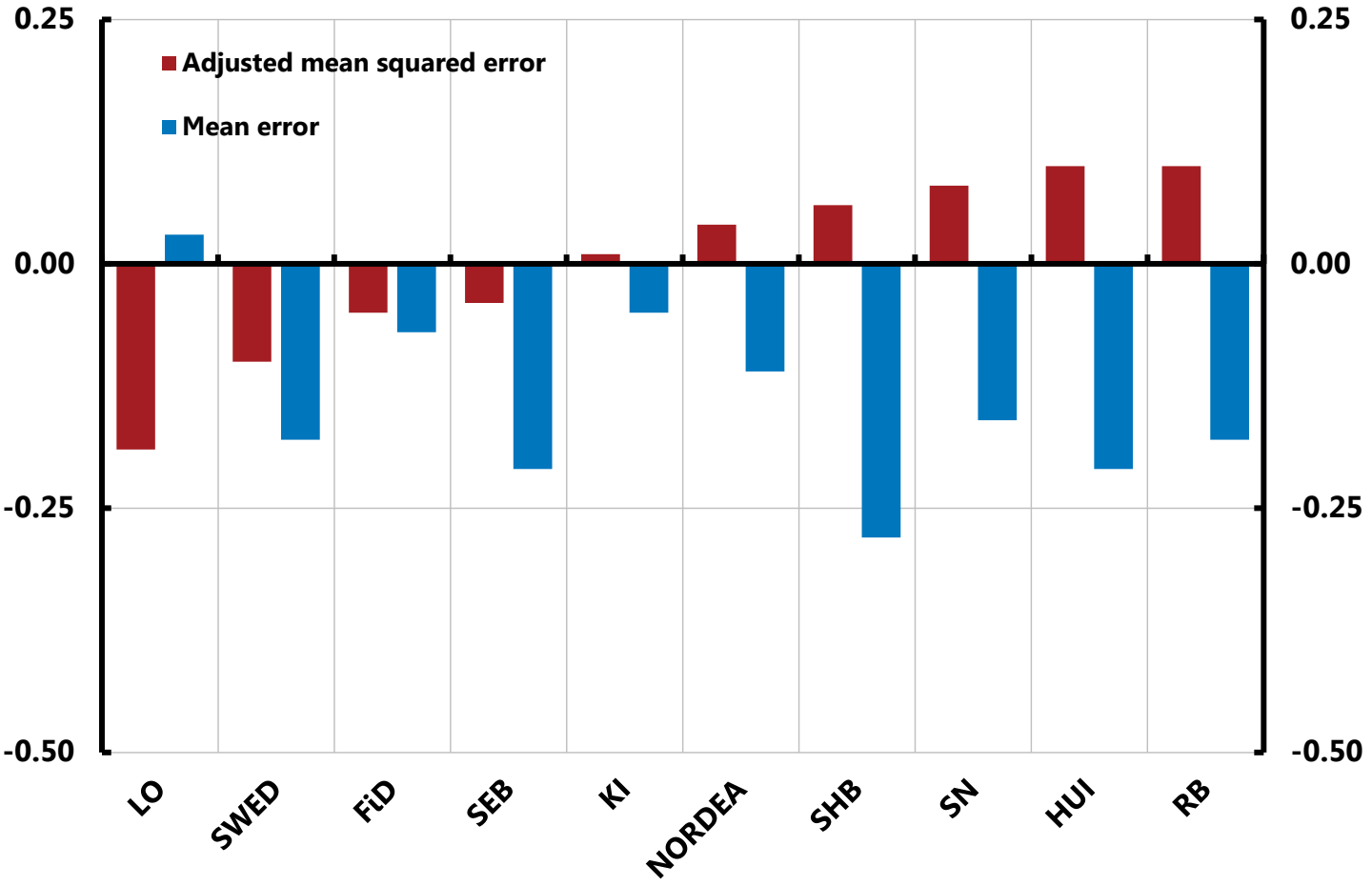
Figure A5. Accuracy of the forecasts of various forecasters for the repo rate at year-end 2013



Note. See Figure 4:1 for an explanation of the abbreviations. MarkEx = Market expectations are calculated on the basis of forward rates using interest rates on derivative contracts (RIBA and FRA), adjusted for average risk premiums corresponding to one basis point per month of the maturity period. Prior to 2007, the Riksbank did not publish forecasts for the repo rate. The Riksbank's quarterly forecasts have been estimated to daily values to produce a value at the end of the year.

Sources: Respective analysts and the Riksbank

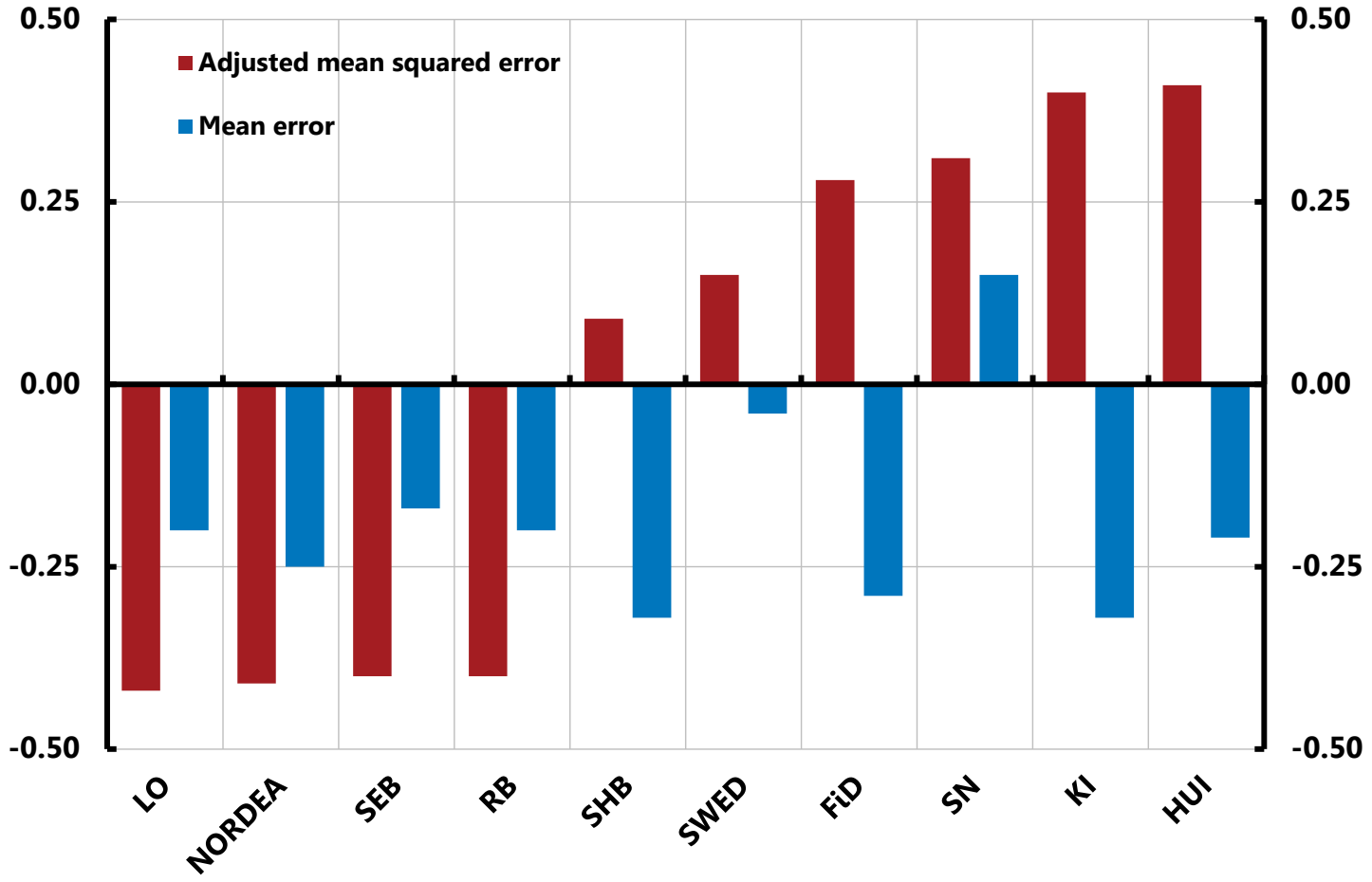
Figure A6. Accuracy of the forecasts of various forecasters for CPI inflation 1999-2013



Note. See the note to Figure A1 for an explanation of the abbreviations.

Sources: Respective analysts and the Riksbank

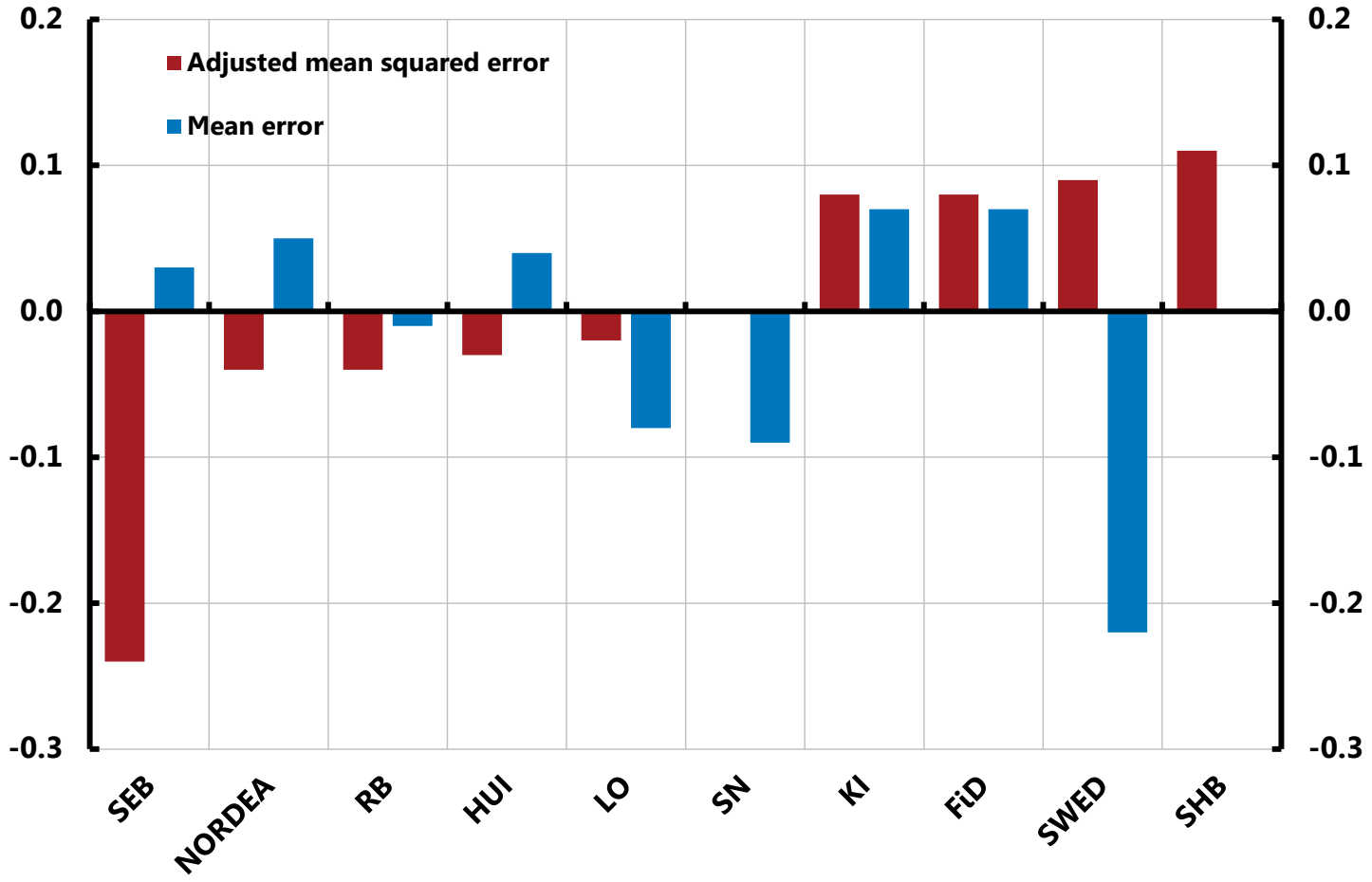
Figure A7. Accuracy of the forecasts of various forecasters for GDP growth 1999-2013



Note. See the note to Figure A1 for an explanation of the abbreviations.

Sources: Respective analysts and the Riksbank

Figure A8. Accuracy of the forecasts of various forecasters for unemployment 1999-2013



Note. See the note to Figure A1 for an explanation of the abbreviations.

Sources: Respective analysts and the Riksbank

Table 2:1. Comparison of different inflation measures

Annual percentage change, annual average

	2011	2012	2013
CPI	3.0	0.9	0.0
CPIF	1.4	1.0	0.9
CPIF excluding energy	1.0	1.0	1.1

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

Sources: Statistics Sweden and the Riksbank

Table 2:2. Production and measures of employment 2011–2013

Annual percentage change, annual average

	2011	2012	2013
GDP	2.9	0.9	1.5
No. of employed, 15–74 years	2.3	0.6	1.1
Number of hours worked	2.0	-0.2	0.3
Unemployment, 15–74 years	7.8	8.0	8.0

Note. Unemployment refers to percentage of the labour force.

Source: Statistics Sweden

Table 4:1. Annual rating of the Riksbank's forecasts 2007-2013

	GDP	Unemployment	CPI	CPIF	Repo rate
2007	1	5	5	-	4
2008	4	2	4	6	5
2009	4	6	10	8	6
2010	3	6	5	3	2
2011	3	5	6	4	4
2012	4	7	7	5	5
2013	4	5	8	8	6
2007–2013	3	3	10	5	6

Note. The figures in the table give the Riksbank's ranking, based on estimated accuracy. The highest ranking is 1. Ten institutions make forecasts of GDP, unemployment and the CPI. Nine make CPIF forecasts and five make forecasts of the repo rate. The assessment of the repo rate forecasts also includes market expectations according to market pricing, based on forward rates. These forward rates are calculated using interest rates on derivative contracts (RIBA and FRA). The forward rates are adjusted for average risk premiums corresponding to one basis point per month of the maturity period.

Sources: Respective forecasters, Statistics Sweden and the Riksbank

Table A1. Test of all individually-specific effects being the same (HO) or of there being differences (HA)

P-value less than significance level rejects the null hypothesis

GDP	Unemployment	CPI	CPIF	Repo rate
0.88	0.19	0.87	0.51	0.80

Note. The periods studied are 2007–2013 for GDP, unemployment, the CPI and the repo rate, and 2008–2013 for the CPIF. Some of the forecasts in the period 2008–2009 are for the CPIX rather than the CPIF.

Source: The Riksbank

Table A2. Test of whether the Riksbank is as good as other forecasters (HO) or significantly better or worse than other forecasters (HA)

P-value less than significance level rejects the null hypothesis

	GDP	Unemployment	CPI	CPIF	Repo rate
FiD	0.25	0.26	0.52	0.93	0.37
HUI	0.31	0.91	0.94		
KI	0.27	0.23	0.68	0.69	0.47
LO	0.95	0.87	0.15	0.68	
Nordea	0.93	0.62	0.51	0.73	
SEB	0.90	0.06*	0.30	0.73	0.13
SHB	0.53	0.35	0.52	0.35	
SN	0.46	0.93	0.63	0.04**	
SWED	0.87	0.45	0.15	0.94	0.39
MarkEx					0.38

Note. The periods studied are 2007–2013 for GDP, unemployment, the CPI and the repo rate, and 2008–2013 for the CPIF. Some of the forecasts in the period 2008–2009 are for the CPIX rather than the CPIF. * denotes that the result is significant at the 10-per cent level. ** denotes that the result is significant at the 5-per cent level. FiD = Ministry of Finance, HUI =HUI Research AB, KI = National Institute of Economic Research, SHB = Svenska Handelsbanken, SN = The Confederation of Swedish Enterprise, SWED = Swedbank and MarkEx = market expectations calculated on the basis of market pricing.

Source: The Riksbank