The Swedish Economy

August 2014

National Institute of Economic Research

KONJUNKTUR INSTITUTET KI

The Swedish Economy
August 2014

NATIONAL INSTITUTE OF ECONOMIC RESEARCH (NIER)
KUNGSGATAN 12-14, BOX 3116, SE-103 62 STOCKHOLM
TEL: +46 8 453 59 00, FAX: +46 8 453 59 80
INFO@KONJ.SE, WWW.KONJ.SE/EN

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The National Institute of Economic Research (NIER) is a Swedish government agency accountable to the Ministry of Finance. We produce forecasts to support decisions on economic policy in Sweden, analyse economic developments and conduct economic research.

Published four times a year, our report *Konjunkturläget* consists primarily of a forecast for the Swedish and global economies but also contains more in-depth analyses of relevant economic issues. *The Swedish Economy* is an English translation of that report.

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Preface

This August 2014 edition of *The Swedish Economy* presents a forecast for economic developments in Sweden and abroad in 2014−2015. We have also prepared a scenario for developments in 2016−2023, of which the period 2016−2018 is described in the report. The scenario for the full period 2014−2023 is available in Swedish on our website at www.konj.se.

A separate section of the report compares the new forecast with the forecast published in June 2014.

As with the June edition, the present edition of the report is somewhat shorter than in previous years. This means, for example, that some of the tables previously found in the main body are now included in an appendix at the end of the report.

The work on the report was led by our Director of Forecasting, Jesper Hansson. The calculations were finalised on 21 August 2014.

Mats Dillén
Director-General

Contents

Summary 7
Forecast revisions 2014−2015 10
International developments 13
The Swedish economy 19
Demand and production 19
Labour market and resource utilisation 27
Wages and inflation 32
Macroeconomic scenario and economic policy through to 2018 39
Public finances 2014−2018 47
Net lending, government debt and fiscal policy 47
Government revenue 51
Government expenditure 53
Fiscal space 56

BOXES

Investment in new housing rising again 21
Swedes saving extensively in foreign assets 23
High employment rate by international standards 27
Beveridge curves in Sweden and the US have shifted outwards 31
Food prices fuelling inflation 36
Riksbank's forecast for the repo rate revised down sharply in July 43
Expenditure ceiling limits scope for new measures next year 55
The surplus target and asymmetrical business cycles 57

SPECIAL ANALYSES

Macroeconomic effects of a decline in housing prices in Sweden 59
Uncertain preliminary national accounts data complicate forecasting 65
National accounts to move to ESA 2010 73
Long-term unemployment in the Swedish labour market 77
Inflation expectations by gender, age and education 87

STATISTICAL APPENDIX

Statistical appendix 91

Summary

The Swedish economy finds itself in a prolonged slump, due mainly to weak global activity since 2008 in the wake of the financial and debt crises. It will therefore be a long time before it returns to full capacity, despite a low repo rate. The slump has brought several years of high unemployment and low inflation.

Sweden's GDP was more or less unchanged in the first two quarters of 2014 (see Diagram 1). Weak growth in external demand put a damper on exports, and business investment other than housing fell back. However, the NIER's economic tendency indicator, which reflects the mood of the economy as a whole, is at a level that suggests that GDP will grow more strongly in the second half of the year.

LONG UPHILL BATTLE IN THE OECD AREA

Economic growth has also been weak across much of the rest of the world so far this year, especially in the euro area, where GDP barely increased at all in the first half. As in Sweden, though, most survey-based economic indicators in the OECD area point to stronger GDP growth in the second half (see Diagram 2). The brighter outlook is due partly to low central bank policy rates and more relaxed fiscal policy than last year. After a long period of low investment in the wake of the financial crisis, there is also a growing need for new investment, but tight credit conditions are continuing to hamper investment in some euro countries. GDP in the OECD area as a whole will grow by 1.9 per cent this year and 2.5 per cent next year. As resource utilisation is currently very low, the recovery will take a long time, and inflation in the OECD area will not climb above 2 per cent either this year or next. In the US and the UK, which are both ahead of the euro area in the business cycle, central bank policy rates will begin to rise in 2015, whereas the ECB's first hike will not come until early 2017 (see Diagram 3).

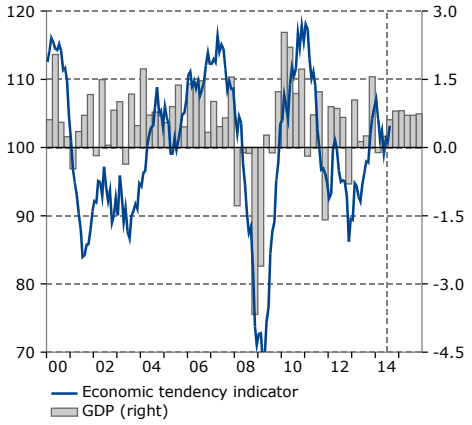
Downside risks continue to dominate, especially given the large number of trouble spots around the world. High government debt and other structural problems in the euro area also mean that there is still a risk of a fresh debt crisis, and the problems in the banking sector could lead to a marked reduction in the supply of credit.

SWEDISH INDUSTRIAL PRODUCTION FALLING AGAIN THIS YEAR

Weak growth in Swedish exports is contributing to a continued decline in industrial production this year (see Diagram 4). Next year, when external demand grows more quickly, exports will rise by 5.2 per cent and industrial production will rebound.

Diagram 1 Economic tendency indicator and GDP

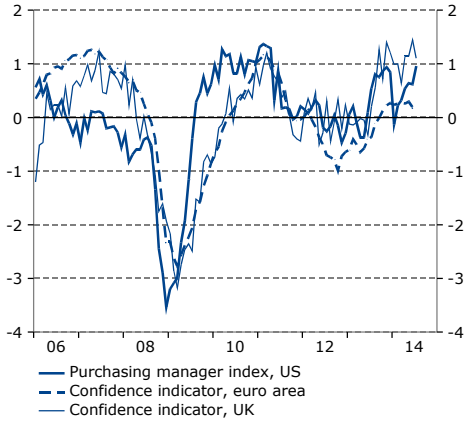
Index mean=100, monthly values and percentage change, seasonally adjusted quarterly values, respectively



Sources: Statistics Sweden and NIER.

Diagram 2 Confidence indicators, manufacturing

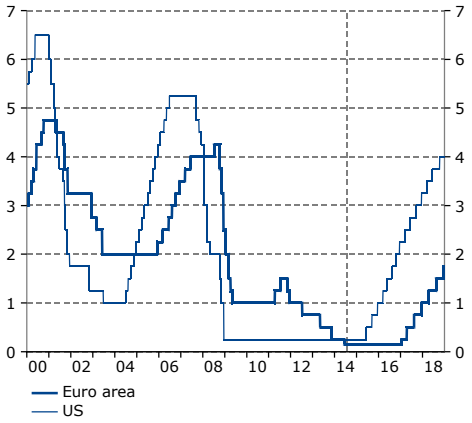
Standardised deviations from mean, seasonally adjusted monthly values



Sources: Institute for Supply Management and European Commission.

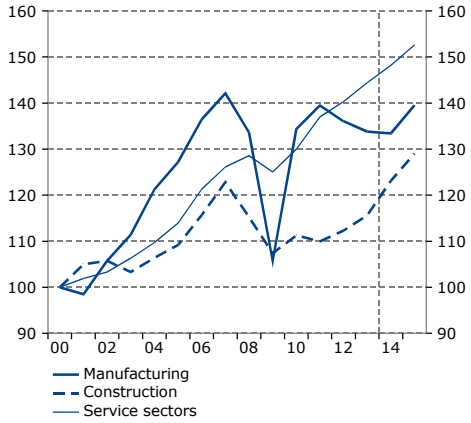
Diagram 3 Policy Rates

Per cent, daily values



Sources: ECB, Federal Reserve and NIER.

Diagram 4 Production, business sector
Index 2000=100, constant prices, calendar-adjusted values



Sources: Statistics Sweden and NIER.

The decline in production means that capacity utilisation in industry is currently at levels that indicate a relatively small need for investment. In the second quarter, investment in industry was around 5 per cent lower than a year earlier. Total investment in the economy will nevertheless increase by 4.3 per cent this year and 7.3 per cent next year, due to a major need for investment in the public sector and a sharp rise in homebuilding. Construction production will therefore continue to grow rapidly both this year and next (see Diagram 4).

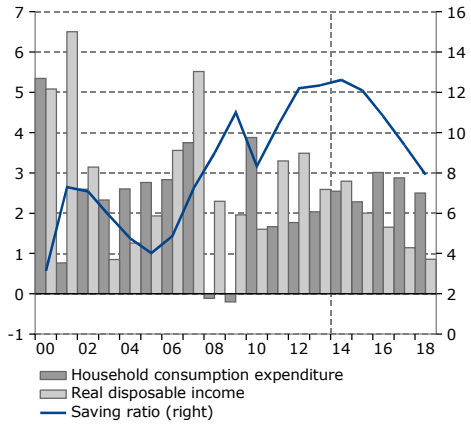
Table 1 Selected indicators
Percentage change unless otherwise noted

	2012	2013	2014	2015	2016	2017	2018
GDP, market price	0.9	1.6	1.8	3.1	3.4	2.9	2.4
GDP, calendar-adjusted	1.3	1.6	1.9	2.9	3.1	3.1	2.5
GDP, world-wide	3.2	3.1	3.4	3.8	4.0	4.2	4.2
Current account[1]	6.5	6.8	6.1	5.9	5.3	5.0	4.7
Hours worked[2]	0.7	0.4	1.4	1.3	1.3	1.4	1.1
Employment	0.7	1.0	1.2	1.2	1.1	1.2	1.0
Unemployment[3]	8.0	8.0	7.9	7.6	7.3	6.7	6.2
Labour market gap[4]	–1.5	–2.0	–1.6	–1.4	–0.9	–0.2	0.3
Output gap[5]	–1.6	–2.1	–2.3	–1.5	–0.7	0.0	0.3
Hourly earnings[6]	3.0	2.5	3.0	2.9	3.0	3.1	3.2
Labour cost per hour, business sector [2]	3.5	2.0	2.7	3.1	3.1	3.2	3.3
Productivity, business sector [2]	1.4	1.6	0.8	1.9	2.2	2.0	1.8
CPI	0.9	0.0	0.0	1.1	2.2	2.7	2.9
CPIF	1.0	0.9	0.6	1.5	1.7	1.9	2.0
Repo rate[7,8]	1.00	0.75	0.25	0.50	1.00	1.75	2.25
Interest rate, 10-year government bond [7]	1.6	2.1	1.8	2.1	2.7	3.3	3.8
Index for the Swedish krona (KIX)[9]	106.1	103.0	106.2	105.2	103.0	102.7	102.4
General government net lending[1]	–0.7	–1.2	–2.2	–1.3	–0.5	0.5	1.3
Cyclically adjusted net lending [10]	0.2	–0.7	–1.2	–0.7	0.0	0.6	1.2
General government consolidated gross debt (Maastricht debt)[1]	38.3	40.5	42.3	41.3	40.4	38.8	36.7

[1] Per cent of GDP. [2] Calendar-adjusted. [3] Per cent of labour force. [4] Difference between actual and potential hours worked, in per cent of potential hours worked. [5] Difference between actual and potential GDP, in per cent of potential GDP. [6] According to Short-term Earnings Statistics. [7] Per cent. [8] At year-end. [9] Index 18 November 1992=100. [10] Per cent of potential GDP.

Sources: Statistics Sweden, National Mediation Office, the Riksbank and NIER.

Diagram 5 Household consumption, real disposable income and saving ratio
Percentage change and percent of disposable income, respectively



Sources: Statistics Sweden and NIER.

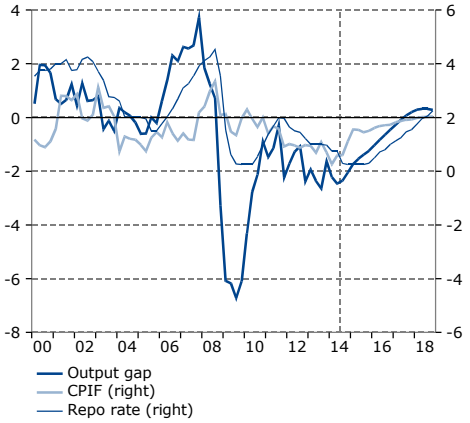
Household consumption will rise by 2.5 per cent this year, while real disposable income will increase by 2.8 per cent (see Diagram 5). Given the very low level of interest rates and a high saving rate, this may seem a rather cautious increase in spending, but households are concerned about international developments, relatively high unemployment and talk of new mortgage repay-

ment schedules. The saving rate will therefore rise slightly further this year. Next year, fiscal policy will be contractionary, and real disposable income will grow more slowly. Household consumption will increase at roughly the same rate as this year, and saving will therefore fall back slightly.

GDP will rise by just 1.8 per cent this year before growing by an average of just over 3 per cent a year in 2015–2017, with the result that resource utilisation in the economy normalises in 2017 (see Diagram 6).

Diagram 6 Output gap, CPIF and repo rate

Per cent and annual percentage change, quarterly values, respectively



Sources: Statistics Sweden, The Riksbank and NIER.

EMPLOYMENT RATE CONTINUES TO CLIMB

After a weak start to the year, employment climbed further than expected in the second quarter. Forward-looking indicators suggest further improvement in the near term, with an increase of just over 1 per cent for the year as a whole. The stronger GDP growth in 2015–2018 means that employment will continue to rise by 1 per cent or slightly more each year, and the employment rate will continue to climb (see Diagram 7). Productivity in the business sector will then increase at around the normal rate after a number of poor years.

The labour force, which has expanded rapidly in recent years, will grow almost as fast as employment this year, and so unemployment will fall only marginally to 7.9 per cent (see Diagram 8). The expansion of the labour force will slow in the coming years, due partly to previous initiatives to stimulate supply no longer contributing to the same degree. Unemployment will therefore fall to around 6.5 per cent in 2017 and 2018, which is in line with what the NIER considers to be the equilibrium level. The high levels of joblessness since the financial crisis have brought a risk of rising long-term unemployment, but the increase has not been as great as might have been expected (see the special analysis "Long-term unemployment in the Swedish labour market").

Diagram 7 Number of employed and employment rate

Millions and per cent of population age 15–74, respectively, seasonally adjusted quarterly values

Sources: Statistics Sweden and NIER.

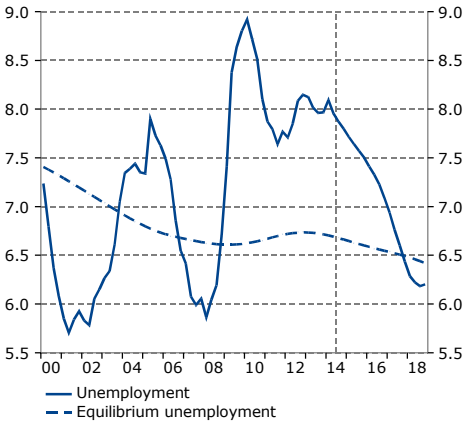
INFLATION TO RISE NEXT YEAR

The weak economic climate in Sweden and elsewhere has brought very low inflation in recent years. In the first seven months of this year, inflation measured by CPIF (consumer price index with constant mortgage rates) averaged 0.5 per cent. These low levels and the subdued outlook for inflation prompted the Riksbank to cut the repo rate further than expected in July, from 0.75 to 0.25 per cent (see Diagram 9).

There is, however, much to suggest that the period of exceptionally low inflation will soon be over. The monthly changes in prices for food and services were very low at the beginning of the year but are now considerably higher. The krona has also depreciated by almost 4 per cent this year, which will eventually push up the prices of imported goods and services, and weak productivity growth means that unit labour costs will rise rela-

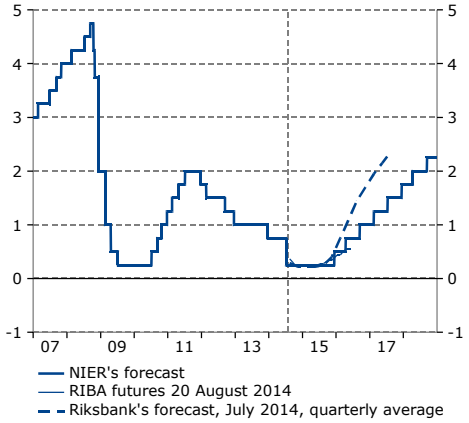
Diagram 8 Unemployment and equilibrium unemployment

Per cent of labour force, seasonally adjusted quarterly values



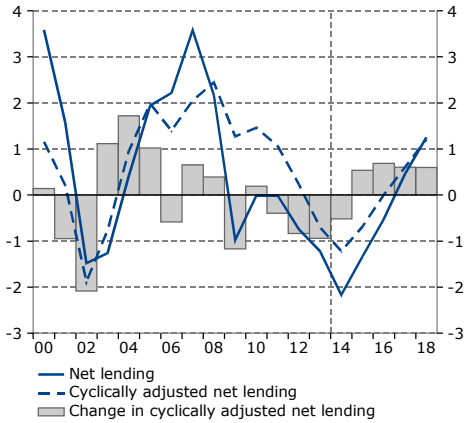
Sources: Statistics Sweden and NIER.

Diagram 9 Repo rate
Per cent, daily values



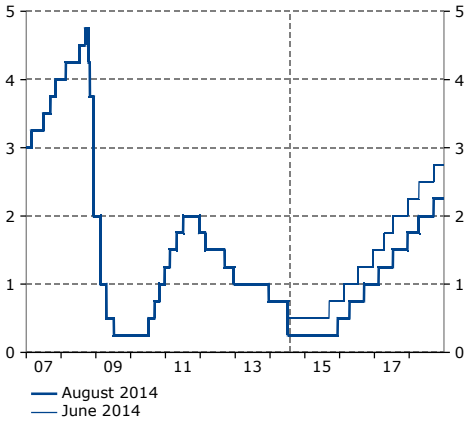
Sources: Nasdaq OMX, The Riksbank and NIER.

Diagram 10 General government net lending and cyclically adjusted net lending
Per cent of GDP and per cent of potential GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 11 Repo rate
Per cent, daily values



Sources: The Riksbank and NIER.

tively strongly this year. Taken together, this means that CPIF inflation will climb from 0.6 per cent this year to 1.5 per cent next year. This is still below the inflation target, however, and the Riksbank will not raise interest rates until the end of 2015 even though the household debt-to-income ratio will rise slightly further during the period. Persistently low interest rates abroad and low inflation in Sweden mean that the hiking cycle will be protracted, and the repo rate will still be as low as 1.75 per cent when the economy normalises towards the end of 2017.

TIGHTER FISCAL POLICY AHEAD

Fiscal policy has been expansionary ever since the financial crisis erupted in 2008 (see Diagram 10). This has been justified given the prolonged economic slump. Cyclically-adjusted net lending will be a negative 1.2 per cent of GDP this year. Fiscal policy must therefore be tightened in 2015–2018 so that cyclically-adjusted net lending rises to a positive 1.2 per cent of GDP in 2018, the level considered to be compatible with the surplus target of 1 per cent over a business cycle. This can be achieved either by reducing government expenditure, which would erode the public sector commitment, or by increasing government revenue. In the NIER's scenario, an unchanged public sector commitment would require tax increases of SEK 120 billion by 2018 for the surplus target to be met.

Forecast revisions 2014–2015

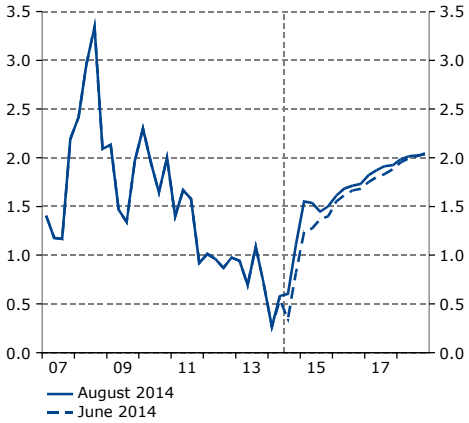
This section outlines the principal revisions to the forecast published in *The Swedish Economy*, June 2014. Both the domestic economy and the global economy have performed slightly less well than expected, but the forecast revisions are relatively small (see Table 2).

- GDP growth in the euro area was slower than expected in the second quarter, and most confidence indicators have fallen back somewhat over the summer. The forecast for global GDP growth has been revised down by 0.2 percentage points in 2014 and 0.1 percentage points in 2015.
- Swedish GDP growth was also weaker than anticipated in the second quarter, based on the preliminary national accounts. The forecast for 2014 has therefore been revised down by 0.4 percentage points to 1.8 per cent.
- It is primarily exports and business sector investment other than housing that fell short of expectations.
- Employment, meanwhile, grew more strongly than anticipated, and so the forecast has been revised up somewhat to an increase of 1.2 per cent this year. Unemployment will fall marginally more quickly in 2014.

- The Riksbank lowered both the repo rate and its interest rate path further than expected at its monetary policy meeting at the beginning of July. This impacted on market pricing, and the krona weakened. The forecast for the repo rate has been revised down by between 25 and 50 basis points (see Diagram 11).
- CPIF inflation has been slightly higher than expected over the summer. Going forward, factors such as the weaker krona will bring slightly higher inflation (see Diagram 12).

Diagram 12 CPIF

Annual percentage change, quarterly values



Sources: Statistics Sweden and NIER.

Table 2 Current forecast and revisions compared to the June 2014 forecast

Percentage change unless otherwise noted

	2014		2015	
	Aug. 2014	Diff.	Aug. 2014	Diff
International				
GDP, world-wide	3.4	–0.2	3.8	–0.1
GDP, OECD	1.9	–0.2	2.5	–0.1
GDP, euro area	0.9	–0.2	1.6	0.0
GDP, United States	2.1	–0.3	3.1	–0.3
GDP, China	7.4	0.0	7.2	0.0
Federal funds target rate[1,2]	0.25	0.00	1.00	0.00
ECB refi rate[1,2]	0.15	0.00	0.15	0.00
Oil price[3]	107.2	–0.5	105.3	0.9
CPI, OECD	1.9	0.1	2.0	0.0
GDP by expenditure				
GDP, calendar-adjusted	1.9	–0.4	2.9	0.1
GDP	1.8	–0.4	3.1	0.1
Household consumption	2.5	0.1	2.4	0.2
General government consumption	1.2	0.1	1.7	–0.2
Gross fixed capital formation	4.3	–2.7	7.3	0.2
Stockbuilding[4]	0.1	0.0	0.0	–0.1
Exports	2.7	–0.5	5.2	0.4
Imports	4.7	–0.5	5.7	0.1
Labour market, inflation, interest rates etc.				
Hours worked[5]	1.4	0.0	1.3	0.1
Employment	1.2	0.2	1.2	0.0
Unemployment[6]	7.9	–0.1	7.6	–0.1
Labour market gap[7]	–1.6	–0.2	–1.4	–0.2
Output gap[8]	–2.3	–0.3	–1.5	–0.2
Productivity, business sector [5]	0.8	–0.5	1.9	0.0
Hourly earnings[9]	3.0	0.0	2.9	0.0
CPI	0.0	0.1	1.1	0.0
CPIF	0.6	0.1	1.5	0.2
Repo rate[1,2]	0.25	–0.25	0.50	–0.25
Interest rate, 10-year government bond [1]	1.8	–0.2	2.1	–0.4
Index for the Swedish krona (KIX)[10]	106.2	1.5	105.2	2.6
Current account [4]	6.1	0.1	5.9	0.4
General government net lending [11]	–2.2	–0.1	–1.3	–0.1

[1] Per cent. [2] At year-end. [3] Dollar per barrel, annual average. [4] Change in per cent of GDP preceding year. [5] Calendar-adjusted. [6] Level, per cent of labour force. [7] Difference between actual and potential hours worked, in per cent of potential hours worked. [8] Difference between actual and potential GDP, in per cent of potential GDP. [9] According to Short-term Earnings Statistics. [10] Index 18 November 1992=100. [11] Per cent of GDP.

Note. The difference is between the current forecast and the June 2014 forecast. A positive value denotes an upward revision.

Source: NIER.

International developments

After slowing somewhat at the beginning of the year, the global economy has continued to pick up. It is a sluggish recovery, however, and resource utilisation in the OECD countries will remain low in the coming years. Although both the Federal Reserve and the Bank of England will begin to raise their policy rates in 2015, central bank rates will remain low in the coming years.

Emerging markets have been a mixed bag recently. Most indicators in China have turned upwards, and it appears that the downturn of which there were some signs in the spring will be avoided, but the outlook in many Latin American countries has deteriorated. All in all, global GDP growth will accelerate from around 3 per cent last year to around 3.5 per cent this year and just under 4 per cent next year.

GROWTH PAUSE IS OVER

Growth in many parts of the world slowed in the first quarter. GDP fell by 0.5 per cent in the US and rose by just 0.2 per cent in the euro area. Much of the dip in the US was of a temporary nature, and GDP there grew by 1 per cent in the second quarter, with both exports and gross fixed capital formation rising markedly after being hit by cold weather in the first quarter. Chinese GDP growth also increased in the second quarter.

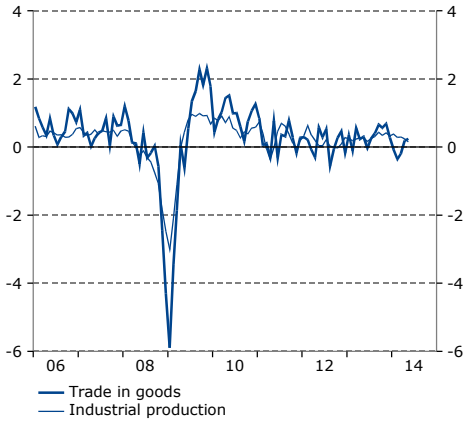
In Europe, the situation worsened in the second quarter, with GDP stagnating after having risen for four successive quarters. No figures have yet been published for the components of demand, but it appears that gross fixed capital formation was particularly weak. GDP fell in Germany and Italy, and was flat in France, but Spain continued to make progress.

One sign of growth in global demand beginning to pick up slightly is that global trade in goods has rallied in recent months. On the other hand, growth in global industrial production has fallen back (see Diagram 13).

In the OECD countries, most survey-based economic indicators are at relatively high levels (see Diagrams 14 and 15). Together with other information, this suggests that GDP growth will improve somewhat in the third quarter (see Diagram 16). In the US, gross fixed capital formation is expected to grow fastest in the second half, and housing investment above all. In the euro area, exports in particular, but also gross fixed capital formation, will grow quickly. In Japan, households brought consumption forward ahead of the increase in sales tax in April, causing GDP to surge in the first quarter before falling back by roughly the same amount in the second. Growth is expected to be just over 0.5 per cent in the third and fourth quarters.

Diagram 13 Global trade in goods and industrial production

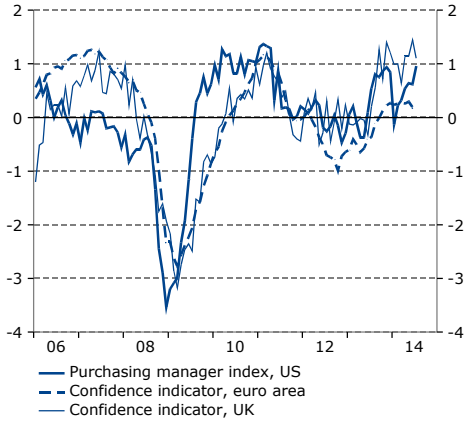
Percentage change, 3-month moving average, seasonally adjusted monthly values



Source: CPB Netherlands Bureau for Economic Policy Analysis.

Diagram 14 Confidence indicators, manufacturing

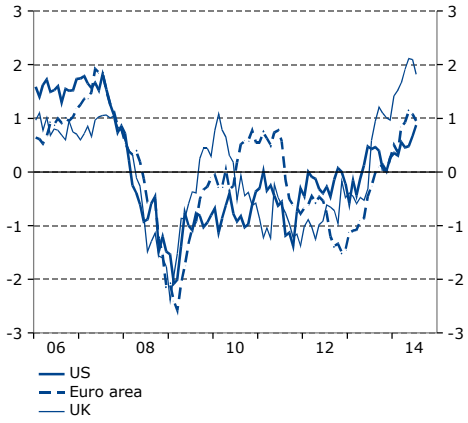
Standardised deviations from mean, seasonally adjusted monthly values



Sources: Institute for Supply Management and European Commission.

Diagram 15 Consumer confidence in US, euro area and UK

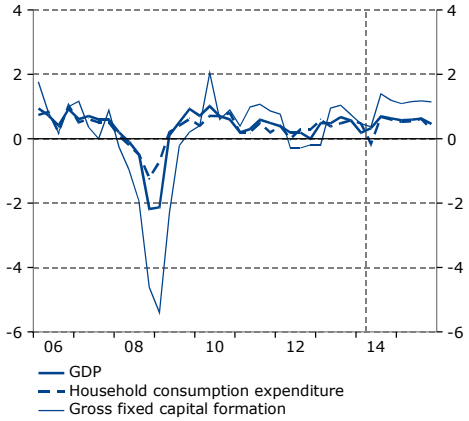
Standardised deviations from mean, seasonally adjusted monthly values



Sources: Conference Board and European Commission.

Diagram 16 GDP, consumption and gross fixed capital formation in OECD

Percentage change, seasonally adjusted quarterly values



Sources: IMF, OECD, national sources and NIER.

Table 3 World-wide GDP and CPI

Per cent of purchasing power adjusted global GDP and percentage change, respectively

	Weight	GDP[1]			CPI[2]		
	2013	2013	2014	2015	2013	2014	2015
World	100	3.1	3.4	3.8	3.6	3.6	3.6
OECD	52.3	1.5	1.9	2.5	1.6	1.9	2.0
US	19.3	2.2	2.1	3.1	1.5	1.9	2.0
Euro area	12.8	–0.4	0.9	1.6	1.4	0.6	1.1
Germany	3.7	0.5	1.7	2.0	1.6	1.0	1.5
France	2.6	0.4	0.5	1.2	1.0	0.8	1.1
Italy	2.1	–1.8	0.1	1.2	1.3	0.3	0.9
Spain	1.6	–1.2	1.2	1.7	1.5	0.1	0.6
Finland	0.2	–1.3	–0.2	1.3	2.2	1.3	1.6
Japan	5.4	1.5	1.2	1.4	0.4	2.8	2.1
UK	2.7	1.7	3.0	2.6	2.6	1.9	2.0
Sweden	0.5	1.6	1.9	2.9	0.4	0.4	1.2
Norway	0.3	0.7	1.7	2.2	2.0	1.9	2.0
Denmark	0.2	0.4	1.5	1.7	0.5	0.6	1.4
Emerging markets[3]	47.7	4.9	4.9	5.2			
China	15.4	7.7	7.4	7.2	2.6	2.5	3.0
India	5.8	4.7	5.4	6.3	10.9	7.2	7.4
Brazil	2.8	2.5	1.3	2.0	6.2	6.0	5.5

[1] For GDP, entries refer to calendar-adjusted constant prices development. Aggregates are calculated using IMF's purchasing power adjusted GDP weights. In the World Economic Outlook Update, July 2014, IMF notes that weights have been updated, yielding aggregate values slightly different from those shown in the table. However, the new weights will not be available until the publication of the World Economic Outlook, October 2014.

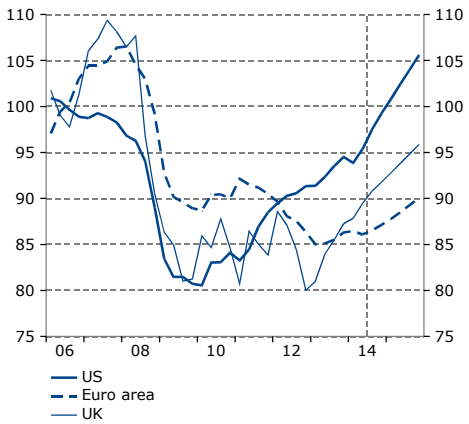
[2] CPI values for EU countries, including Sweden, and Norway refer to harmonised consumer prices (HICP) except for the OECD aggregate that includes national CPI series only. Aggregates for EU and the euro area are weighted using consumption weights from Eurostat, the OECD aggregate using consumption weights from the OECD and the world aggregate using purchasing power adjusted GDP weights from the IMF. Countries exhibiting hyperinflation are excluded.

[3] Emerging markets are defined here as countries that are not members of the OECD.

Sources: IMF, OECD, Eurostat and NIER.

Diagram 17 Gross fixed capital formation in US, euro area and UK

Index 2006=100, seasonally adjusted quarterly values



Sources: Bureau of Economic Analysis, Eurostat, Office for National Statistics and NIER.

GRADUAL RECOVERY IN THE OECD COUNTRIES NEXT YEAR

Next year, GDP in the OECD countries is expected to increase at around the same rate as in the second half of this year, or just over 0.5 per cent per quarter. Although it is more than five years since the financial crisis erupted, investment levels in the OECD countries are still more than 5 per cent lower than before the crisis, so there is considerable potential for a rebound in investment. Capacity utilisation is expected to improve going forward in the OECD countries, which will stimulate investment (see Diagram 16).

Considering how low investment is at present, though, the recovery in investment in the euro area will be relatively sluggish (see Diagram 17). The reasons include tight credit conditions,

considerable idle capacity and weak balance sheets at many firms in the crisis countries, and there is still uncertainty about the economic outlook. In the US, the correction of various saving imbalances following the financial crisis has come further, one result being that investment has recovered to a much greater degree than in the euro area. Investment is also expected to grow more quickly in the US than in the euro area in the coming years. The improvement will be broad-based, but over the next year it will mainly be housing investment that takes off.

Both this year and next, fiscal policy in many countries will be less contractionary than in recent years and will not hold consumption back to the same extent. Rising share and housing prices are also stimulating consumption in some countries, along with improvements in the labour market (see Diagram 18). In the US and the UK, the recovery in the labour market is well under way, and growth in household consumption in both countries in 2014 and 2015 is expected to be at its highest since the financial crisis struck (see Diagram 19). In the euro area, unemployment has fallen somewhat in recent months but is still well above the equilibrium level. After falling in both 2012 and 2013, household consumption is now rising, but only slowly (see Diagram 19).

All in all, GDP growth in the OECD countries will climb from 1.5 per cent in 2013 to just under 2 per cent this year and 2.5 per cent in 2015 (see Table 3). This can be compared with an average growth rate of 2.4 per cent in the period 1980−2013.

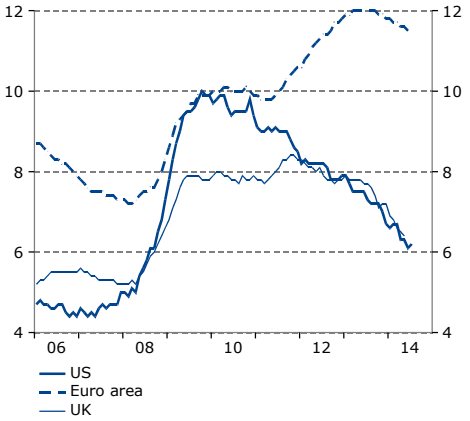
EMERGING MARKETS A MIXED BAG

Growth in many emerging markets seems to be stabilising, and in some cases increasing, after a slight downturn at the beginning of this year. Export growth has accelerated in many countries, and economic policy initiatives are stimulating domestic demand in some. There are considerable variations between regions, however. African GDP looks likely to continue growing at around 5 per cent both this year and next. In Latin America, growth began to slow last year, and in July the IMF revised down its forecast for the region's GDP growth this year to 2.0 per cent, the lowest level since the crisis in 2009. In Brazil and Argentina, the authorities are having to tackle high inflation, at the same time that high financing costs and low business confidence are putting a damper on investment (for Brazil, see Diagram 20). In Russia, an already bleak outlook has been revised down further as the conflict in Ukraine and sanctions from the outside world have escalated. Russian GDP is expected to show barely any growth at all this year and remain subdued next year.

Most Asian emerging markets are continuing to grow rapidly compared to other regions. The dominant force is China, where the growth pause at the beginning of the year appears to be over. The authorities' measures to boost the economy, partly through an increase in public investment, appear to have had the

Diagram 18 Unemployment

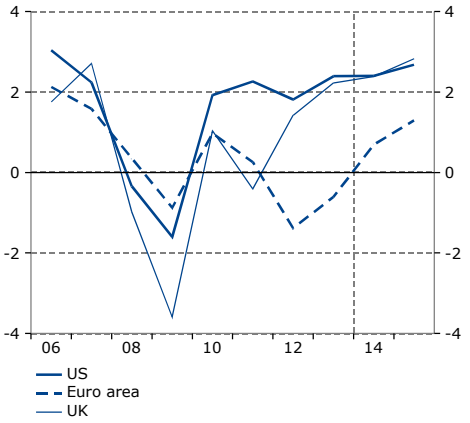
Per cent of labour force, seasonally adjusted monthly values



Sources: Bureau of Labor Statistics, Eurostat and Office for National Statistics.

Diagram 19 Household consumption in US, euro area and UK

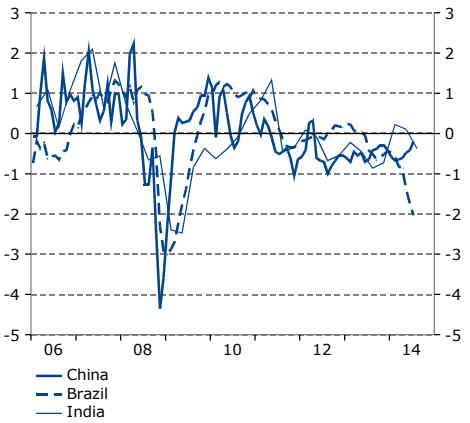
Percentage change



Sources: Bureau of Economic Analysis, Eurostat, Office for National Statistics and NIER.

Diagram 20 Business confidence indicators

Standardised deviations from mean, monthly and quarterly values, respectively



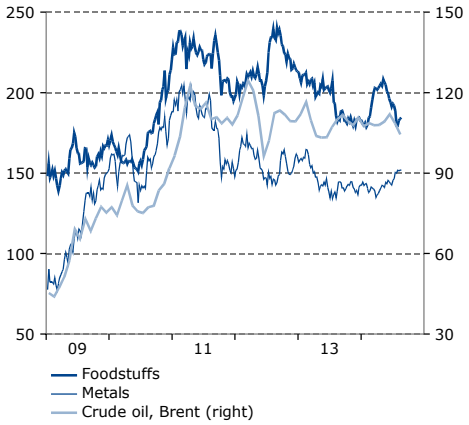
Sources: China Federation of Logistics & Purchasing, Getulio Vargas Foundation and Dun & Bradstreet.

desired effect. In July, the central bank announced targeted credit support for selected sectors. Year-on-year GDP growth rose to 7.6 per cent in the second quarter. Most confidence indicators have picked up slightly in recent months after falling for part of last year and at the beginning of this year (see, for example, Diagram 20). That said, most Chinese confidence indicators are still only around, and in some cases below, the historical average. There are signs that the Chinese government is comfortable with a slightly lower rate of GDP growth than the formal target of 7.5 per cent. All in all, this means that growth in China is expected to slow slightly to just over 7 per cent in the coming years.

In India, too, the government's investment programme is expected to stimulate economic activity. At the same time, weaknesses in the banking system and previous postponements of infrastructure investments will hold growth back. The euphoria after the BJP's clear election victory in May laid the foundations for a stable government seems to have dissipated somewhat, and business confidence has fallen back of late (see Diagram 20). GDP growth will rise to just over 5 per cent this year and just over 6 per cent next year, which can be compared with an average growth rate of 6.9 per cent in the period 1998−2013.

Diagram 21 Prices of raw materials, dollar

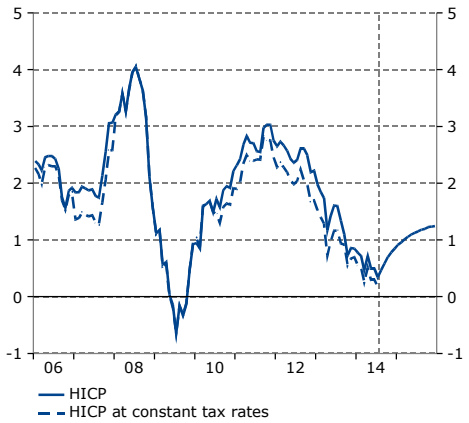
Index 2005=100 and dollar per barrel, respectively, weekly values



Sources: Economist and Macrobond.

Diagram 22 Consumer prices in euro area

Annual percentage change, monthly values



Sources: Eurostat and NIER.

FURTHER LOW INFLATION AND LOW INTEREST RATES

Global resource utilisation is low, which is one reason why many commodity prices are still around the levels following the downturn in 2011 and 2012. Recent healthy harvests have contributed to a drop in food prices (see Diagram 21). Despite trouble in many oil-producing countries, crude oil prices remain stable. The moderate rate of increase in commodity prices has put a damper on inflation worldwide.

Most idle resources are in the OECD countries, where both wage growth and inflation are low. Resource utilisation is set to rise, but will remain low next year.

In the euro area, inflation has been very low in recent times and was just 0.4 per cent in July (see Diagram 22). This is well below the ECB's target of below but close to 2 per cent. On 5 June the ECB cut its policy rate by 10 basis points to 0.15 per cent and its deposit rate to −0.10 per cent. It also announced other measures to make monetary policy more expansionary, including a long-term refinancing programme (TLTRO) to increase bank lending to non-financial firms. Despite this monetary policy stimulation, resource utilisation and inflation will remain low for a couple of years. All in all, this means that the ECB will not raise its policy rate until early 2017 (see Diagram 24).

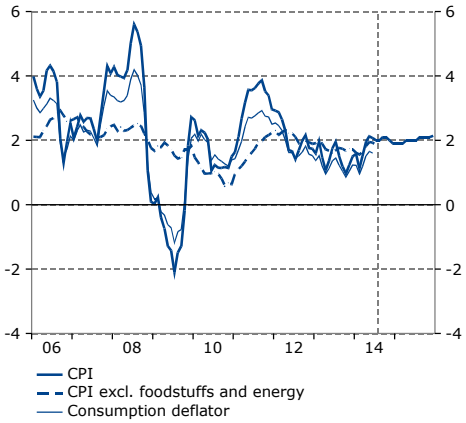
The UK is further into the recovery, and there is much to suggest that the Bank of England will be the first of the big central banks to raise its policy rate. Pricing in financial markets indicates a first hike from the current rate of 0.5 per cent next spring.

In the US, too, the labour market is improving rapidly. Wage growth remains subdued but has risen gradually over the past 18 months. Inflation was 2.0 per cent in July, or 1.9 per cent excluding food and energy (see Diagram 23). Inflation as measured by the Federal Reserve's target variable, the deflator for personal consumption expenditure, has risen recently and was 1.6 per cent in June, but this is still somewhat below the 2 per cent target.1 The NIER believes that rising resource utilisation will lead the Federal Reserve to start raising its policy rate next summer (see Diagram 24). Its quantitative easing programmes are expected to be concluded in October this year.

Although some central banks will begin to raise their rates in 2015, this will be from very low levels, and global policy rates will remain low by historical standards in the coming years.

Diagram 23 Consumer prices in US

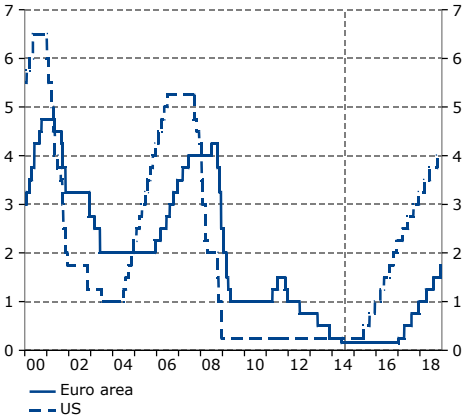
Annual percentage change, monthly values



Sources: Bureau of Labor Statistics, Bureau of Economic Analysis and NIER.

Diagram 24 Policy rates

Per cent, daily values



Sources: ECB, Federal Reserve and NIER.

DOWNSIDE RISKS DOMINATE

The current economic recovery comes after a financial crisis and a debt crisis, and is therefore associated with considerable and complex risks. The main risks are believed to be the same as those that have prevailed for some time and been described in recent issues of *The Swedish Economy*.[2]

The forecast of continued gradual recovery assumes that households and firms begin to feel more confident and are less cautious about spending. One threat to such a scenario is the large number of trouble spots around the world. Besides human suffering, armed conflicts often result in negative economic effects that also feed through to countries that are not directly involved via trade channels and financial markets. The uncertainty created by these conflicts can erode confidence and so affect investment decisions by both households and firms. Signs of such confidence effects have been evident in a number of economic indicators recently, especially in countries near Ukraine. Perhaps the single greatest risk to the global economy, however, is that the situation in the Middle East deteriorates to the extent that oil prices shoot up. Besides the aforementioned confidence effects, such an escalation would push up firms' costs, which could lead to higher consumer prices and so present a difficult balancing act for the world's central banks. Dependence on crude oil has decreased significantly in recent decades, however, especially in the OECD countries.

[1] The target for the Federal Reserve's monetary policy in terms of price stability is inflation as measured by the PCE deflator of 2 per cent. This corresponds to inflation of around 2.3 per cent as measured by the CPI.

[2] Forecasts are always associated with uncertainty, and numerous factors could lead to actual developments departing from those presented in this report. This section presents just some of these factors.

The Swedish economy

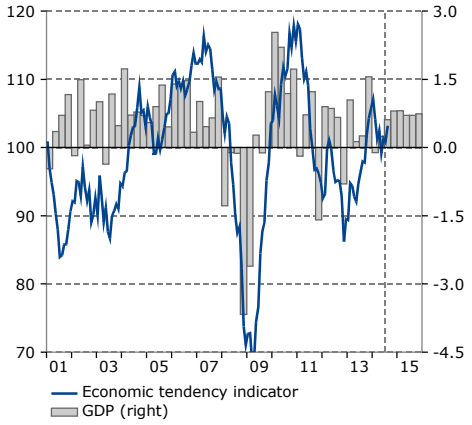
Sweden has had several years of low inflation and weak growth in the real economy. GDP grew by just 0.2 per cent in the second quarter this year. To stimulate demand and so help achieve its monetary policy objectives in the longer term, the Riksbank lowered the repo rate by 50 basis points in July to 0.25 per cent.

Demand is set to improve, with both investment and exports growing significantly more quickly than in the first half of this year. GDP growth will therefore accelerate in the second half. One sign of this is the NIER's economic tendency indicator being at levels that would normally point to GDP growth just above the historical average (see Diagram 25).

Despite recent years' weak output growth, employment has risen relatively strongly, but an ever expanding labour force has prevented this from bringing down unemployment. The expansion of the labour force is now expected to slow, so further growth in employment will result in falling unemployment as demand gradually recovers.

Diagram 25 Economic tendency indicator and GDP

Index mean=100, monthly values and percentage change, seasonally adjusted quarterly values, respectively



Sources: Statistics Sweden and NIER.

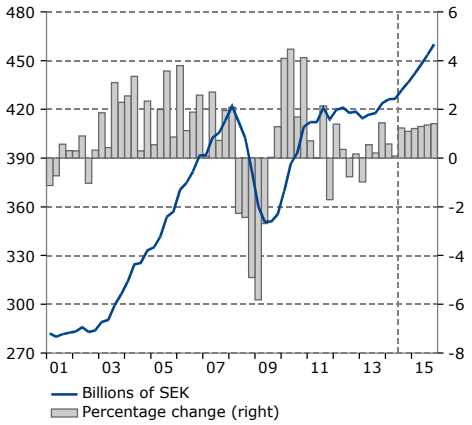
Demand and production

WEAK EXPORTS IN THE SECOND QUARTER

Exports were more or less unchanged from the first quarter to the second (see Diagram 26). Exports of goods fell by almost 1 per cent despite the NIER's *Economic Tendency Survey* showing a gradual increase in new export orders in industry throughout the year (see Diagram 27). The statistics for the second quarter are still somewhat incomplete, but there is much to suggest that the decline was in exports of processed goods, whereas exports of commodities continued to climb.

Diagram 26 Exports

Billions of SEK, constant prices and percentage change, respectively, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

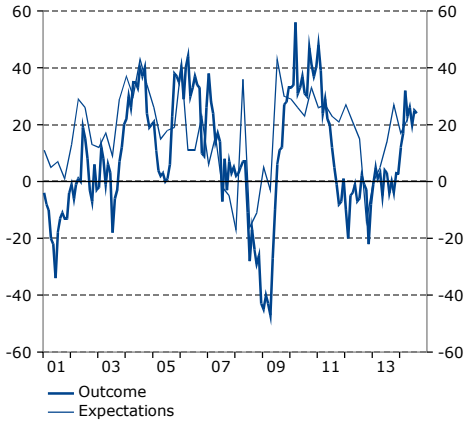
EXPORT DEMAND TO PICK UP SLOWLY

Industrial companies anticipate higher export orders over the next three months (see Diagram 27). However, the market for Swedish exports will grow by only just over 3 per cent this year and just under 5 per cent next year (see Diagram 28). Compared with the average rate of 5.5 per cent in the period 1981–2013, this export market growth is relatively weak.

Since Swedish exports consist to a great extent of capital goods and intermediate goods for the production of capital goods, weak investment growth internationally will hamper Swedish export growth.[3] Investment in the euro area has now

Diagram 27 Export industry orders

Balances, seasonally adjusted monthly and quarterly values, respectively

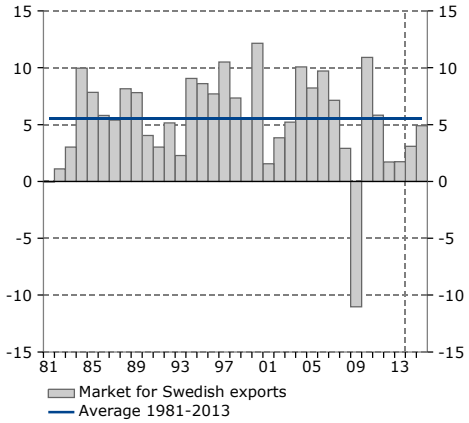


Source: NIER.

[3] See the special analysis "Svensk exportindustri relativt svag motor i återhämtningen" [Swedish export industry relatively weak driver in the recovery] in *The Swedish Economy*, December 2009, for a discussion of the orientation of the Swedish export industry.

Diagram 28 Market for Swedish exports

Percentage change



Sources: OECD, IMF and NIER.

picked up after several years in decline, but growth is still subdued. Nor is investment increasing particularly quickly in Norway or the UK, two important markets for Sweden. All in all, this means that exports will rise by 2.7 per cent this year and 5.2 per cent next year (see Table 4).

Table 4 GDP by expenditure

SEK billion, current prices and percentage change, constant prices, respectively

	Level				
	2013	2012	2013	2014	2015
Household consumption expenditure	1 765	1.6	2.0	2.5	2.4
General government consumption expenditure	998	0.3	2.0	1.2	1.7
Gross fixed capital formation	668	3.3	−1.1	4.3	7.3
Final domestic expenditure	*3 432*	*1.6*	*1.4*	*2.5*	*3.2*
Stockbuilding[1]	2	−1.2	0.2	0.1	0.0
Total domestic expenditure	*3 434*	*0.3*	*1.6*	*2.6*	*3.2*
Exports	1 668	0.7	−0.4	2.7	5.2
Total use	*5 102*	*0.5*	*0.9*	*2.6*	*3.9*
Imports	1 461	−0.6	−0.8	4.7	5.7
Net exports[1]	*207*	*0.6*	*0.2*	*−0.6*	*0.1*
GDP	**3 641**	**0.9**	**1.6**	**1.8**	**3.1**
GDP, calendar-adjusted		1.3	1.6	1.9	2.9
Current account[2]	246	6.5	6.8	6.1	5.9

[1] Change in per cent of GDP previous year. [2] Per cent of GDP, current prices.

Sources: Statistics Sweden and NIER.

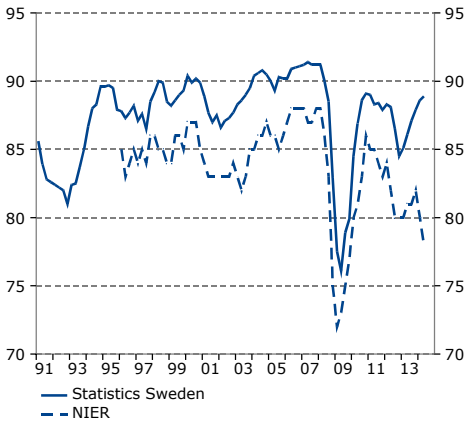
DWINDLING INVESTMENT IN INDUSTRY

These weak developments in external demand, and thereby Swedish exports, contributed to a drop in industrial investment of just over 5 per cent year-on-year in the second quarter. Capacity utilisation in industry may be on the way up according to data from Statistics Sweden (see Diagram 29), but it is still at levels that do not indicate any great need for investment. According to the NIER's *Economic Tendency Survey*, on the other hand, capacity utilisation in industry has fallen in the past two quarters (see Diagram 29). This has been due largely to developments in the pharmaceutical sector, as capacity utilisation in other sectors has been relatively stable.

Investment in the service sector (excluding housing, ships and aircraft) has also been weak recently, falling by more than 6 per cent year-on-year in the second quarter.

Diagram 29 Industrial capacity utilisation

Per cent, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

HOUSING INVESTMENT GROWING STRONGLY

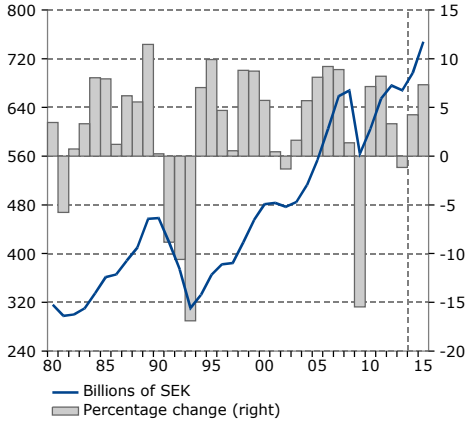
Despite dwindling investment in both industry and the service sector, overall investment grew by just over 2 per cent in the second quarter. This was due partly to high public sector investment to meet a major need for improvements in both local

and central government infrastructure, but very strong growth in housing investment played an even bigger role.

Despite the rapid rise in housing investment, growth in total investment will not exceed 4.3 per cent this year. Weak industrial production is holding back investment in industry, which will fall over the year as a whole. As the economic climate improves, both in Sweden and elsewhere, investment in industry and the service sector will increase, and total investment will grow by 7.3 per cent next year (see Diagram 30).

Diagram 30 Gross fixed capital formation

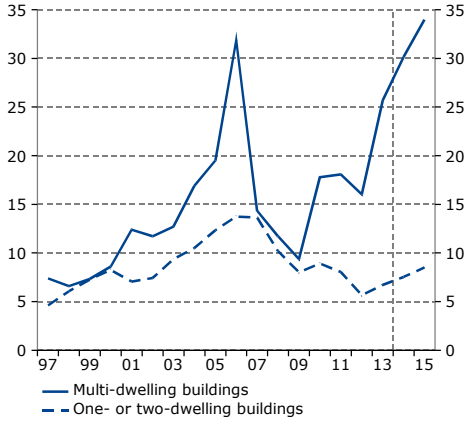
SEK billion, constant prices, and percentage change, respectively



Sources: Statistics Sweden and NIER.

Diagram 31 Started dwellings

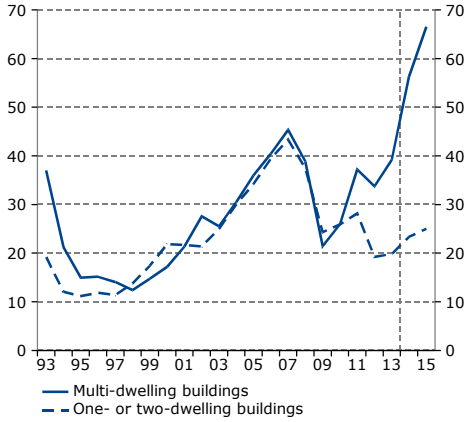
Thousands



Sources: Statistics Sweden and NIER.

Diagram 32 Investment in new dwellings

Billions of SEK, constant prices



Sources: Statistics Sweden and NIER.

Investment in new housing rising again

Housing investment is rising again after the dip in 2012. Investment in apartment buildings climbed almost 50 per cent year-on-year in the second quarter. Total housing investment is expected to rise by 21 per cent in 2014 and 9 per cent in 2015.

There were more than 32,000 housing starts in 2013, an increase of almost 11,000 on 2012, which was a poor year (see Diagram 31). The increase was particularly strong towards the end of the year, especially for apartment buildings. Housing starts are expected to rise further in 2014–2015 to around 40,000 a year, which is in line with municipalities' expectations. However, around 60 per cent of municipalities anticipate a shortage of housing even if they meet their own expectations in 2013–2014.[4] The number of housing starts is therefore expected to increase again in 2015, which means that investment in apartment buildings will be high throughout the forecast period (see Diagram 32). Investment in houses will also rise, but at a significantly more modest rate.

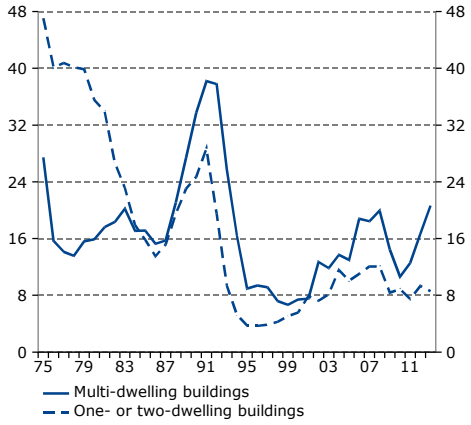
Although the rate of growth is high, the number of homes completed is not especially high by historical standards. More than 70,000 units were completed each year in the mid-1970s, and around 60,000 in the economic boom of the early 1990s (see Diagram 33).

One major contributing factor to the current shortage of housing is the strong and accelerating population growth of the past 7–8 years. The number of refugees coming to Sweden has been unusually high over the past two years, and the cohorts entering the property market have not been as large since the early 1970s. Municipalities are also reporting that the shortage of housing is particularly acute in these groups.

There are major regional variations in homebuilding activity. It is primarily in the big cities and university towns where investment is rising, and it is also there where prices

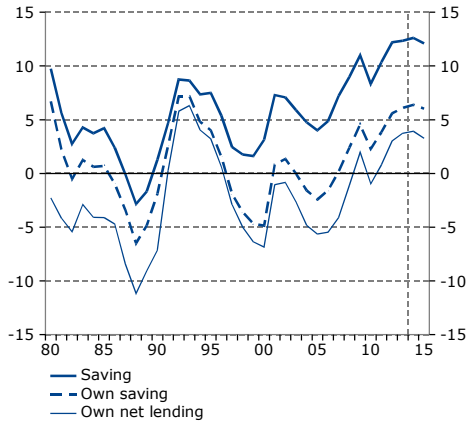
[4] See "Bostadsmarknaden 2013–2014 – med slutsatser från bostadsmarknadsenkäten 2013" [The Housing Market 2013–2014 – with conclusions from the 2013 Housing Market Survey], Swedish National Board of Housing, Building and Planning, June 2013.

Diagram 33 Completed dwellings
Thousands



Sources: Statistics Sweden and NIER.

Diagram 34 Household saving
Per cent of disposable income, current prices



Note. Own saving excludes saving in negotiated pension funds and premium pensions
Sources: Statistics Sweden and NIER.

Diagram 35 Household confidence indicator
Index mean=100, monthly values

Source: NIER.

have risen furthest and are now high in relation to production costs.

HOUSEHOLDS TO REMAIN CAUTIOUS

Household consumption expenditure grew by no less than 1 per cent in the second quarter this year, with a particularly strong increase of 2.4 per cent in the consumption of non-durables. High saving levels (see Diagram 34) and increases in household real disposable income of 2.8 per cent this year and 2.0 per cent next year mean that there is a good basis for high growth in household consumption.

Growth will not, however, be as strong as the second-quarter data might indicate. According to the *Economic Tendency Survey*, consumer sentiment is still somewhat subdued, with the confidence indicator slightly below the historical average of 100 (see Diagram 35). The reasons why households are not more optimistic include growing calls for financial restraint, including higher repayments on mortgages. It is also possible that consumer sentiment is being affected by uncertainty about the global economy in the light of the conflicts in Syria, Ukraine, Gaza, Iraq and elsewhere.

Household consumption grew by 2.0 per cent in 2013 and will accelerate to 2.5 per cent in 2014, which is slightly above the historical average since 1993, due primarily to high consumption of durable goods, purchases of cars and spending abroad. It will grow further by 2.4 per cent next year.

CENTRAL GOVERNMENT CONSUMPTION TO GROW MORE SLOWLY NEXT YEAR

Local government consumption will rise at roughly the same rate this year as last year, or 1.3 per cent. Consumption expenditure in the local government sector depends largely on demographic developments, and costs for education and elderly care will increase both this year and next. The NIER assumes that the sector will receive an additional SEK 3 billion in general central government grants next year, with the result that consumption expenditure will grow more strongly than this year.

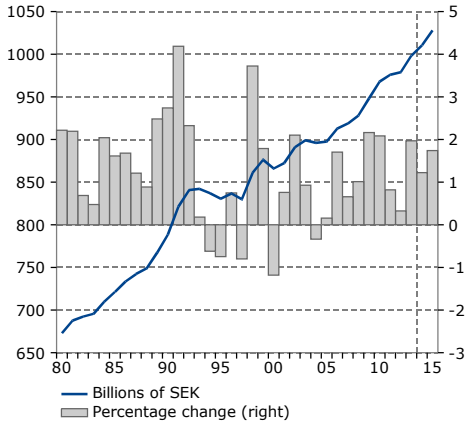
The aforementioned trouble spots and unrest in other parts of the world mean that increased immigration will impact on both central and local government consumption expenditure. For central government, it is primarily the cost of accommodation for asylum seekers that will increase.

The increase in index-linked grants to central government authorities will be high this year but significantly lower next year. In addition to this, the NIER assumes that decisions will be taken on a further SEK 3 billion in central government consumption next year (see also the chapter "Public finances 2014–2018"). Central government consumption will nevertheless grow more slowly next year.

All in all, government consumption will grow by 1.2 per cent this year and 1.7 per cent next year (see Diagram 36).

Diagram 36 General government consumption expenditure

SEK billion, constant prices and percentage change, respectively



Sources: Statistics Sweden and NIER.

STRONGER DEMAND FUELLING IMPORTS

It became increasingly clear towards the end of 2013 that imports had begun to rise again after being largely unchanged since early 2011 (see Diagram 37). The reason for this earlier weakness was generally subdued demand growth, especially in the case of demand with a relatively high import content. After two weak years, however, overall demand is expected to rise by 2.6 per cent this year and 3.9 per cent next year (see Diagram 38).

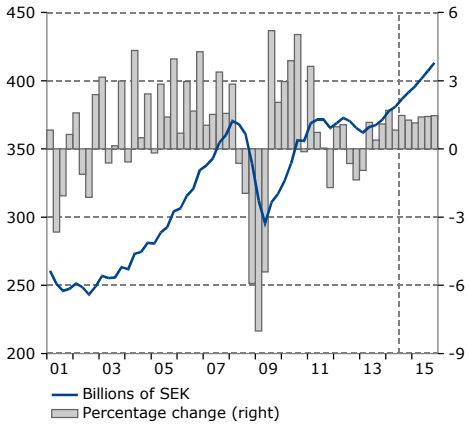
Imports of both goods and services climbed almost 1 per cent in the second quarter of 2014, and imports are expected to increase by 4.7 per cent over the year as a whole. Imports of services in particular are growing strongly, but imports of goods are also rebounding after two years in decline.

One major contributing factor in this import growth is that exports of goods – which have a high import content – are rising again. Around two-thirds of this year's import growth will, however, be down to domestic demand. In particular, households' purchases abroad are continuing to grow rapidly. Households are also stepping up spending on durable goods, and more are upgrading their cars than last year. Another factor in the growth in imports this year is that firms are no longer drawing down their stocks.

Import growth will be even stronger next year at 5.7 per cent, due partly to greater demand for Swedish exports of goods and partly to machinery investment picking up. Households' growing consumption of durable goods and growing purchases abroad will also continue to contribute to import growth.

Diagram 37 Imports

SEK billion, constant prices and percentage change, respectively, sesaonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Swedes saving extensively in foreign assets

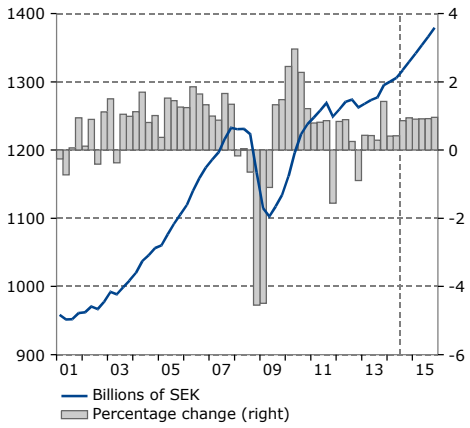
A country's gross national income (GNI) is the sum of its GDP and net factor income (wages and capital returns) to/from abroad. The part of GNI that is not used for consumption is saved in the form of gross investment within the country or financial saving in foreign assets.

Sweden's total financial saving abroad consists of the current account balance and capital transfers. The current account balance, in turn, is the sum of net foreign trade in goods and services, factor income and current transfers (such as development aid and EU payments).

From 1995 onwards, net foreign trade in goods and services accounted for 6 per cent or more of GNI for many years. This led to an increase in foreign financial assets, and positive contributions from factor income from 2005 onwards. Transfers, meanwhile, made a negative contribution throughout this period (see Diagram 39).

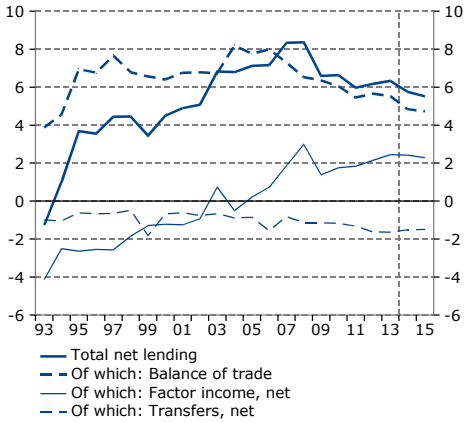
Diagram 38 Total demand

Billions of SEK, constant prices and percentage change, respectively, sesaonally adjusted quarterly values



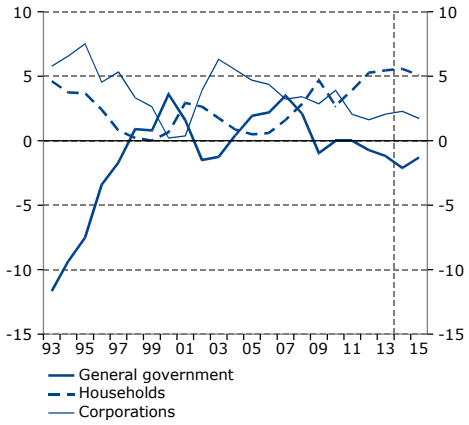
Sources: Statistics Sweden and NIER.

Diagram 39 Net lending
Per cent of GNI, current prices



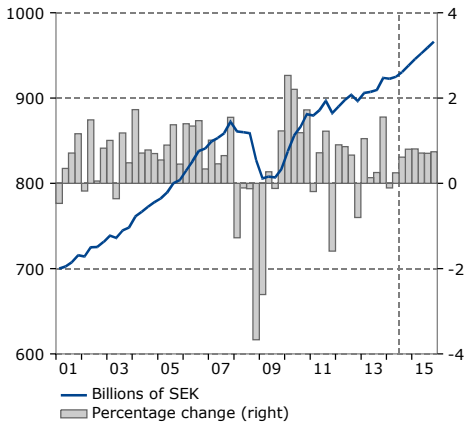
Sources: Statistics Sweden and NIER.

Diagram 40 Net lending
Per cent of GNI, current prices



Sources: Statistics Sweden and NIER.

Diagram 41 GDP
SEK billion, constant prices and percentage change, respectively, sesaonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Financial saving is forecast to fall by almost SEK 15 billion this year to just over SEK 222 billion and then be largely unchanged next year. In other words, financial saving will remain high in both years despite its share of GNI decreasing gradually to 5.7 per cent this year and 5.5 per cent next year (see Diagram 39).

The decrease is due largely to the continued major need for saving to be found abroad holding back Swedish exports, while domestic demand pushes up the need for imports through increased consumption and stronger investment in 2015. Measured relative to GNI, this means that the contribution from foreign trade will decrease somewhat in both years, while net factor income and transfers will change only marginally (see Diagram 39).

If financial saving is broken down by sector, household financial saving is record-high and will increase even further this year before dropping back somewhat next year. Financial saving in the business sector will also rise this year despite weak revenue growth, thanks mainly to lower tax payments. Business investment will grow more rapidly next year, with the result that financial saving in the sector will fall. The overall decrease in financial saving this year is therefore entirely a result of the government sector's increased deficit, which will rise to 2.1 per cent of GNI. Next year, however, the government deficit will narrow to 1.3 per cent of GNI (see Diagram 40).

SLUGGISH ECONOMIC RECOVERY

Swedish GDP growth was weak in the first half of this year. Output fell by 0.1 per cent in the first quarter and rose by a modest 0.2 per cent in the second (see Diagram 41). Demand will strengthen appreciably in the third quarter as both exports and investment pick up, and output will follow suit.[5] GDP will therefore grow by 1.8 per cent over the year as a whole. Next year, GDP will increase by 3.1 per cent, which is higher than potential growth, and resource utilisation will therefore increase. However, it will be 2017 before the output gap closes and resource utilisation normalises (see the section "Macroeconomic scenario and economic policy through to 2018").

WEAK INDUSTRIAL PRODUCTION

Like GDP, production in the business sector grew slowly by just 0.2 per cent in the second quarter. Industrial production, which has been weak for some time, also grew only modestly. However, industrial firms' expectations in the *Economic Tendency Survey* have become more upbeat recently. Production plans have

[5] Due to the forest fires in Västmanland, forest stocks will grow less far than normal in the third quarter, which will hold back GDP growth marginally.

picked up and are now above the historical average (see Diagram 43). Growth in industrial production will not take off until the beginning of next year, however. Production will therefore fall in 2014 as whole before rising in 2015 on the back of stronger export demand (see Diagram 42).

STRONG RISE IN CONSTRUCTION PRODUCTION

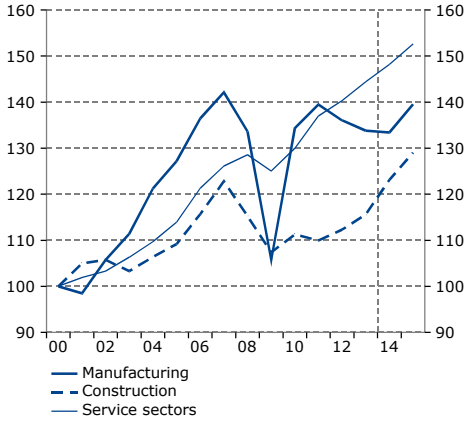
Construction production grew quickly in the first half of the year. Brisk demand for housing has brought high housing investment and high construction production. Production will also grow rapidly in the coming years, thanks to both high housing investment and infrastructure investments such as the Stockholm Bypass.

Service production was relatively weak in the first half. Firms' expectations in the Economic Tendency Survey rose slightly in August after falling in previous months and are now in line with the historical average (see Diagram 43). The PMI is also pointing to an upturn in the service sector. Service production will increase more quickly in the second half of 2014 and grow by 2.6 per cent over the year as a whole and 3.0 per cent next year (see Table 5).

Production in the business sector as a whole will rise by 2.2 per cent this year and 3.4 per cent next year.

Diagram 42 Production, business sector

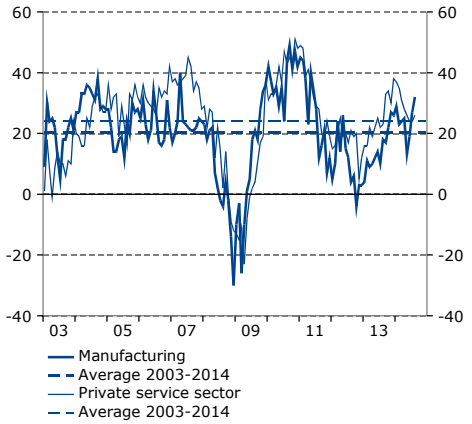
Index 2000=100, constant prices, calendar-adjusted values



Sources: Statistics Sweden and NIER.

Diagram 43 Planned production volume in manufacturing and private service sector

Balances, seasonally adjusted monthly values



Source: NIER.

Table 5 Output, hours worked and productivity

Level and percentage change, calendar-adjusted values, respectively

	Level				
	2013	2012	2013	2014	2015
Business sector					
Output[1]	2 505	1.6	1.8	2.2	3.4
Hours worked[2]	5 364	0.2	0.1	1.4	1.4
Productivity[3]	467	1.4	1.6	0.8	1.9
Goods producers					
Output[1]	823	0.0	−0.4	1.3	4.1
Hours worked[2]	1 881	−1.1	−1.9	−0.6	1.1
Productivity[3]	437	1.1	1.5	1.9	2.9
Service producers					
Output[1]	1 683	2.4	3.0	2.6	3.0
Hours worked[2]	3 482	1.0	1.3	2.5	1.5
Productivity[3]	483	1.4	1.7	0.1	1.5
General government					
Output[1]	648	0.5	0.4	0.8	0.9
Hours worked[2]	2 021	1.6	1.1	1.2	1.0
Productivity[3]	320	−1.1	−0.8	−0.3	0.0
Total economy[4]					
Output[1]	3 199	1.4	1.5	1.9	2.8
Hours worked[2]	7 545	0.7	0.4	1.4	1.3
Productivity[3]	424	0.7	1.1	0.5	1.5

[1] At basic prices, billions of SEK, and percentage change, constant prices, respectively.
[2] Millions of hours and percentage change, respectively.
[3] At basic prices, SEK per hour, and percentage change, respectively.
[4] Including non-profit institutions serving households.

Note. Output here refers to value added.

Sources: Statistics Sweden and NIER.

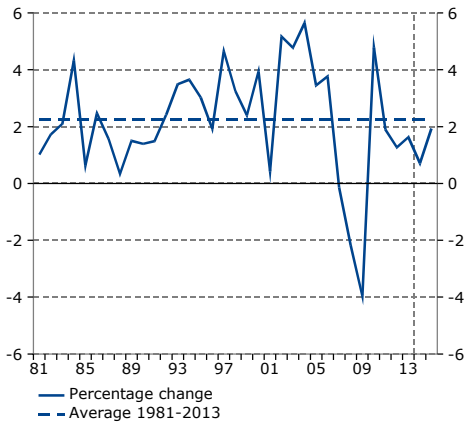
Diagram 44 Hiring plans, business sector

Balances, seasonally adjusted monthly values

Source: NIER.

Diagram 45 Productivity, business sector

Percentage change, calendar-adjusted values



Sources: Statistics Sweden and NIER.

MODEST PRODUCTIVITY GROWTH IN THE BUSINESS SECTOR

The increase in production in the business sector in 2014 and 2015 will coincide with an increase in the number of hours worked of 1.4 per cent in both years. According to the *Economic Tendency Survey*, the sector's recruitment plans increased in August and are above the historical average, which indicates a further increase in hours worked (see Diagram 44). The rise in hours worked is mainly in the service sector, with hours worked in industry falling both this year and next. This means that business sector productivity, which was weak in the first half of the year, will grow by just 0.8 per cent in 2014 as a whole. Productivity growth will then climb to 1.9 per cent next year, which is still somewhat below the historical average (see Diagram 45).

Labour market and resource utilisation

INDICATORS SUGGEST FURTHER GROWTH IN EMPLOYMENT

After a weak start to the year, employment climbed further than expected in the second quarter (see Diagram 46). There were increases among both men and women. In terms of age groups, employment continued to grow strongly among those aged 25–34 and among the over-55s. Employment in the latter group has been increasing appreciably for some time.[6] The labour force also continued to expand in the second quarter, and unemployment edged down (see Diagram 46).

Forward-looking indicators point to further growth in employment. According to the *Economic Tendency Survey*, the business sector's recruitment plans increased in August after falling during the spring (see Diagram 44). The number of new vacancies registered with the Swedish Public Employment Office has risen steadily in recent times, with the exception of July, and the number of redundancy notices is at low levels (see Diagram 47). The employment sub-index in the PMI also increased in July in both the manufacturing and services surveys. All in all, the NIER's indicator models signal slight growth in employment in the coming quarters.[7]

EMPLOYMENT RATE TO RISE IN 2014–2015

Given the historical relationship between GDP and employment growth, employment has increased surprisingly quickly in recent years (see Diagram 48). Productivity growth has therefore been weak. Productivity will rise only slowly again this year, which means that hours worked and employment will grow strongly relative to GDP.

GDP will pick up in 2015, while employment will continue to rise at roughly the same rate as this year, which ties in better with their historical relationship. Employment is rising mainly in the service sector, but also in the public sector.

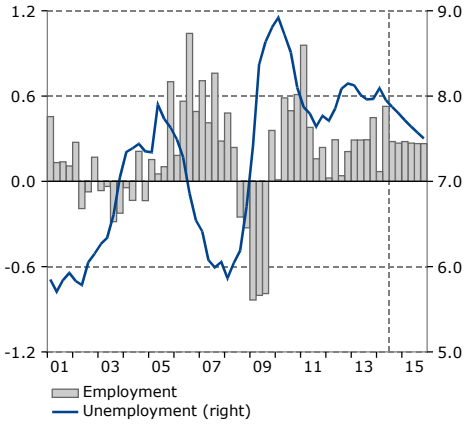
The employment rate (those in work as a percentage of the working-age population) will continue to climb in 2014 and 2015.

High employment rate by international standards

The employment rate shows what proportion of the population in a particular age group is in work. The Labour Force Survey (LFS) mainly reports series for the 15–74 age group. However, those under 20 are more likely to be stud-

Diagram 46 Employment and unemployment

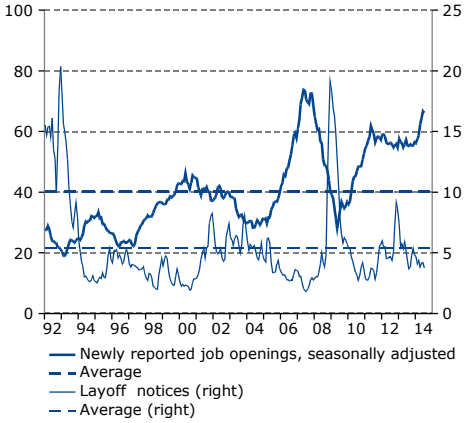
Percentage change and per cent of labour force, respectively, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 47 Newly reported job openings and layoff notices

Thousands, monthly values, 3-month moving average

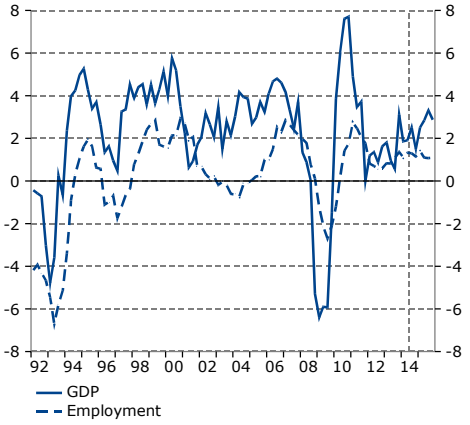


Note. Newly reported job openings refer to openings with a duration of at least ten days.

Sources: Swedish Public Employment Service and NIER.

Diagram 48 GDP and employment

Annual percentage change, quarterly values



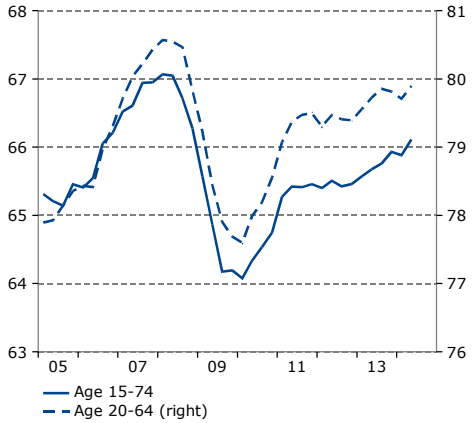
Sources: Statistics Sweden and NIER.

[6] See the special analysis "Labour market participation among older people" in *The Swedish Economy*, August 2013.

[7] The NIER's indicator models are described in the special analysis "Framåtblickande indikatorer pekar på en sämre utveckling på arbetsmarknaden" [Forward-looking indicators point to decline in labour market] in *The Swedish Economy*, December 2012.

Diagram 49 Employment rate

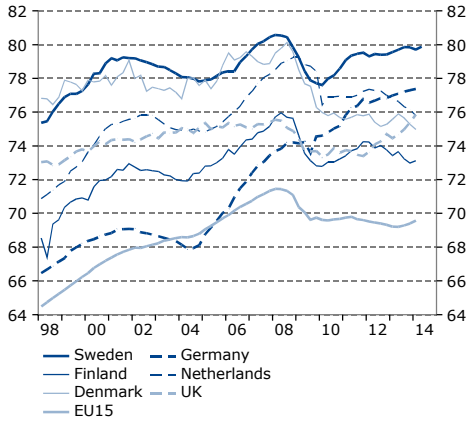
Employment, per cent of population, seasonally adjusted quarterly values



Source: Statistics Sweden.

Diagram 50 Employment rate in EU

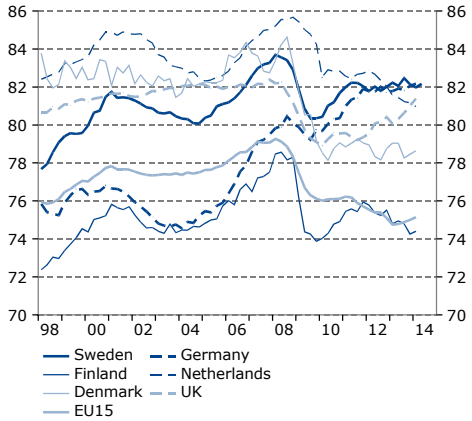
Employment, per cent of population, 20–64 år, seasonally adjusted quarterly values



Sources: Eurostat, Statistics Sweden and NIER.

Diagram 51 Male employment rate in EU

Employment, per cent of population, 20–64 år, seasonally adjusted quarterly values



Sources: Eurostat, Statistics Sweden and NIER.

ying than working, and most over-65s have retired. To illustrate developments in the portion of the population that accounts for the bulk of employment, it may therefore be relevant to look at a narrower age group. Diagram 49 shows the employment rate in the 20–64 and 15–74 age groups. For the reasons mentioned above, the employment rate is higher in the former. It has also recovered better since the financial crisis in this group, which can be explained in part by older people having increased their share of the population.

An international comparison of the employment rate in the 20–64 age group reveals that it is high in Sweden (see Diagram 50). Of the EU15 countries, only Denmark has a similarly high employment rate.[8] However, the employment rate in Denmark has not recovered to the same extent from the financial crisis as that in Sweden. There was a remarkable rise in the employment rate in Germany of around 10 percentage points from 1998 to the beginning of 2014. This was due mainly to the employment rate for women gaining around 14 percentage points. The low employment rate for the EU15 as a whole is due partly to high unemployment in some countries, and partly to lower labour force participation among women. An equivalent comparison of the employment rate broken down by gender reveals that the relatively high employment rate in Sweden is due largely to a high proportion of working women. The employment rate among men in Sweden was approximately the same as in Germany, the Netherlands and the UK at the beginning of 2014 (see Diagram 51).

UNCHANGED LABOUR FORCE PARTICIPATION NEXT YEAR

The labour supply has increased strongly in recent years and continued to climb in the second quarter (see Diagram 52).

The labour force is expected to continue growing, but at a slightly slower rate than before. The working-age population will continue to expand both this year and next. Groups with lower average participation rates, such as older people and those born abroad, will increase as a share of the population, however, which means that the demographic increase in the labour force will be lower than the increase in the population aged 15–74. Recent years' policy initiatives to increase the supply of labour are not expected to result in further growth in the labour force.[9] On the other hand, more people are expected to enter the labour market as the economy improves and the prospects of

[8] The EU15 consists of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.

[9] See the special analysis "Long-term effects of economic policy reforms on the labour market" in *The Swedish Economy*, December 2011.

finding work increase. The cyclical effects on the labour force are expected to be minor, however.

The participation rate (the labour force as a percentage of the population) will increase this year to 71.8 per cent and remain unchanged next year (see Table 6).

Table 6 Labour market

Thousands of persons and percentage change, respectively, unless otherwise noted

	Level				
	2013	2012	2013	2014	2015
GDP, basic prices[1]	3 199	1.4	1.5	1.9	2.8
Productivity, whole economy[2]	424	0.7	1.1	0.5	1.5
Hours worked[3]	7 545	0.7	0.4	1.4	1.3
Average hours worked for empolyed[4]	30.8	0.0	−0.6	0.1	0.1
Employment	4 704	0.7	1.0	1.2	1.2
Employment rate[5]		65.4	65.7	66.1	66.3
Labour force	5 114	0.9	1.1	1.1	0.8
Labour force participation[6]		71.1	71.5	71.8	71.8
Unemployment[7]	410	8.0	8.0	7.9	7.6
Population, age 15−74 years	7 156	0.6	0.6	0.7	0.8
Labour market gap[8]		−1.5	−2.0	−1.6	−1.4
Output gap[8]		−1.6	−2.1	−2.3	−1.5

[1] Billions of SEK, calendar-adjusted. [2] SEK per hour, calendar-adjusted. [3] Billions of hours, calendar-adjusted. [4] Hours per week, calendar-adjusted. [5] Number of employed in per cent of population age 15−74 years. [6] Number of persons in the labour force in per cent of population age 15−74 years. [7] Per cent of labour force. [8] Difference between actual and potential hours worked, in per cent of potential hours worked. [9] Difference between actual and potential GDP, in per cent of potential GDP.

Sources: Statistics Sweden, Swedish Public Employment Service and NIER.

UNEMPLOYMENT STILL HIGH

The unemployment rate edged down to 8.0 per cent in the second quarter. It fell among both men and women, but remains higher among men than among women (see Diagram 53). One explanation may be that men are more likely to work in cyclical sectors such as manufacturing, whereas women are more likely to work for publicly funded institutions.[10]

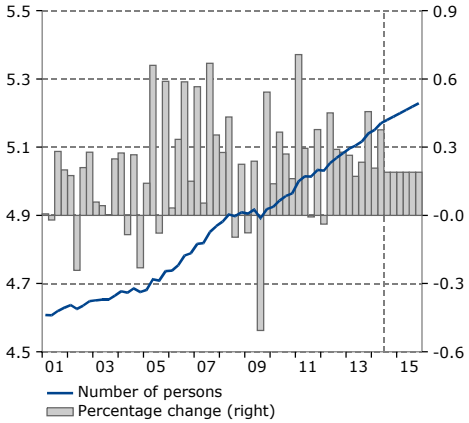
Those making their way into the labour market account for a high proportion of the unemployed (see Diagram 54). More than half of all the jobless are new entrants or re-entrants into the labour market, around 20 per cent have come off a fixed-term contract, and just under 15 per cent have been given notice of redundancy.[11] Redundancy accounted for a somewhat higher share during the financial crisis.

[10] See also the special analysis "Labour force participation has risen" in *The Swedish Economy*, March 2014.

[11] New entrants are those who are not in work and state that they have not worked previously. Re-entrants are those who have worked previously but, before seeking work again, either studied full-time, studied part-time (but did not work), performed military/civilian service, cared for children/relatives or were homemakers.

Diagram 52 Labour force

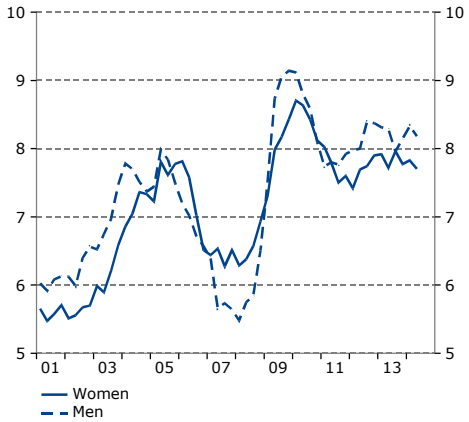
Millions and percentage change, respectively, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 53 Unemployment for women and men

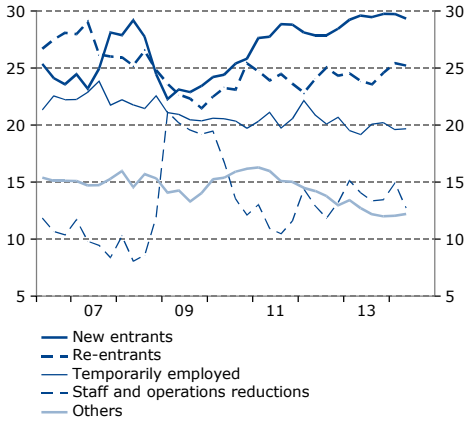
Per cent of labour force, seasonally adjusted quarterly



Source: Statistics Sweden and NIER.

Diagram 54 Unemployment composition

Share, per cent, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

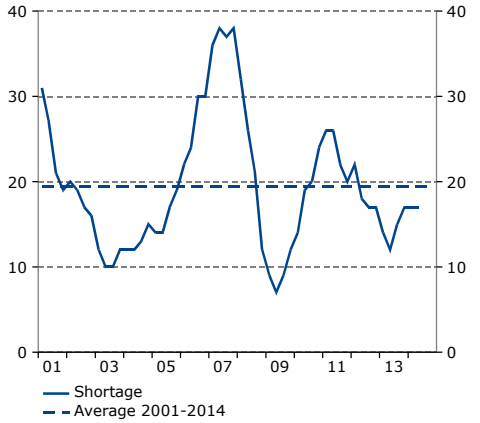
Diagram 55 Share of sites able to increase production without recruiting

Per cent, seasonally adjusted semi-annual values

Source: Swedish Public Employment Service.

Diagram 56 Labour force shortage in business sector

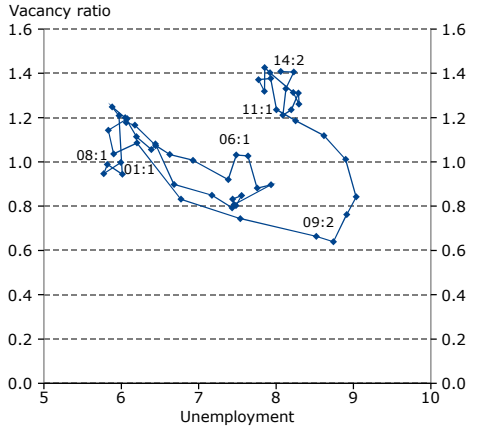
Per cent , seasonally adjusted quarterly values



Source: NIER.

Diagram 57 Beveridge curve with vacancies according to Statistics Sweden 2001-2014

Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Unemployment will continue to fall as demand for labour gradually increases in the coming years and the expansion of the labour force slows. The jobless rate will fall slowly to 7.5 per cent at the end of 2015 (see Diagram 46).

Although unemployment has fluctuated around 8 per cent in recent years, the share of long-term jobless (out of work for more than six months) has slowly decreased and was just under 32 per cent of the total number of jobless in the second quarter (see the special analysis "Long-term unemployment in the Swedish labour market").

RESOURCE UTILISATION LOWER THAN NORMAL IN 2014

Variations in demand impact on how much use firms make of their resources in the form of personnel and capital. The Swedish Public Employment Office collects statistics on the percentage of firms that could step up their output by no more than 10 per cent without hiring more staff. This measure fell somewhat during the spring and is below the historical average (see Diagram 55), which is a sign that more firms are in a position to increase their output without needing to recruit. The NIER's overall conclusion is that firms' resource utilisation is somewhat lower than normal.

The NIER also believes that there are idle resources in the labour market. According to the *Economic Tendency Survey*, the percentage of firms encountering shortages of labour is unchanged and below the historical average (see Diagram 56). At the same time, other indicators suggest that matching in the job market has deteriorated. The Beveridge curve, which shows the relationship between vacancies and unemployment, has shifted outwards since mid-2009 (see Diagram 57).[12] Unemployment is now higher for a given number of vacancies than before the financial crisis. The NIER's conclusion, which also takes account of other indicators, is that matching efficiency has deteriorated since the crisis.[13] This means tighter resource utilisation in the labour market for a given level of unemployment. Stiffer competition for workers should, in turn, lead to somewhat higher wages, but wage growth has been moderate to date (see the section "Wages and inflation"). All in all, the NIER believes that the labour market gap will be −1.6 per cent in 2014, equivalent to just over 70,000 fewer people in work than when the economy is at full capacity.

[12] Vacancies are measured as the ratio between the number of vacant positions according to Statistics Sweden's vacancy statistics and the number of people in the labour force according to Statistics Sweden's LFS.

[13] The Beveridge curve is just one of many indicators of how well matching in the job market is functioning. For an overview, see the chapter "Equilibrium unemployment and its explanatory factors" in *Report on Wage Formation in Sweden*, 2013, Swedish National Institute of Economic Research.

ECONOMY STILL BELOW CAPACITY IN 2015

There are currently idle resources both at firms and in the labour market (see Diagram 58). The Swedish economy will begin to recover at the end of this year, with demand picking up and GDP rising faster than potential GDP. There will still be idle resources in the economy at the end of 2015, however, especially in the labour market, resulting in a negative output gap of just over 1 per cent.

Beveridge curves in Sweden and the US have shifted outwards

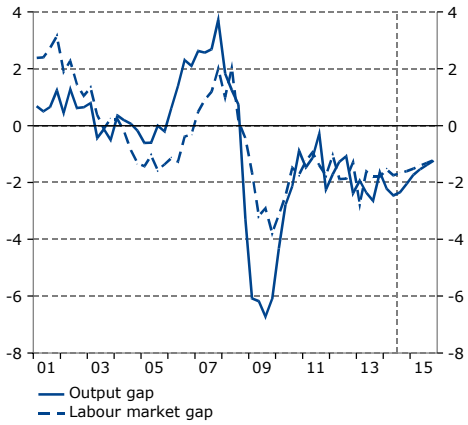
The Beveridge curve has also shifted out in countries other than Sweden in the wake of the financial crisis, including the US.[14] More can be learned from the Beveridge curve by dividing it into short-term and long-term unemployment. In the US, this reveals that the whole of the shift in the Beveridge curve is down to those who have been out of work for more than 27 weeks (see Diagram 59). The curve for the short-term jobless does not seem to have moved at all. The same pattern cannot be seen in Sweden (see Diagram 60). Here, the Beveridge curve has mainly shifted outwards among the short-term jobless, with a less pronounced movement in the curve for the long-term jobless. The Beveridge curve in Sweden also seems to be more vertical for the long-term jobless than for the short term jobless, which indicates that the former are less sensitive to changes in the number of vacancies. This pattern is also found in Finland and Austria, for example.

There is an ongoing debate in the US about the reasons for the shift in the Beveridge curve and whether it is temporary or permanent.[15] Some argue that if the shift were the result of greater matching problems in the job market, the curve would also have moved outwards for the short-term jobless. Instead, they believe, the shift can be explained by a reduction in search intensity among the long-term jobless, perhaps as a result of the temporary extension of unemployment insurance benefits introduced in the US in 2008.

In Sweden, however, the shift in the Beveridge curve could indeed be due partly to greater problems matching job seekers with vacancies, as the curve has moved outwards for both the short-term and the long-term unem-

Diagram 58 Output gap and labour market gap

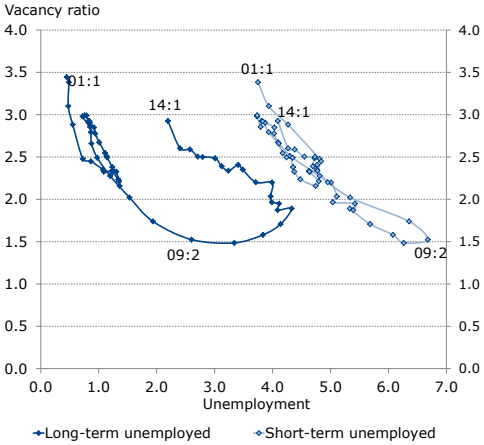
Per cent of potential GDP and potential hours worked, respectively, seasonally adjusted quarterly values



Source: NIER.

Diagram 59 Beveridge curve for US short-term and long-term unemployment 2001–2014

Per cent of labour force, seasonally adjusted quarterly values

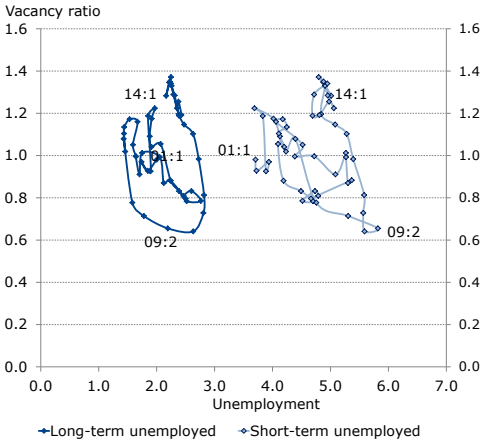


Note. Long-term unemployment refers to durations exceeding 27 weeks.

Sources: Macrobond and NIER.

Diagram 60 Beveridge curve for Swedish short-term and long-term unemployment 2001–2014

Per cent of labour force, seasonally adjusted quarterly values



Note. Long-term unemployment refers to durations exceeding 27 weeks.

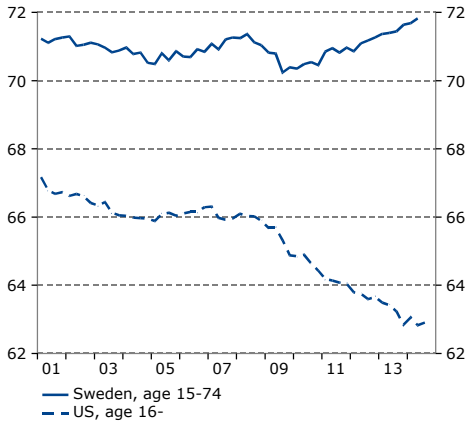
Sources: Statistics Sweden and NIER.

[14] The reverse has occurred in Germany, where the curve has shifted inwards. Beveridge curves for various EU countries can be found in "Labour market developments in Europe 2013", *European Economy* 2013:6, European Commission. For an analysis of the Beveridge curve for the euro area, see Bonthuis, B., V. Jarvis and J. Vanhala, "What's going on behind the euro area Beveridge curve(s)?", *Working Paper Series* 1586, European Central Bank, 2013.

[15] See, for example, Ghayad, G. and W. Dickens, "What can we learn by disaggregating the unemployment-vacancy relationship?", *Public Policy Briefs* 12-3, Federal Reserve Bank of Boston, 2012.

Diagram 61 Labour force participation in Sweden and US

Per cent, seasonally adjusted quarterly values



Sources: Bureau of Labor Statistics and Statistics Sweden.

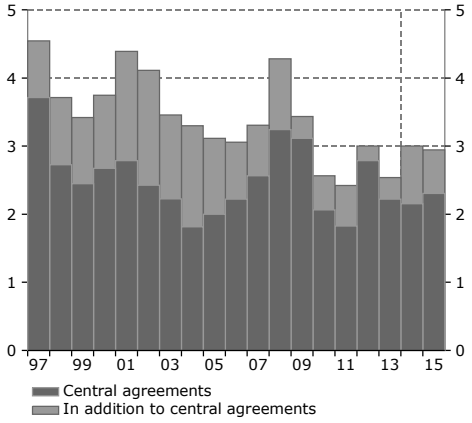
Diagram 62 Labour market gap and hourly earnings in business sector

Per cent of potential hours worked and annual percentage change, respectively, quarterly values

Sources: National Mediation Office and NIER.

Diagram 63 Hourly earnings, economy-wide

Percentage change



Note. Agreements without specified pay increases are excluded from the total2 2009–2015. Up to and including 2008, these agreements are assigned the value zero, contributing to slightly lower wage growth compared to the later period.

Sources: National Mediation Office and NIER.

ployed; in particular, the imbalances in terms of education seem to have increased.[16] Another explanation may be that labour force participation in Sweden has risen in recent years (see Diagram 61). An increase in the labour supply provides a basis for higher employment in the longer term. In the short term, however, it means that unemployment rises while the number of vacancies (especially in a downturn) does not change notably – in other words, the Beveridge curve shifts outwards. Increased growth in the labour force cannot, however, explain the shift in the curve in the US, where participation has actually decreased steadily for both demographic and cyclical reasons.

Wages and inflation

WAGES GROWING SLOWLY

Most of the central pay settlements reached in 2013 run for three years. Low resource utilisation in the labour market is limiting wage drift over and above this (see Diagram 62). The preliminary data in this year's short-term wage statistics have come out relatively high, but it appears that the increase can be explained largely by a statistical selection effect.[17] Final wage growth is expected to be around 3 per cent both this year and next (see Diagram 63 and Table 7).

LOWER CENTRAL GOVERNMENT WAGE GROWTH

Wages in the business sector and the local government sector will rise by 3 per cent in 2014 and 2015, but less far in the central government sector (see Diagram 64). One contributing factor in the relatively weak growth in central government wages is military recruitment at relatively low pay levels. In the service sector, where demand for labour is brisk, wage growth will be somewhat higher than in other parts of the business sector.

[16] See the chapter "Equilibrium unemployment and its explanatory factors" in *Report on Wage Formation in Sweden*, 2013, Swedish National Institute of Economic Research.

[17] A fifth of the sample used to calculate the short-term wage statistics for the private sector is replaced in January each year. Statistics Sweden's analysis of the data indicates that average wages are significantly higher for the incoming fifth than for the fifth exiting the sample. As a result of this, wage growth in the business sector from 2013 to 2014 may be as much as 0.4 percentage points higher in the short-term wage statistics. This selection effect does not, however, affect hourly wages in the national accounts.

Table 7 Hourly earnings and cost of labour

Percentage change, calendar-adjusted

	2012	2013	2014	2015
Hourly earnings, STWS, whole economy	3.0	2.5	3.0	2.9
Hourly earnings, STWS, business sector	3.2	2.4	3.0	3.0
Hourly earnings, NA, business sector	3.1	1.9	2.8	3.0
Employers' social contributions[1] (per cent of earnings), business sector	40.2	40.4	40.4	40.5
Labour cost per hour, business sector[2]	3.5	2.0	2.7	3.1
Productivity, business sector[3]	1.0	1.3	0.5	1.9
Unit labour cost, business sector	2.5	0.7	2.2	1.1
Adjusted profit share, business sector[4]	30.9	30.9	30.4	30.7

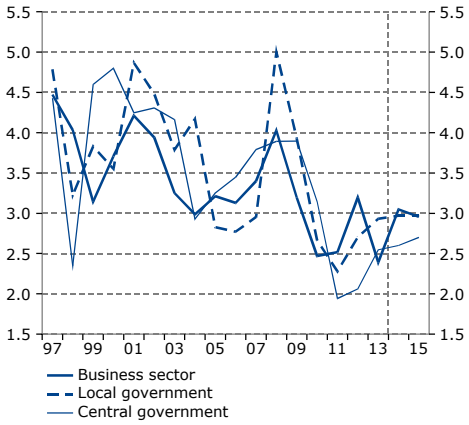
[1] Employers' social contributions and payroll taxes. [2] Earnings and employers' social contributions. [3] Employees. [4] Excluding one and two family houses and secondary homes and adjusted for the number of hours worked by self-employed.

Note. Short-term wages and salaries statistics (STWS) and national accounts (NA), respectively. Hourly wages in the national accounts are measured as the wage sum divided by hours worked by employees.

Sources: Statistics Sweden and NIER.

Diagram 64 Hourly earnings in business sector, local government and central government

Percentage change



Note. The 2013 reading is a forecast based on preliminary statistics.

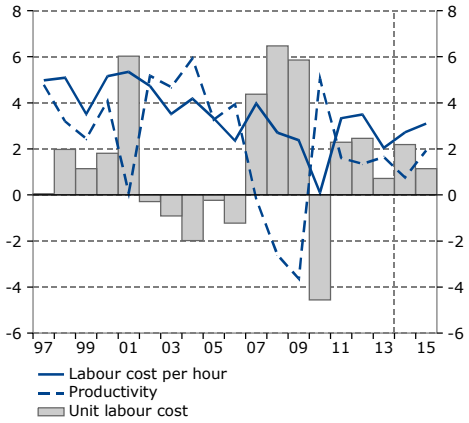
Sources: National Mediation Office and NIER.

SLOW PRODUCTIVITY GROWTH SPELLS FASTER GROWTH IN UNIT LABOUR COSTS

Movements in firms' unit labour costs are a product of movements in labour costs and productivity growth. Labour costs consist of both wages and employers' social insurance contributions. Labour costs per hour will rise more quickly this year and next than in 2013 due to higher wage growth (see Table 7). Productivity, meanwhile, is growing more slowly this year, and so unit labour costs will grow more quickly this year than last year (see Diagram 65). Next year, unit labour costs in the business sector will rise more slowly as higher resource utilisation at firms pushes up productivity.

Diagram 65 Unit labour cost in business sector

Percentage change, calendar-adjusted values



Sources: Statistics Sweden and NIER.

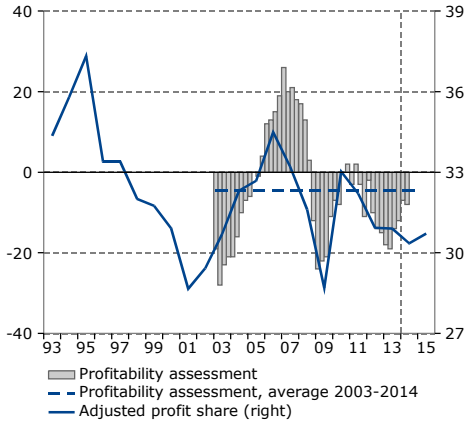
SLIGHT IMPROVEMENT IN MARGINS

The business sector's profit margin (operating profit as a percentage of value added) is below the average since 1993. Although the margin will improve somewhat in 2015, it will remain at relatively low levels (see Diagram 66). The low profit margin can be viewed as a sign of cost pressure building up at firms.

In the latest *Economic Tendency Survey*, however, firms report that profitability has improved and is now in line with the average since 2003. Firms' relative satisfaction with profitability despite a relatively low profit margin may be a result of the reduction in corporation tax, low financing costs and/or firms having lowered their required rates of return.

Diagram 66 Business sector profitability

Per cent, annual values and balances, seasonally adjusted quarterly values, respectively

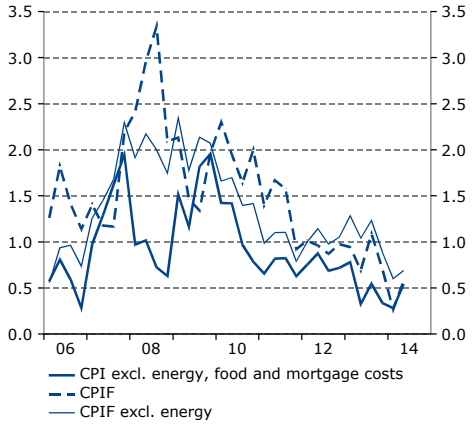


Sources: Statistics Sweden and NIER.

INFLATION HAS BEEN LOW FOR A LONG TIME

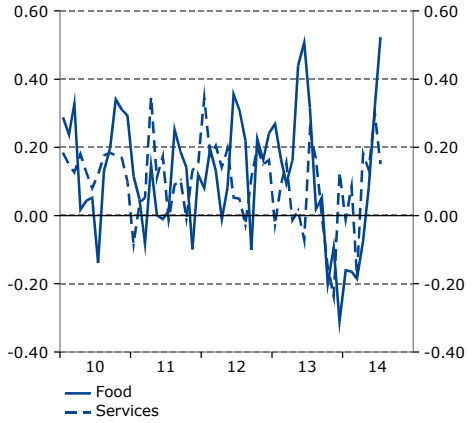
Inflation has been low in recent years, and prices in all of the main aggregates in the consumer price index (CPI) have risen

Diagram 67 Consumer prices
Annual percentage change, quarterly values



Sources: Statistics Sweden and NIER.

Diagram 68 Food and service prices in CPI
Percentage change, seasonally adjusted monthly values, 3-month moving average



Sources: Statistics Sweden and NIER.

Diagram 69 Import prices for consumer goods and exchange rate
Annual percentage change, quarterly values

Note. A negative (positive) KIX change amounts to a strengthening (weakening) of the exchange rate.
Sources: Statistics Sweden and NIER.

more slowly than the structural rate.[18] Inflation as measured by the CPIF (consumer price index with constant mortgage rates) was around 1 per cent in 2012 and 2013 and has been even lower this year. Core inflation as measured by the CPI net of energy, food and interest costs[19] has been well below 1 per cent for almost four years (see Diagram 67).

Recent years' low inflation can be explained by a number of factors. One of the most important is the weak economic climate in Sweden and elsewhere, which has brought relatively weak growth in world market prices and, thereby, import prices. The weak demand has also made it difficult for firms to pass price increases on to consumers. The sharp appreciation of the krona in 2010 is another important reason for the subdued inflation in 2011 and 2012. The weak economy has also led to subdued energy prices (via reduced demand) and rents (via lower interest costs for landlords). More expansionary monetary policy during this period would have pushed up inflation, partly through a weaker krona (and thereby higher import prices).

COST PRESSURE LOWER THAN WHEN INFLATION WAS LAST CLOSE TO THE TARGET

CPIF inflation was close to the Riksbank's 2 per cent target in 2008–2010 (see Diagram 67). Unit labour costs had risen very strongly in 2007–2009, and the krona had depreciated sharply, leading to cost pressure. At the same time, very rapid growth in global prices for food and agricultural produce in 2008 led to a surge in food prices in the CPI.[20] Inflation net of energy and food remained relatively moderate during this period (see Diagram 67).

INFLATION SET TO RISE

In the first seven months of this year, CPIF inflation averaged a very low 0.5 per cent. There is, however, much to suggest that the period of exceptionally low inflation is now over. First, prices for food and services, which were very weak in seasonally adjusted terms in late 2013 and early 2014, have risen relatively rapidly in recent months (see Diagram 68). Second, the krona has depreciated by almost 4 per cent since the start of the year, which spells rising import prices and, eventually, more expensive goods at consumer level (see Diagram 69). Third, unit labour

[18] The structural rate is the long-term increase compatible with the inflation target of a 2 per cent rise in the CPI. The estimated structural rates for various component aggregates are: goods 1.2 per cent, services 2.2 per cent, housing 2.9 per cent and energy 2.1 per cent. See also Markowski, A. et al., "Strukturell utvecklingstakt av arbetskostnad och priser i den svenska ekonomin" [Structural growth in labour costs and prices in the Swedish economy], *Working Paper* 106, Swedish National Institute of Economic Research, 2011.

[19] Interest costs in the CPI have two components: interest rate and capital stock. The above measure excludes both of these components. The calculation of the CPIF excludes only the interest rate.

[20] Food prices in the CPI are, however, considered to have increased further in 2008 than warranted by price movements on the world market, which means that the trade probably took the opportunity to raise its margins.

costs are rising relatively quickly this year (see Diagram 65). The Riksbank's decision in July to lower the repo rate and revise down its projected path for the repo rate will accelerate the return to the inflation target by weakening the krona and boosting both demand in the economy and inflation expectations.

Taken together, this means that inflation will pick up during the autumn from the very low levels seen so far this year. Price increases from month to month have begun to grow, but this is not yet visible in year-on-year inflation.

The continued depreciation of the krona during the summer indicates that prices for goods will increase relatively quickly in the coming quarters. Inflation will therefore rise rapidly during the autumn and winter (see Diagram 70). It will then fall again as the impact of the weaker krona wears off and prices for goods decelerate again.

Energy prices are expected to fall again this year measured as an annual rate. They have risen in recent months after being depressed at the beginning of the year, due partly to the mild winter. Forward pricing indicates that energy prices will make a positive contribution to inflation next year (see Diagram 71). Housing costs will continue to rise at a moderate rate this year and next, due mainly to previously agreed rents for 2014 and further low interest rates.

CPIF inflation will be 0.6 per cent this year and 1.5 per cent next year (see Table 8). CPI inflation will be lower due to falling mortgage costs.

Table 8 Consumer prices

Per cent and percentage change, respectively

	Weight 2013	2012	2013	2014	2015
CPI	**100**	**0.9**	**0.0**	**0.0**	**1.1**
Mortgage interest costs, interest rate		–0.5	–14.7	–11.2	–7.3
CPIF	**100**	**1.0**	**0.9**	**0.6**	**1.5**
Goods	42	–0.3	0.2	0.0	0.8
Services	28	1.7	0.8	0.6	1.6
Housing excl. mortgage interest costs	16	2.6	2.0	1.7	2.1
Energy	9	0.2	–1.8	–1.6	0.3
Mortgage interest costs, capital stock	5	5.9	5.2	5.1	5.6
CPIF excl. energy	**91**	**1.0**	**1.1**	**0.8**	**1.6**
HICP		0.9	0.4	0.4	1.2

Note. The CPI mortgage interest cost component is the product of interest rate and capital stock.

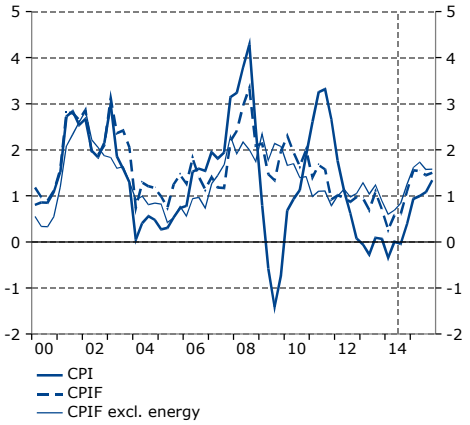
Sources: Statistics Sweden and NIER.

Increases in duties on alcohol and tobacco from 1 January 2015 are expected to push up inflation by a tenth of a point.[21] Alt-

[21] Both the government and the opposition plan to raise these duties, which means that they are likely to be raised whatever the outcome of the elections.

Diagram 70 Consumer prices

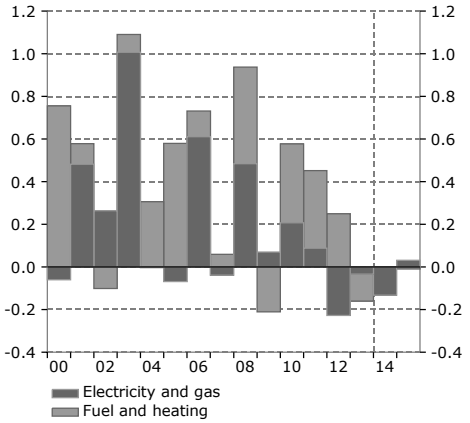
Annual percentage change, quarterly values



Sources: Statistics Sweden and NIER.

Diagram 71 Energy prices, contribution to CPI inflation

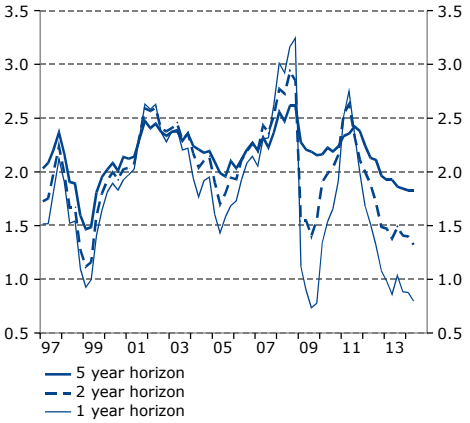
Percentage points



Sources: Statistics Sweden and NIER.

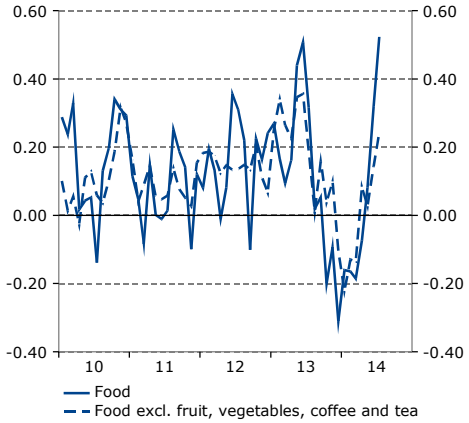
Diagram 72 Inflation expectations

Per cent, quarterly values



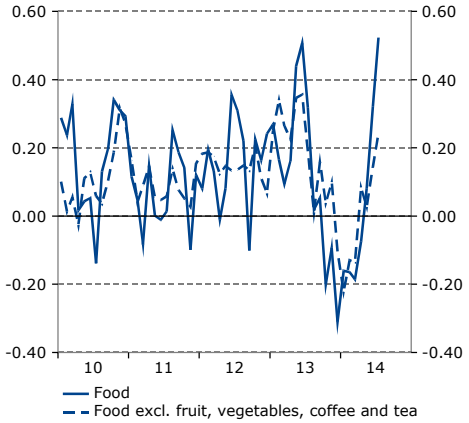
Note. Average, all respondent categories.
Source: TNS Sifo Prospera.

Diagram 73 Food prices in CPI
Percentage change, seasonally adjusted monthly values, 3-month moving average



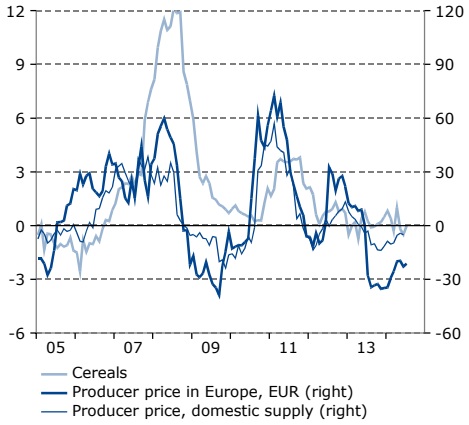
Sources: Statistics Sweden and NIER.

Diagram 74 Food prices in CPI
Percentage change, seasonally adjusted monthly values, 3-month moving average



Sources: Statistics Sweden and NIER.

Diagram 75 Cereal prices
Annual percentage change, monthly values



Sources: HWWI and Statistics Sweden.

hough CPIF inflation will be at its highest since 2010, it will still be a fair way below the Riksbank's target, as is reflected in low inflation expectations (see Diagram 72). Core inflation as measured by the CPI net of energy, food and interest costs (HICP) will be a moderate 1.2 per cent next year.

Food prices fuelling inflation

Movements in consumer prices for food can be explained to a relatively large extent by movements in producer prices for food and agricultural produce, both at home and on the world market, but also by costs and margins in the trade.

Seasonally-adjusted consumer food prices dropped in late 2013 and early 2014. It was the biggest fall since 2007 and larger than warranted by movements in producer prices, which can be interpreted as a reduction in margins in the trade. Since food prices account for 13 per cent of the CPI basket, this put a damper on aggregate inflation.

Food prices have picked up again in recent months, due partly to higher prices for goods such as fruit, vegetables, coffee and tea, but also to higher prices for other foods (see Diagram 73). Fruit and vegetables vary relatively widely in price from month to month, and so part of the increase in prices for these goods may be only temporary. However, much of the rise in prices can probably be attributed to higher import prices following the weakening of the krona.

Food prices at producer level increased in the second quarter this year. Together with the recent depreciation of the krona, this suggests that food prices at consumer level will continue to climb in the near term. For example, movements in producer prices indicate that coffee prices in the stores – which rose sharply in July – will rise slightly further during the autumn (see Diagram 74).

On the other hand, cereal harvests in Sweden and abroad are expected to be healthy this year, which will put a damper on prices for some food products in the autumn.[22] Falling cereal prices ought, for example, to spell weak or even negative growth in prices for flour and bread (see Diagram 75) and possibly also other products in which cereals are an important ingredient. It is important to bear in mind, however, that the decrease in cereal prices will affect only part of consumers' basket of goods, and that raw materials often make up only a small part of the overall cost of a product.

[22] See, for example, the Swedish farming cooperative Lantmännen's press release "Förhoppningsvis den högsta skörden på tio år" [Could be the biggest harvest for a decade], 12 August 2014, and "Corn drops on record output forecasts", *Financial Times*, 12 August 2014.

Rising food prices at producer level in the second quarter of 2014, combined with the weakening of the krona during the summer, indicate that food prices at consumer level will continue to rise during the autumn. According to the *Economic Tendency Survey*, firms themselves anticipate rising prices in the near term. Unlike at the start of this year, therefore, food prices are expected to make a positive contribution to inflation in the second half of the year and in 2015.

Macroeconomic scenario and economic policy through to 2018

The Swedish economy finds itself in a prolonged economic slump, and resource utilisation as measured by the output gap will not normalise until 2017. Domestic demand will play a more prominent role in the recovery than has been the case historically, as many of Sweden's export markets are in the doldrums.

Fiscal policy will also be tightened in the coming years, which means that monetary policy will be pivotal in supporting domestic demand. The repo rate will remain low and so help the economy to return to full capacity in 2017. The repo rate will then still be significantly lower than has previously been associated with the economy operating at capacity, which can be explained by persistently low central bank policy rates abroad.

SLOW RECOVERY IN THE OECD COUNTRIES

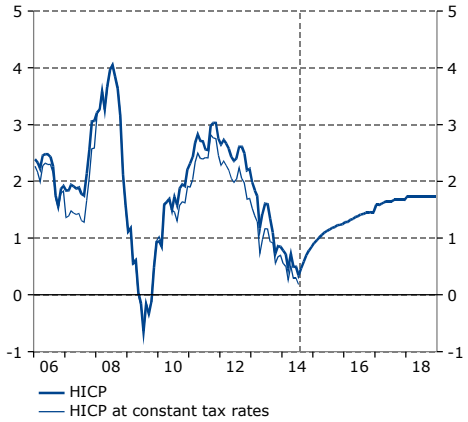
The global economy will improve in the coming years, but there will be regional variations. Across much of the euro area, governments are expected to continue to bolster their finances in the coming years, putting a damper on government consumption. Firms' demand for credit is currently low, and investment activity weak, and households need to reduce their debts. As expansionary monetary policy increasingly takes effect, however, investment and consumption will rise. Resource utilisation in the euro area will be climbing from low levels and will not normalise until 2019, which will hamper recovery in the OECD area as a whole. High unemployment and low resource utilisation will contribute to low inflation (see Diagram 76). This will pave the way for a long period of low central bank rates in the euro area (see Diagram 77).

In the US, growth will be stronger in the coming years than in the euro area. Households will benefit from rising asset prices, gradually lower unemployment and rising wage growth. Debt consolidation in the private sector has come further in the US than in the euro area, and this, together with a stronger labour market and low interest rates, will lead to rising consumption in 2016 and 2017. Resource utilisation in the economy will increase gradually, and the output gap will close at the end of 2018. Monetary policy will normalise as resource utilisation increases (see Diagram 77).

In Japan, continued expansionary monetary policy will lead to rising inflation expectations. Increased activity in the global economy will stimulate exports and investment, leading to high resource utilisation in 2016 and 2017. Combined with improvements in the labour market and faster growth in wages, this means that the Bank of Japan will meet its 2 per cent inflation target during the period.

Diagram 76 Consumer prices in euro area

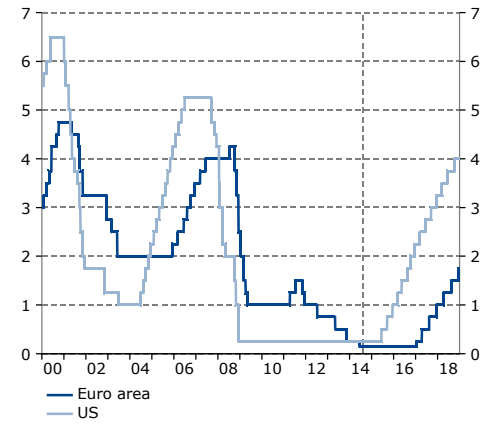
Annual percentage change, monthly values



Sources: Eurostat and NIER.

Diagram 77 Policy rates

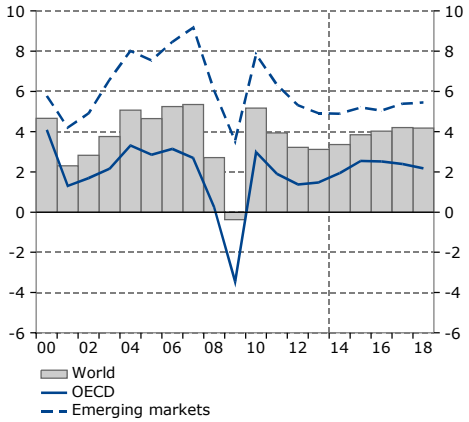
Per cent, daily values



Sources: ECB, Federal Reserve and NIER.

Diagram 78 GDP world-wide, in OECD countries and emerging markets

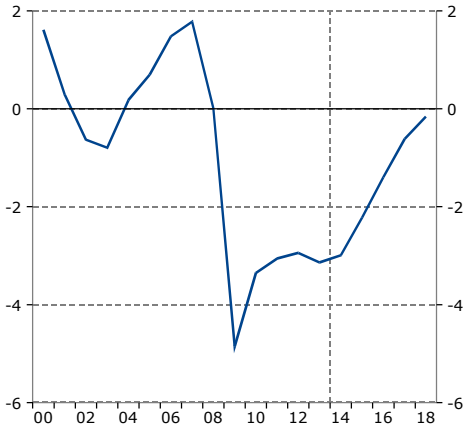
Percentage change



Note. Emerging markets are defined here as countries that are not members of the OECD.
Sources: OECD, IMF and NIER.

Diagram 79 Output gap in OECD countries

Per cent of potential GDP



Sources: IMF, OECD and NIER.

Diagram 80 Output gap in Sweden

Per cent of potential GDP

Source: NIER.

GDP in the OECD countries as a whole is expected to grow by an average of 2.3 per cent per year in 2014–2018 (see Diagram 78 and Table 9). Resource utilisation is currently low and will not normalise until 2019 (see Diagram 79).

EMERGING MARKETS SHIFT DOWN A GEAR

GDP in emerging markets[23] is projected to grow by around 5.2 per cent per year in 2014–2018 (see Diagram 78 and Table 9), which is slightly below the average of 6.3 per cent since the turn of the millennium. A combination of structural and cyclical factors lie behind this slower expansion. In Brazil, for example, low productivity growth, low investment and poorly functioning infrastructure are putting a damper on trend growth. Actual growth will also be hampered by subdued external demand. In China, the transition to a more consumption-based growth model and measures to restrict credit growth in the economy will lead to slower growth.

Table 9 Scenario for the world economy

Percentage change and per cent, respectively

	2012	2013	2014	2015	2016	2017	2018
GDP, OECD	1.4	1.5	1.9	2.5	2.5	2.4	2.2
BNP, emerging markets	5.3	4.9	4.9	5.2	5.1	5.4	5.4
BNP, world-wide	3.2	3.1	3.4	3.8	4.0	4.2	4.2
CPI, OECD	2.2	1.6	1.9	2.0	2.1	2.2	2.2
KPI, world-wide	3.9	3.6	3.6	3.6	3.5	3.5	3.4
Output gap, OECD	–2.9	–3.1	–3.0	–2.2	–1.4	–0.6	–0.2
Policy rate, euro area	0.75	0.25	0.15	0.15	0.15	1.00	1.75
Policy rate, US	0.25	0.25	0.25	1.00	2.25	3.25	4.00

Note. Aggregates are calculated using IMF's purchasing power adjusted GDP weights. Euro area and US policy rates refer to year-end values.

Sources: IMF, OECD and NIER.

WEAK GLOBAL ECONOMY AND CONTRACTIONARY FISCAL POLICY SPELL SLOW RECOVERY IN SWEDEN

The Swedish economy has been operating below capacity since the end of 2008 and will continue to do so until 2017 (see Diagram 80 and Table 10). The main reason for the slow recovery to normal resource utilisation is less of a helping hand from the outside world than has been the case in previous recoveries. The Swedish economy is also in a phase where net exports' share of GDP is gradually falling for structural reasons (see Diagram 81). This is a natural consequence of Sweden building up high levels of savings abroad through large current account surpluses between 1995 and 2005. During that period, net exports contributed an average of 0.7 percentage points per year to GDP growth.

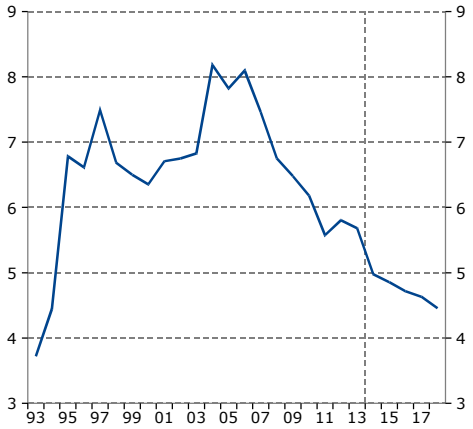
[23] Emerging markets are defined here as countries that are not members of the OECD.

By way of comparison, the average contribution in 2014–2018 will be a negative 0.1 percentage points per year.

For these reasons, domestic demand will play an even more important role in the economic recovery. Household saving is also high, which would permit a relatively high rate of growth in household consumption (see Diagram 82). On the other hand, consumption will be held back by contractionary fiscal policy in 2015–2018. As discussed at the end of this chapter, the NIER's scenario is based on a return to government net lending in line with the surplus target in 2018 with an unchanged public sector commitment. This entails total tax increases of SEK 120 billion, which will serve to slow the recovery.

Diagram 81 Net exports

Per cent of GDP



Sources: Statistics Sweden and NIER.

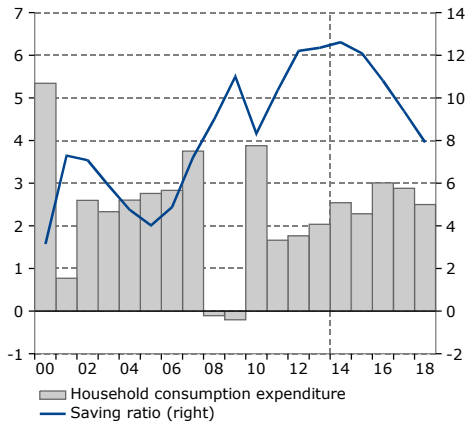
POTENTIAL GDP TO RISE IN LINE WITH THE HISTORICAL AVERAGE

Underlying, or potential, growth in the economy depends above all on how productivity and the labour force develop once cyclical variations have been eliminated. As can be seen from Diagram 83, potential growth fluctuates much less than actual growth, which is because the latter is determined largely by cyclical variations. Potential growth is estimated to average 2.2 per cent per year in 2014–2018 (see Table 10), which is in line with the average rate since 1980.

While growth in the potential labour force will fall, mainly for demographic reasons, growth in potential productivity is expected to accelerate somewhat in the coming years as investment growth picks up (see Diagram 84). With the exception of housing investment, growth in investment was weak in 2012–2013, but the foundations for a higher rate of growth are now in place. Investment in industry has been particularly weak in recent years, but a combination of economic recovery in key export markets and low financing costs will help investment rise more quickly going forward.

Diagram 82 Household consumption and saving ratio

Percentage change, calendar-adjusted values and per cent of disposable income, respectively



Sources: Statistics Sweden and NIER.

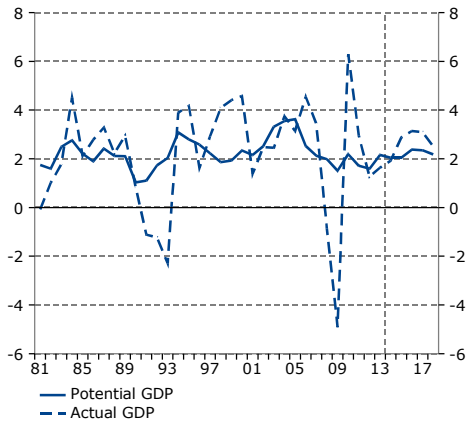
UNEMPLOYMENT TO FALL AND EMPLOYMENT RATE TO RISE

Unemployment has been stuck around 8 per cent since climbing at the start of the financial crisis (see Diagram 85), but several factors suggest that it will now drop back. First, the economic recovery with higher GDP growth means that firms' demand for labour will increase. Second, demand for labour in the public sector will continue to rise by more than 1 per cent per year on average in 2014–2018. Third, the supply of labour is expected to grow much more slowly than before. Taken together, this means that unemployment will drop back to around 6.5 per cent in 2017–2018, which is in line with the NIER's estimate of the equilibrium rate.

The stronger labour market can also be illustrated using the employment rate, which measures the percentage of the working-age population (15–74 years) in work (see Diagram 85). The employment rate will rise to just over 67 per cent in 2018, which

Diagram 83 Potential and actual GDP

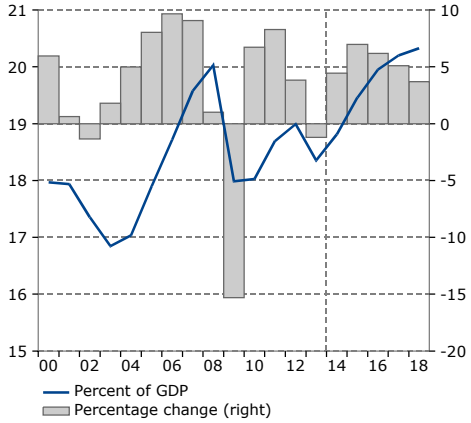
Percentage change



Sources: Statistics Sweden and NIER.

Diagram 84 Gross fixed capital formation

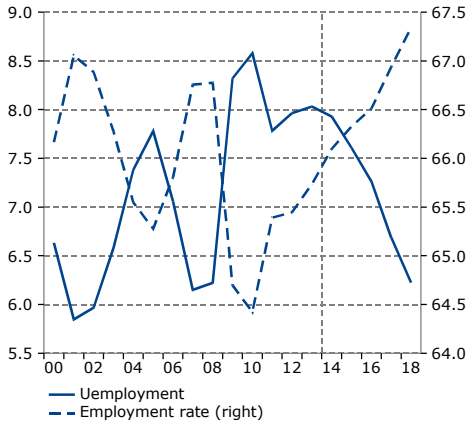
Per cent of GDP and percentage change, respectively, calendar-adjusted values



Sources: Statistics Sweden and NIER.

Diagram 85 Unemployment and employment rate

Per cent of labour force and per cent, respectively



Sources: Statistics Sweden and NIER.

Diagram 86 Hourly earnings and consumer prices

Percentage change

Note. Hourly earnings according to Short-term earnings statistics.

Sources: National Mediation Office and NIER.

is higher than before the financial crisis struck at the end of 2008.

Table 10 Scenario for the Swedish economy

Percentage change unless otherwise noted

	2012	2013	2014	2015	2016	2017	2018
GDP[1]	1.3	1.6	1.9	2.9	3.1	3.1	2.5
Potential GDP	1.6	2.2	2.0	2.0	2.4	2.4	2.2
Output gap[2]	–1.6	–2.1	–2.3	–1.5	–0.7	0.0	0.3
Hours worked[1]	0.7	0.4	1.4	1.3	1.3	1.4	1.1
Productivity	0.7	1.1	0.5	1.5	1.8	1.7	1.4
Labour force	0.9	1.1	1.1	0.8	0.7	0.6	0.5
Sysselsättning	0.7	1.0	1.2	1.2	1.1	1.2	1.0
Unemployment[3]	8.0	8.0	7.9	7.6	7.3	6.7	6.2
Hourly earnings[4]	3.0	2.5	3.0	2.9	3.0	3.1	3.2
Unit labour cost	2.7	1.4	2.3	1.4	1.3	1.5	1.8
CPI	0.9	0.0	0.0	1.1	2.2	2.7	2.9
CPIF	1.0	0.9	0.6	1.5	1.7	1.9	2.0
Repo rate[5]	1.00	0.75	0.25	0.50	1.00	1.75	2.25
Interest rate, 10-year government bond	1.6	2.1	1.8	2.1	2.7	3.3	3.8
Index for the Swedish krona (KIX)[6, 7]	106.1	103.0	106.2	105.2	103.0	102.7	102.4
General government net lending[8]	–0.7	–1.2	–2.2	–1.3	–0.5	0.5	1.3
Cyclically adjusted general government net lending[2]	0.2	–0.7	–1.2	–0.7	0.0	0.6	1.2

[1] Calendar-adjusted values. [2] Per cent of potential output. [3] Per cent of labour force. [4] Short-term wages and salaries statistics. [5] Year-end. [6] Annual average. [7] Index 18 November 1992=100. [8] Per cent of GDP.

Sources: National Mediation Office, the Riksbank, Statistics Sweden and NIER.

MANY YEARS TO REACH THE INFLATION TARGET

Inflation as measured by the CPIF (consumer price index with constant mortgage rates) has been below 2 per cent since 2009 and will bottom out this year at 0.6 per cent (see Diagram 86). Due to temporary factors, inflation will rise relatively rapidly from 2014 to 2015 (see the chapter "The Swedish economy"). Unemployment is still high, and wage growth is expected to average 3 per cent in 2014–2018. As discussed below, the krona will strengthen in 2015–2016, resulting in a relatively slow increase in import prices. It is assumed that, besides compensating for higher costs, firms will gradually raise their margins as the economy improves. All in all, these factors mean that inflation will climb only slowly towards the 2 per cent target in 2016–2018.

RIKSBANK TO LEAVE REPO RATE ALONE FOR SOME TIME

A long period of surprisingly low inflation and continued weak resource utilisation prompted the Riksbank to lower the repo

rate by 50 basis points to 0.25 per cent in July (Diagram 87). The bank also revised down its projected path for the repo rate in the coming years.

A majority on the Riksbank's board have previously argued against further rate cuts as they believe that persistently low interest rates could lead to unsustainably high levels of debt in the household sector. According to this reasoning, households may eventually be forced to ramp up their saving considerably, making it hard for the Riksbank to achieve its monetary policy objectives beyond its forecast horizon.

Although the Swedish financial supervisory authority Finansinspektionen has announced a number of macroprudential measures,[24] the intention to date has mainly been to strengthen the robustness of the banking system, and their impact on demand for credit can be expected to be limited. Like the Riksbank (see Diagram 88), the NIER therefore believes that household debt will rise more quickly than disposable income in the coming years, with the result that the debt-to-income ratio continues to climb. However, the NIER believes that a gentle increase in the debt-to-income ratio in the coming years does not necessarily equate to unsustainable levels of household debt. In the absence of further significant political efforts to rein in the debt-to-income ratio, the NIER nevertheless believes that the Riksbank will continue to take account of household debt in its monetary policy.

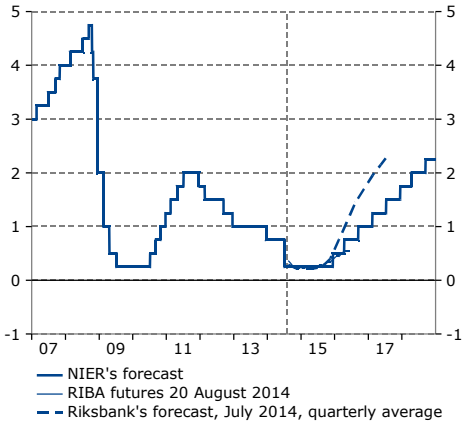
At the same time, low inflation has meant that inflation expectations in the slightly longer term have gradually come down and were well below 2 per cent in August (see Diagram 89). In line with both market expectations and the Riksbank's own forecast, the NIER believes that the Riksbank will leave the repo rate unchanged at 0.25 per cent in 2014 and for much of 2015 to help inflation to recover and so help preserve the credibility of the inflation target.

Riksbank's forecast for the repo rate revised down sharply in July

The Riksbank's decision in July to lower the repo rate by 50 basis points also included a substantial downward revision of the bank's own projected path for the repo rate in the coming years (see Diagram 90). The new path indicates that substantially lower interest rates will be needed for inflation to hit the target level of 2 per cent within the Riksbank's forecast horizon.

Diagram 87 Repo rate

Per cent, daily and quarterly values, respectively



Sources: Nasdaq OMX, The Riksbank and NIER.

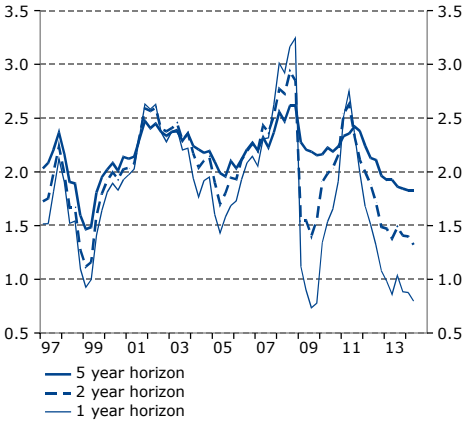
Diagram 88 The Riksbank's forecast for household debt

Per cent of disposable income, quarterly values

Source: The Riksbank.

Diagram 89 Inflation expectations

Per cent, quarterly values

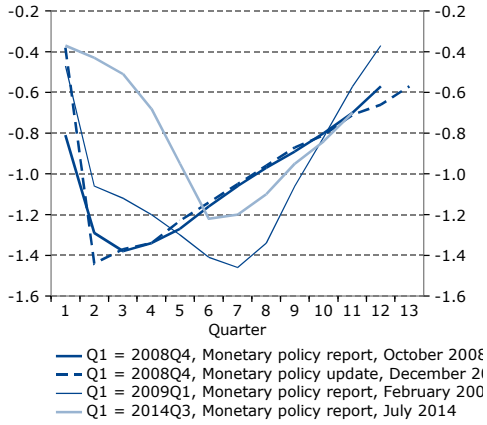


Note.Average, all respondent categories.
Source: TNS Sifo Prospera.

[24] These measures include a higher risk weight floor for mortgages, tougher requirements for banks to promote a better loan repayment culture, and activated countercyclical capital buffers.

Diagram 90 The Riksbank's repo rate forecasts

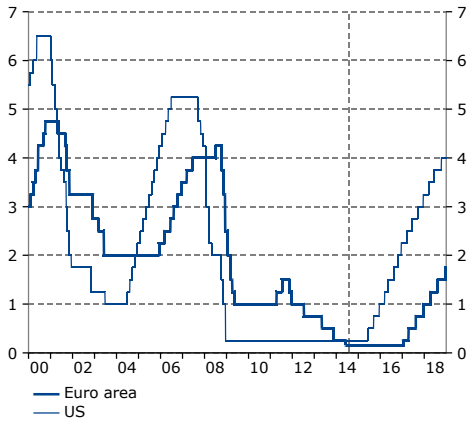
Percentage points, quarterly values



Source: The Riksbank.

Diagram 91 Policy rates

Per cent, daily values



Sources: ECB, Federal Reserve and NIER.

In comparison with previous adjustments to the interest rate path, the downward revision in July was substantial.[25] The adjustments made during and shortly after the acute phase of the financial crisis in autumn 2008 were larger, but applied more to the coming year and reflected a sharp drop in economic activity (see Diagram 90). The revision in July mainly concerned interest rates two years ahead and can be better understood in the light of a long period of surprisingly low inflation and gradually dwindling inflation expectations in the slightly longer term. The latest interest rate path can therefore be interpreted more as an expression of the Riksbank's growing need to reassert its intention to uphold the credibility of the inflation target.

LOW INTEREST RATES ABROAD TO HOLD BACK SWEDISH RATES

Central bank policy rates outside Sweden will remain very low throughout the forecast period, due largely to continued debt consolidation by both governments and households, not least in many European countries. Very low central bank rates will be needed for a long period by historical standards (see Diagram 91), supplemented with unconventional measures, to help resource utilisation and inflation to normalise.

Low interest rates in Sweden have softened the downturn in demand and are important for the economic recovery. A weak economic climate in many of Sweden's export markets means, however, that the recovery will be protracted and that further low interest rates will be needed to boost domestic demand. To avoid a situation further ahead with excessive resource utilisation and inflation overshooting the target, the Riksbank is expected to begin to raise the repo rate gradually from the fourth quarter of 2015 (see Diagram 87). The NIER's forecast for the timing of the first rate hike is therefore in line with the Riksbank's July forecast. However, the NIER anticipates a slower rise in CPIF inflation in 2015–2017 and therefore a gentler increase in the repo rate.

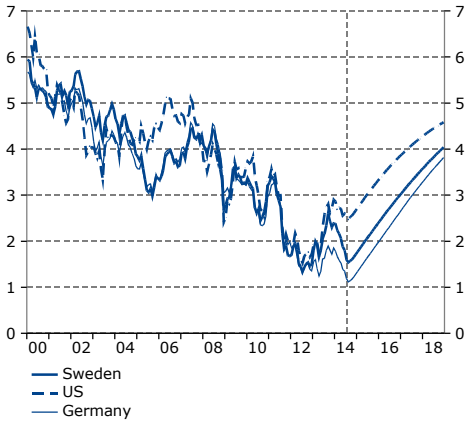
Monetary policy will help resource utilisation in the economy as a whole to normalise in 2017. The repo rate will then still be significantly lower than has historically been associated with the economy operating at full capacity, which can be explained by low central bank rates abroad. A higher repo rate in Sweden would cause the krona to appreciate, which would slow the recovery and further subdue inflation. A return to more normal resource utilisation outside Sweden, with gently rising interest rates, will enable the Riksbank to raise the repo rate gradually to 2.25 per cent at the end of 2018 (see Diagram 87).

[25] The Riksbank first published its path for the repo rate in February 2007. Diagram 90 shows the four largest revisions of the path since then.

As uncertainty about the recovery in the OECD countries decreases and monetary policy becomes less expansionary, interest rates in many countries will increase. The slow rise in short-term interest rates abroad will, however, mean that government bond yields will remain low for a long period (see Diagram 92). Swedish 10-year government bond yields will follow the international pattern and climb to just 4.0 per cent at the end of 2018.

Diagram 92 Government bond interest rates

Per cent, monthly values



Source: National sources and NIER.

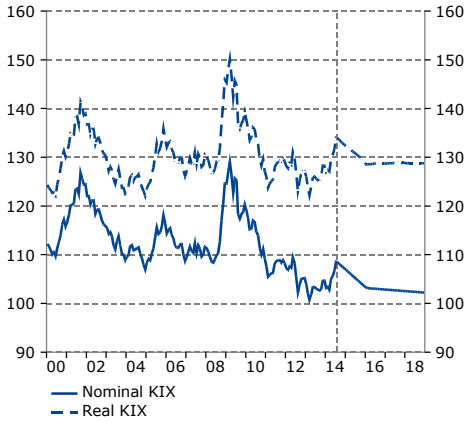
STRONGER KRONA AHEAD

The krona as measured by the nominal effective exchange rate index KIX has weakened by almost 4 per cent since the start of the year (see Diagram 93).[26] In real terms, recent years' movements have left the krona just over 3 per cent weaker than it was in August 2008 before the financial crisis erupted. Smaller trade surpluses are expected to coincide with a strengthening of the real exchange rate against several trading partner currencies. The KIX index also includes several emerging market currencies. In the slightly longer term, these countries are expected to have higher productivity growth than Sweden, which suggests that the krona will weaken against their currencies in real terms.

All in all, the krona is forecast to appreciate in real terms by almost 4 per cent in 2014–2018. Since weighted global inflation, including the growth markets in the KIX index, is expected to be somewhat higher than Swedish inflation, the krona will strengthen slightly further in nominal terms (see Diagram 93).

Diagram 93 Effective exchange rate of the Swedish krona – KIX

Index 18 November 1992=100, monthly values



Note. A higher index implies a weaker krona.
Sources: The Riksbank and NIER.

CONTRACTIONARY FISCAL POLICY IN THE COMING YEARS

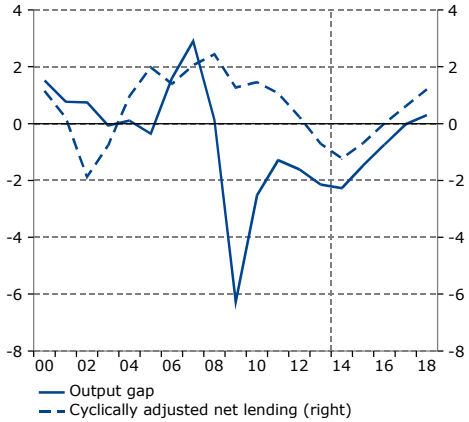
Fiscal policy has been expansionary over the past three years and will remain so this year with SEK 21 billion in unfunded measures. The single largest of these is a fifth earned-income tax credit, which will reduce tax revenue by an estimated SEK 12 billion.

Fiscal policy will be tighter next year, resulting in higher cyclically-adjusted net lending (see Diagram 94). Both the sitting government (in the spring fiscal policy bill) and the opposition parties have expressed an intention to raise some taxes. Measures on the expenditure side, whatever their scope, are assumed to be funded in full by tax increases or cuts in other expenditure. The improvement in cyclically adjusted net lending from −1.2 to −0.7 per cent of potential GDP will be due mainly to the automatic budget strengthening that results from unchanged rules (see also the chapter "Public finances 2014–2018").

The fiscal policy scenario beyond next year assumes that fiscal policy will be designed such that cyclically adjusted net lending returns gradually to levels compatible with the surplus target of 1 per cent over a business cycle. As the economy normalises,

Diagram 94 Output gap and fiscal policy

Per cent of potential GDP

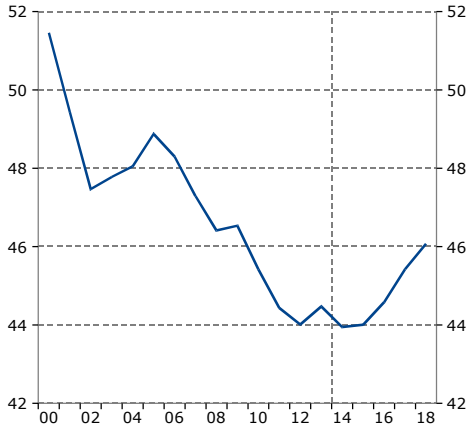


Source: NIER.

[26] Exchange rates are known for considerable short-term variation. The NIER therefore analyses exchange rates on the basis of monthly data or equivalent rolling averages to eliminate part of this short-term variation.

Diagram 95 Tax ratio

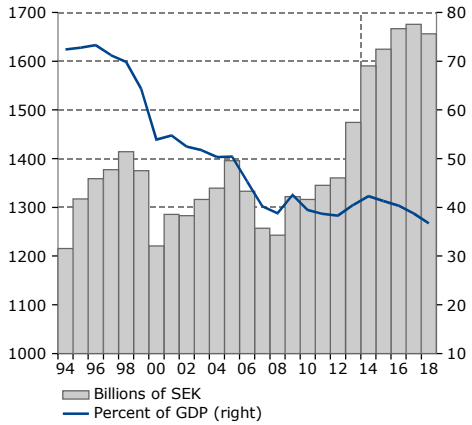
Per cent of GDP



Sources: Statistics Sweden and NIER.

Diagram 96 General government consolidated gross debt (Maastricht debt)

SEK billion and per cent of GDP, current prices, respectively



Sources: Statistics Sweden and NIER.

net lending will therefore improve gradually to 1.2 per cent of GDP in 2018. The automatic budget strengthening from unchanged rules will not, however, be sufficient to achieve this level of net lending on its own, and so it is assumed that active savings of SEK 58 billion will be made in 2016–2018 in order to meet the surplus target in 2018, a year after the economy returns to normal levels of resource utilisation. Fiscal policy will therefore remain contractionary in these years.

Besides these savings to meet the surplus target, the scenario includes funded measures to maintain personnel density in welfare services and replacement rates in the social transfer systems. Over the full period 2015–2018, active spending increases of SEK 53 billion are forecast, including SEK 6 billion in 2015. The expenditure forecast for 2016–2018 equates to an unchanged public sector commitment at 2015 levels and encompasses increased central government consumption and increased central government grants to local government in line with demographic developments, plus increased replacement levels in the transfer systems in line with nominal wage growth.

On the revenue side of the central government budget, total tax increases of SEK 111 billion are assumed for 2015–2018. These will not only fund the measures on the expenditure side but also provide the savings required to return gradually to the surplus target in 2018. Together with slight tax increases in the local government sector, this means that total tax revenue will rise by SEK 120 billion in 2015–2018. The tax-to-GDP ratio will therefore climb around 2 percentage points to just over 46 per cent in 2018 (see Diagram 95). This fiscal tightening means that the ratio of government debt to GDP will continue to fall in the coming years (Diagram 96).

Public finances 2014–2018

The deficit in public finances will widen this year to 2.2 per cent of GDP, the highest level since the mid-1990s, due mainly to expansionary fiscal policy. As fiscal policy is tightened again from next year, the deficit will narrow, but public finances will not show a surplus until 2017.

The NIER's scenario for fiscal policy assumes that taxes are raised by SEK 120 billion in 2015–2018, partly to maintain the public sector commitment around current levels and partly to bring net lending in line with the surplus target.

Net lending, government debt and fiscal policy

LARGE DEFICITS IN PUBLIC FINANCES

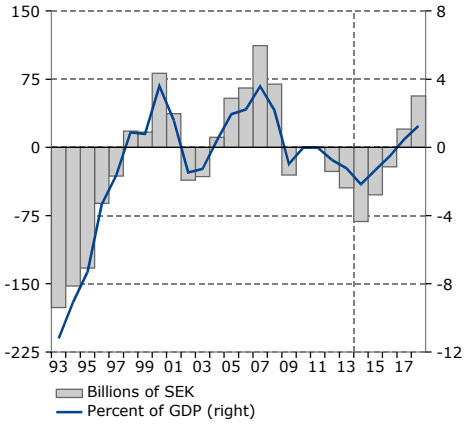
Public finances are currently showing large deficits. These are mainly in the central government sector, where net lending is expected to be a negative SEK 70 billion this year. Net lending in the local government sector is forecast to be a negative SEK 13 billion. The general government deficit will therefore be the biggest since the mid-1990s (see Diagram 97). 2014 is the sixth successive year in deficit, and the general government sector is not expected to return to surplus until 2017. Deficits in public finances are normal when the economy is running below capacity, however, and arise partly as a result of the automatic stabilisers and partly as a result of expansionary fiscal policy to counter weak demand in the economy.

The main reason for the increase in the deficit this year is unfunded measures in the central government budget totalling SEK 21 billion. Central government net lending will also be hit this year by a drop in capital revenue of around SEK 15 billion, due partly to state-owned energy company Vattenfall not paying a dividend.

The deficit will narrow next year as fiscal policy tightens. Costs for unemployment benefits and other cyclical measures will also fall slightly. In the scenario for public finances in 2016–2018, net lending continues to improve as a result of the cyclically high expenditure-to-GDP ratio falling back and taxes being increased to enable the surplus target to be met (see Diagram 98).

Diagram 97 General government net lending

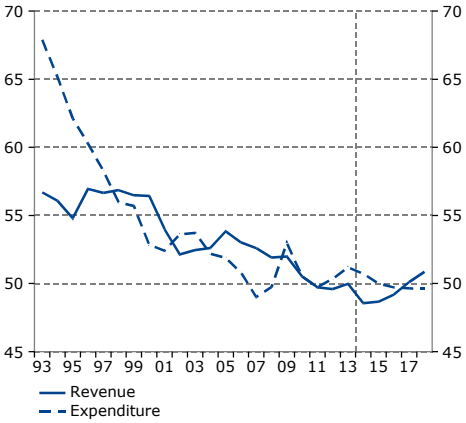
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 98 General government revenue and income

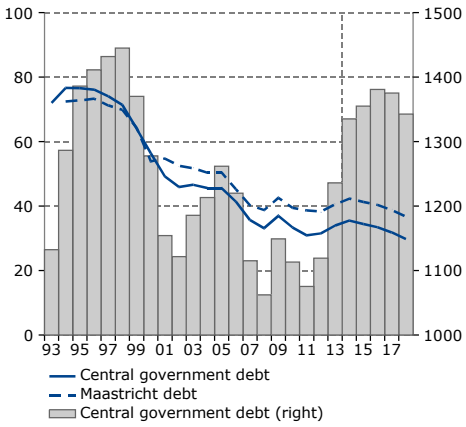
Per cent of GDP



Sources: Statistics Sweden and NIER.

Diagram 99 Government debt

Per cent of GDP and SEK billion, respectively



Sources: Statistics Sweden and NIER.

Government assets and debt

Central government debt, as reported by NIER, the Swedish National Financial Management Authority and the government, consists of central government consolidated gross debt to other sectors. The debt is consolidated in the sense that central government agencies' holdings of government bonds are excluded. It is a gross debt in that it is reported independently of central government financial assets. The Swedish National Debt Office reports central government debt according to the official measure monthly but do not exclude central government agencies' holdings of government bonds (currently amounting to approximately SEK 40 billion).

Maastricht debt consists of the entire general government sector's consolidated gross debt. In addition to central government debt, the debt is considerable in the local government sector as well. The definition of Maastricht debt in terms of specific instruments is regulated by the EU. Local government debt currently contributes SEK 270 billion to Maastricht debt. The old-age pension system's contribution to Maastricht debt is small and generally negative, due to the subsector's central government bond holdings.

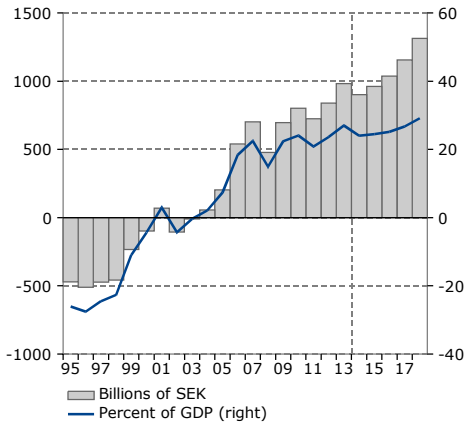
General government financial net wealth (financial net wealth) is the value of all financial assets minus the total debt stock in general government. Real assets, such as roads and buildings, are not included. If debt exceeds assets there is a *financial net debt*.

Financial net wealth is reported quarterly by Statistics Sweden as part of the financial accounts. The financial accounts include a number of debt components not included in the Maastricht debt, and debt is reported at market value. Hence, general government debt according to the financial accounts is higher than, and not directly comparable to, Maastricht debt.

See the special analysis "Den finansiella förmögenheten i offentlig sektor" [Government financial wealth] in *The Swedish Economy*, June 2014, for an in-depth analysis of general government assets and debt.

Diagram 100 General government financial net position

SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Table 11 General government finances

SEK billion and per cent of GDP, current prices, respectively

	2012	2013	2014	2015	2016	2017	2018
Primary income	1 687	1 747	1 765	1 853	1 963	2 092	2 212
Primary expenditure	1 751	1 830	1 871	1 930	2 013	2 102	2 190
Primary net lending	**–63**	**–83**	**–106**	**–77**	**–50**	**–10**	**22**
Per cent of GDP	*–1.8*	*–2.3*	*–2.8*	*–2.0*	*–1.2*	*–0.2*	*0.5*
Capital income, net[1]	37	38	24	25	28	31	35
Net lending	**–26**	**–44**	**–82**	**–52**	**–22**	**20**	**57**
Per cent of GDP	*–0.7*	*–1.2*	*–2.2*	*–1.3*	*–0.5*	*0.5*	*1.3*
Central government[2]	–0.9	–0.8	–1.9	–1.2	–0.2	0.8	1.5
Local government[2]	–0.1	–0.2	–0.4	–0.2	–0.2	–0.1	–0.1
Old-age pension system [2]	0.3	–0.2	0.0	0.0	–0.1	–0.2	–0.1
Financial net position[2]	**23.6**	**27.0**	**24.0**	**24.5**	**25.1**	**26.7**	**29.1**
Central government[2]	–3.8	–3.0	–6.1	–5.2	–4.0	–1.9	0.8
Local government[2]	0.1	0.6	0.3	0.2	0.1	0.1	0.2
Old-age pension system [2]	27.3	29.3	29.8	29.5	29.0	28.5	28.1
Central government debt	1 119	1 236	1 335	1 355	1 381	1 376	1 343
Per cent of GDP	*31.5*	*33.9*	*35.5*	*34.4*	*33.4*	*31.8*	*29.8*
Maastricht debt	1 360	1 475	1 590	1 625	1 667	1 676	1 656
Per cent of GDP	*38.3*	*40.5*	*42.3*	*41.3*	*40.4*	*38.8*	*36.7*

[1] Property income (interest income and dividends) minus interest expenditure.
[2] Per cent of GDP.

Sources: Statistics Sweden, National Debt Office and NIER.

DEBT-TO-GDP RATIO TO FALL AGAIN NEXT YEAR

Negative net lending in the central government sector generally results in a borrowing requirement and an increase in central government debt. The size of this borrowing requirement is, however, determined by the central government budget balance (cash surplus or deficit), which in some years differs appreciably from net lending. The budget balance is expected to follow net lending relatively closely this year and next (see Table A20 in the Statistical appendix). The deficit in central government finances this year means that central government debt will rise by just over 1.5 percentage points to 35.5 per cent of GDP. Another factor in the increase is the revaluation of some debt issued in foreign currencies as a result of the weaker krona. Next year, the deficit will be smaller, with the result that central government debt falls relative to GDP (see Diagram 99). As public finances improve, both government debt and Maastricht debt will continue to trend downwards relative to GDP. Maastricht debt is forecast to be just under 37 per cent of GDP in 2018, around 5 percentage points lower than in 2014. Lower debt levels in the public sector will, in turn, mean that net financial assets gradually rise to 29 per cent of GDP in 2018 (see Diagram 100 and Table 11).

CONTRACTIONARY FISCAL POLICY FROM 2015

The government's fiscal policy has been expansionary for the past three years and will remain so this year with SEK 21 billion in unfunded measures.

Measures in the central government budget in 2011–2014 have split more or less equally into tax cuts and spending increases. Around two-thirds of the measures on the expenditure side have entailed an increase in public consumption, and a fifth have been increases in social transfers.

The single largest measure in this year's budget is the fifth earned-income tax credit, which will reduce tax revenue by an estimated SEK 12 billion. This will help pull down cyclically adjusted general government net lending to a negative 1.2 per cent of potential GDP this year, compared with a negative 0.7 per cent last year.

The expansionary fiscal policy of recent years can be seen as justified in terms of stabilisation policy given the prevailing economic climate. In the NIER's opinion, however, fiscal policy will be contractionary with effect from next year. There will be no scope for unfunded measures in the coming years, which has also been confirmed by both the government and parts of the opposition. It is therefore likely that reforms on the expenditure side will be funded entirely by corresponding tax increases. The forecast for next year includes new expenditure of SEK 6 billion, of which half is an increase in central government consumption and the remainder is an increase in central government grants to local government. This additional expenditure is matched by an equivalent increase in taxes.

The NIER has not predicted the outcome of the parliamentary elections this autumn, but has based its fiscal policy forecast on an assessment of the minimum level of additional expenditure given the proposals made so far. The actual level may be higher, but the NIER believes that any such additional expenditure will be fully funded. The sitting government is also restricted by there being only a small margin to the expenditure ceiling (see "Expenditure ceiling limits scope for new measures next year" later in this chapter).

Alongside active fiscal policy, automatic budget strengthening will increase cyclically adjusted net lending next year by 0.5 per cent of potential GDP. This means that fiscal policy will be contractionary.

RETURN TO SURPLUS TARGET REQUIRES FURTHER TIGHTENING IN 2016–2018

In the longer-term fiscal policy scenario for 2016–2018, the NIER assumes that fiscal policy will be designed in such a way as to return general government net lending to levels compatible with the surplus target of 1 per cent of GDP over a business cycle. The NIER estimates that financial net lending needs to be 1.2 per cent of GDP when the economy is operating at full ca-

Fiscal policy concepts

Cyclically-adjusted net lending is an estimate of general government net lending with normal resource utilisation (economy at capacity) and a normal composition of the main tax bases. It is usually expressed as a percentage of potential GDP.

The fiscal policy stance in any given year is determined by the change in cyclically-adjusted net lending in relation to potential GDP. A decrease in cyclically-adjusted net lending indicates that fiscal policy is *expansionary* in terms of resource utilisation (the output gap) in the economy. Similarly, an increase in cyclically-adjusted net lending indicates that fiscal policy is *contractionary*. Fiscal policy is *neutral* when cyclically-adjusted net lending is unchanged in relation to potential GDP.

Unfunded measures are fiscal policy decisions to increase expenditure and/or decrease taxes that are not funded by decisions to decrease expenditure and/or increase taxes in other areas by the same amount. Such measures therefore erode general government net lending and normally have a positive effect on GDP.

Automatic stabilisers mean that general government net lending varies with the business cycle without active decisions being made. When economic conditions are weak, net lending deteriorates without tax cuts or expenditure increases being decided. This is due in part to tax revenue being lower when output is below normal, and in part to unemployment-related expenditure being higher than normal when unemployment exceeds its equilibrium level.

An assumption of **unchanged rules** means that no further fiscal policy decisions are assumed to be taken by the government or parliament. In practice, however, there are significant demarcation problems.

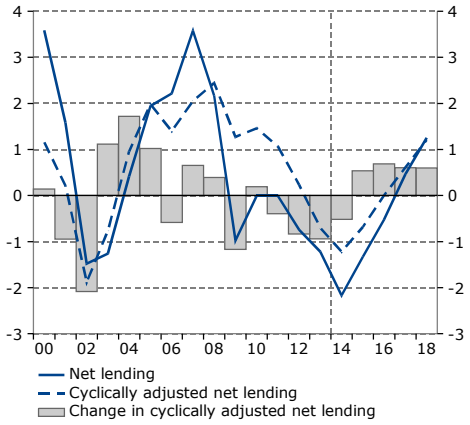
Automatic budget strengthening refers to the increase in general government net lending that normally occurs even with unchanged rules. This tightening is a result of tax revenue moving largely in line with GDP, while expenditure tends to fall in relation to GDP with unchanged rules.

The fiscal space is defined as the permanently unfunded measures in the central government budget for which there is room within the limits of the surplus target over a period of years. To enhance comparability over time (and with the calculations of the Ministry of Finance), the NIER has chosen to calculate the fiscal space for the next five-year period.

Unchanged public sector commitment means that general government consumption grows at a rate keeping personnel density in the production of welfare services constant, as well as keeping the replacement ratio in social transfers constant. An unchanged commitment also means that central government investment grows at the same rate as potential GDP, whereas local government investment grows at the same rate as local government consumption.

Diagram 101 General government net lending and cyclically adjusted net lending

Per cent of GDP and per cent of potential GDP, respectively



Sources: Statistics Sweden and NIER.

pacity (when the output gap closes) for the surplus target to be met. The output gap is forecast to close in 2017. Because the return to net lending compatible with the surplus target requires an improvement in net lending of as much as 2.4 per cent of GDP (from a negative 1.2 per cent this year to a positive 1.2 per cent), it has to be assumed that the target will not be met until after the economy normalises. In the scenario, therefore, net lending does not hit 1.2 per cent of GDP until 2018 (see Diagram 101).

The surplus target applies to the public sector as a whole, but no assistance can be expected from either local government or the old-age pension system in returning to the target level. Net lending in the local government sector is determined by the balanced budget requirement and will be marginally negative during the period, and net lending in the old-age pension system will be close to zero or negative. The tightening needed in the coming years to reach the surplus target will therefore have to be done via the central government budget, and corresponds to SEK 58 billion in tax hikes and/or spending cuts.

Table 12 Forecast fiscal policy and automatic budget strengthening, 2015–2018

SEK billion and per cent of potential GDP, respectively

	2015	2016	2017	2018	2015–2018
Income measures	6	27	39	39	111
Expenditure measures	6	16	12	19	53
Fiscal policy effect on cyclically adjusted general government net lending	**0**	**11**	**27**	**20**	**58**
Per cent of potential GDP	*0.0*	*0.3*	*0.6*	*0.4*	*1.3*
Automatic budget strengthening[1]	0.5	0.4	0.0	0.2	1.1
Change of cyclically adjusted general government net lending [1,2]	0.5	0.7	0.6	0.6	2.4
Cyclically adjusted general government net lending [1]	–0.7	0.0	0.6	1.2	

[1] Per cent of potential GDP. [2] The change of the cyclically adjusted general government net lending is the sum of the fiscal policy effect and the automatic budget strengthening.

Note. Numbers may not sum up due to rounding.

Source: NIER.

To maintain the public sector commitment at next year's levels, expenditure will need to be increased by almost another SEK 50 billion in 2016–2018. In the scenario, taxes will be raised by a total of SEK 120 billion to fund expenditure measures in 2015–2018 and return to the surplus target. These tax increases will be mainly in central government (SEK 111 billion), along with just over SEK 9 billion in the local government sector (increase of 0.43 percentage points). These measures will boost cyclically adjusted net lending by an average of 0.6 per cent of GDP per year in 2015–2018, taking it to 1.2 per cent in 2018. In

other words, the scenario assumes four years of contractionary fiscal policy and a rise in the tax-to-GDP ratio from next year.

Government revenue

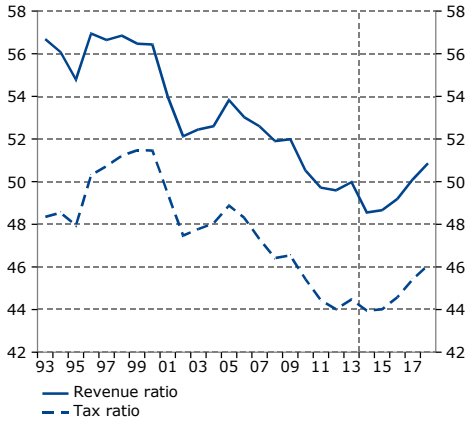
The ratio of government revenue to GDP will decrease this year, due partly to tax reductions in the form of a fifth earned-income tax credit. From next year, tax increases are expected to push the revenue-to-GDP ratio up gradually (see Diagram 102). The tax increases of SEK 120 billion assumed in the fiscal policy scenario for the coming years mean that the tax-to-GDP ratio will climb from 44 per cent today to 46 per cent in 2018, the same level as in 2010.

A PIE OF SEVEN SLICES

Government revenue consists mostly of taxes and duties (see Diagram 103). Direct household taxes – mainly income taxes – account for a third of total revenue. Direct business taxes – mainly corporation tax – normally account for a smaller share of revenue and can be difficult to forecast, because firms have a degree of freedom to redistribute taxation over time. Revenue from employers' social insurance contributions, the self-employed's social insurance contributions and special payroll tax[27] account for a quarter of government revenue. Value-added tax is also an important source of revenue. Duties on energy, alcohol and tobacco not only bring in additional revenue for the government but also provide a means of influencing consumption to a certain degree. "Other taxes" include property taxes, while "Other revenue" consists of interest and dividend income and revenue of a technical nature.

Diagram 102 General government revenue

Per cent of GDP



Sources: Statistics Sweden and NIER.

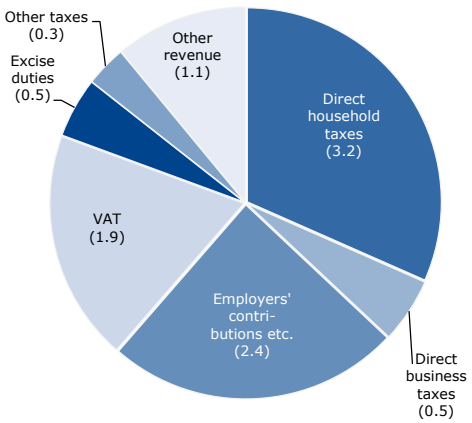
TAXES TO RISE WHOEVER WINS THE ELECTIONS

In its spring fiscal policy bill, the government proposed various measures to reinforce revenue from next year. Most opposition parties supported some of the proposals in their spring fiscal policy motions. The proposed reduction in the tax allowance for pension savings, increase in vehicle tax for light vehicles and increase in duties on alcohol and tobacco will probably therefore be implemented next year. Direct household taxes will therefore rise by around SEK 4 billion, duties by SEK 1.5 billion and other taxes by SEK 0.5 billion. In total, tax revenue will increase by around SEK 6 billion next year.

Local government taxes went up by an average of 0.13 percentage points this year. The forecast for next year assumes an average rise of 0.10 percentage points, increasing revenue from direct household taxes by around SEK 2 billion. To maintain

Diagram 103 General government revenue 2013

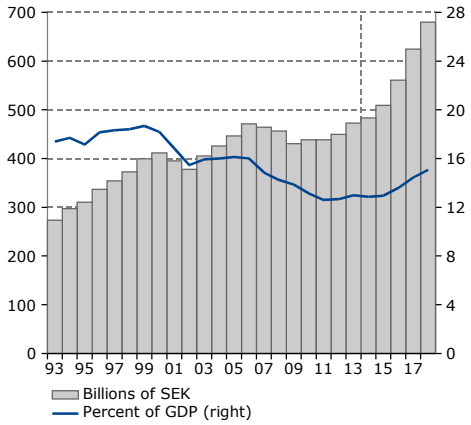
Per cent of total revenue



Source: Statistics Sweden.

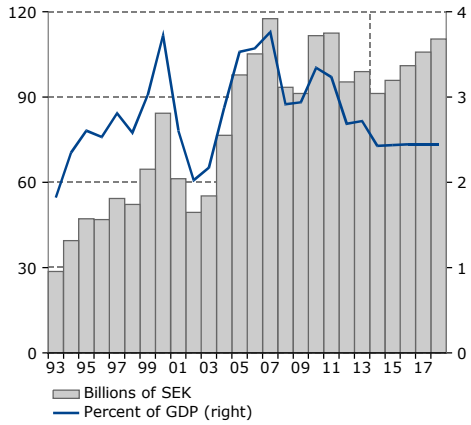
[27] Special payroll tax is levied on payments by employers that do not qualify towards social insurance benefits, such as supplements to disability benefits and contributions to occupational pensions, etc.

Diagram 104 Direct household taxes
SEK billion and per cent of GDP, respectively



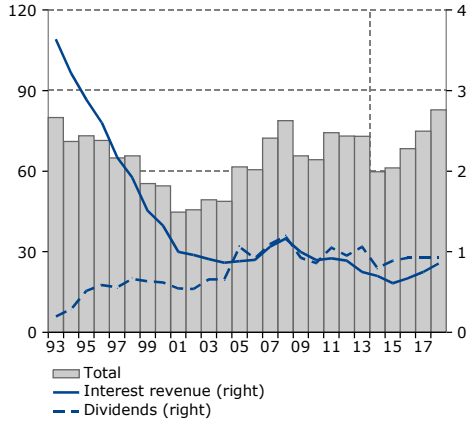
Sources: Statistics Sweden and NIER.

Diagram 105 Direct business taxes
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 106 General government capital income
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

healthy finances in the local government sector, further increases in local government taxes of 0.33 percentage points are assumed in 2016–2018. For technical reasons, the tax increases in the scenario for 2016–2018 are assumed to take the form of higher direct household taxes, which means that these taxes will continue to grow rapidly during that period (see Diagram 14).

BUSINESS TAXES VARY MORE THAN EMPLOYERS' CONTRIBUTIONS AND VAT

The reduction in corporation tax in January 2013 has not yet had any tangible impact on government revenue from direct business taxes. One reason for this is that firms were able to bring forward profits from previous years to 2013 in order to benefit from the lower rate of tax. Corporate taxes are difficult to forecast and vary considerably over time, but are assumed to average around 2.4 per cent of GDP (see Diagram 105).

Revenue from employers' social insurance contributions and value-added tax is more stable over time, although the business cycle does have a certain effect. As the economy returns to normal resource utilisation, wages will fall as a percentage of GDP and the business sector's profit margin will rise. This means that revenue from employers' contributions will grow slightly more slowly than GDP (see Table 13).

Table 13 General government revenue
Per cent of GDP

	2012	2013	2014	2015	2016	2017	2018
Direct household taxes	15.4	15.8	15.6	15.7	16.3	17.2	17.8
Direct business taxes	2.7	2.7	2.4	2.4	2.4	2.4	2.4
Employers' social contributions[1]	12.2	12.2	12.3	12.2	12.1	12.1	12.1
VAT	9.4	9.6	9.6	9.6	9.6	9.6	9.6
Excise	2.6	2.5	2.3	2.4	2.4	2.4	2.4
Other taxes	1.7	1.8	1.7	1.7	1.7	1.7	1.7
Tax ratio	**44.0**	**44.5**	**43.9**	**44.0**	**44.6**	**45.4**	**46.1**
EU taxes[2]	–0.2	–0.2	–0.2	–0.2	–0.2	–0.2	–0.2
Capital income	2.1	2.0	1.6	1.6	1.7	1.7	1.8
Other income[3]	3.7	3.7	3.2	3.3	3.2	3.2	3.2
General government income	**49.6**	**50.0**	**48.5**	**48.7**	**49.2**	**50.1**	**50.9**

[1] Employers' social contributions, contributions for self-employed and special employers' contributions.
[2] Taxes to EU. Included in the tax ratio but not in general government income.
[3] Transfers from rest of the world and from unemployment insurance funds.

Sources: Statistics Sweden and NIER.

TEMPORARILY LOW CAPITAL INCOME

State-owned energy company Vattenfall has not paid a dividend this year, and state-owned mining company LKAB paid only a small dividend. Low interest rates also mean low interest income both this year and next. As the economy gradually returns to-

wards full capacity, the general government sector's capital income is expected to grow again (see Diagram 106).

Government expenditure

The ratio of general government expenditure to GDP was 51 per cent in 2013 (see Diagram 107). The two largest expenditure items are public consumption and transfers to households, which account for one-half and one-third respectively of total spending. The remainder consists partly of public sector investment (see Diagram 108).

IMMIGRATION BRINGING HIGHER CONSUMPTION EXPENDITURE

General government consumption expenditure will be just over 27 per cent of GDP both this year and next (see Table 14). Around one-third of this will be in the central government sector. Central government consumption expenditure will rise this year by 3.3 per cent in current prices, due partly to a large increase in index-linked grants to government authorities and partly to high numbers of incoming refugees, mainly from Syria. Temporary accommodation accounts for a substantial proportion of the increase in costs relating to migration. The number of asylum seekers is expected to remain high next year, leading to continued high migration-related costs.

Despite forecast additional expenditure measures of SEK 3 billion, central government consumption expenditure will grow more slowly next year, due partly to much lower increases in index-linked grants to government authorities (see Diagram 109).

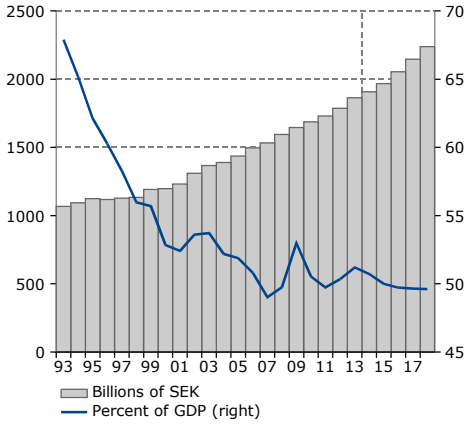
Local government consumption expenditure will also be affected by the high level of refugees arriving. Municipalities are compensated for this by central government, however, and do not need to finance the increase in costs themselves. Otherwise, local government consumption expenditure is determined mainly by demographic developments. With more children and elderly people in the population, costs for health care, education and elderly care are rising. The number of pupils in preschool and compulsory education is increasing, while numbers at upper secondary schools will continue to decline for a couple of years. Because costs per pupil are higher in compulsory education than in upper secondary education, this means increased spending on education for municipalities over the next few years.

Care for the elderly is undergoing a general restructuring process, with sheltered housing increasingly being replaced with home help services, which is keeping down costs per person.[28] To some extent this is offsetting the increase in expenditure

[28] See *The Economy Report,* Swedish Association of Local Authorities and Regions, April 2014.

Diagram 107 General government expenditure

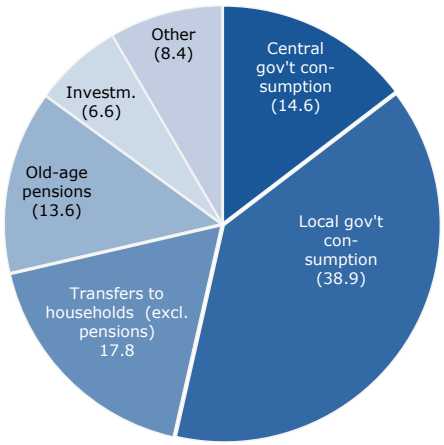
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 108 General government expenditure 2013

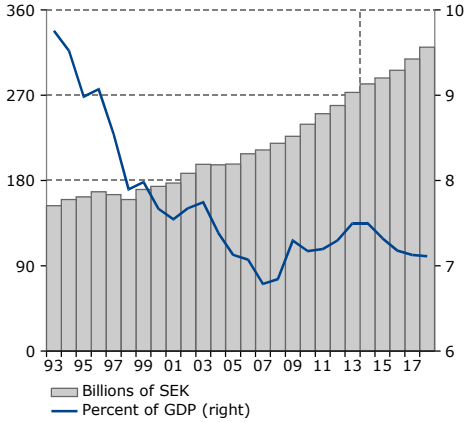
Per cent of total revenue



Source: Statistics Sweden.

Diagram 109 Central government consumption expenditure

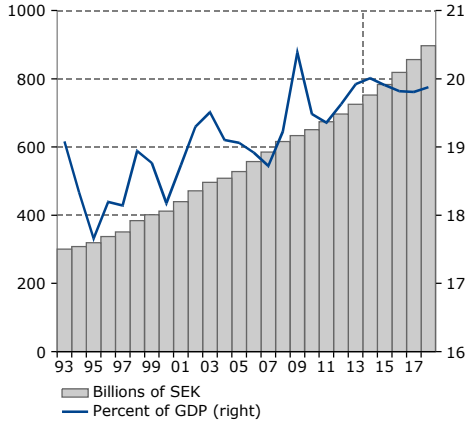
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 110 Local government consumption expenditure

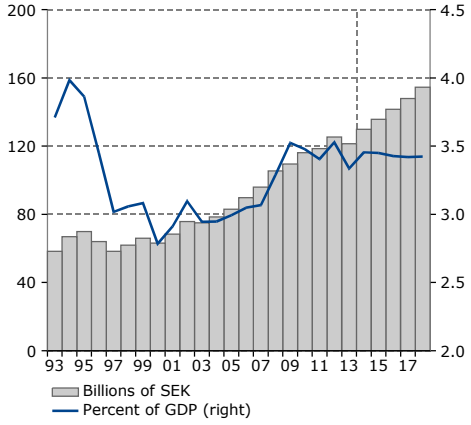
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 111 General government gross fixed capital formation

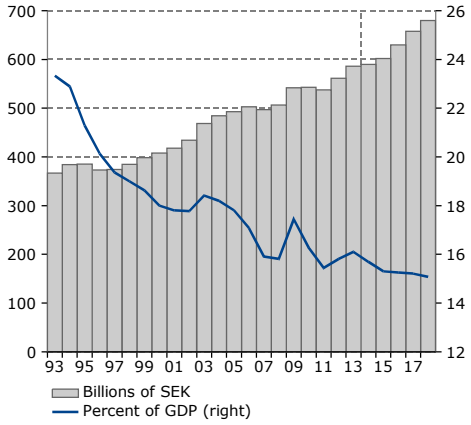
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 112 General government transfers to households

SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

resulting from a larger number of elderly needing care. County councils, as health care providers, will also see an increase in costs as a result of a higher proportion of elderly people in the population. In the forecast, the local government sector will receive additional central government grants of SEK 3 billion next year. This will give municipalities and county councils better scope to meet the growing need for health care, education and elderly care without having to raise taxes to any great extent in the near term. Local government consumption expenditure is expected to remain just under 20 per cent of GDP in the coming years despite these demographic developments (see Diagram 110).

FURTHER HIGH LEVELS OF INVESTMENT

Public sector investment will grow slightly more quickly than GDP this year and remain relatively high relative to GDP in 2015–2018 (see Diagram 111). This is due largely to further strong growth in local government investment, driven by a major need for investment in local government infrastructure and an increase in homebuilding by municipal corporations.[29]

Table 14 General government expenditure

Per cent of GDP

	2012	2013	2014	2015	2016	2017	2018
Transfers	19.0	19.5	18.9	18.4	18.4	18.3	18.2
Households[1]	15.8	16.1	15.7	15.3	15.3	15.2	15.1
Corporations	1.7	1.7	1.6	1.6	1.6	1.6	1.6
Rest of the world	1.5	1.7	1.5	1.5	1.5	1.5	1.5
General government consumption	26.9	27.4	27.5	27.2	27.0	26.9	27.0
General government gross fixed capital formation	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Interest expenditure	1.0	0.9	0.9	0.9	1.0	1.0	1.1
General government expenditure	**50.3**	**51.2**	**50.7**	**50.0**	**49.7**	**49.6**	**49.6**

[1] See Table A21 in the statistical appendix.

Sources: Statistics Sweden and NIER.

SLOW GROWTH IN TRANSFERS TO HOUSEHOLDS

Income pensions and supplementary pensions from the old-age pension system account for almost half of transfers to households. The slow upward indexation of income pensions will contribute to slow growth in public transfers both this year and next. Income pensions will rise more rapidly in the following

[29] Municipal corporations are included in the local government sector in the national accounts' sector accounts. These investments therefore count as public expenditure when estimating general government net lending. When calculating GDP in the product accounts, however, investment by municipal corporations counts as investment in the business sector and is not included in investment by public authorities.

years, however. All in all, transfers to households will increase by around 4 per cent per year in 2016–2018 to around 15 per cent of GDP in 2018 (see Diagram 112).

Sickness absence has been on the rise since 2011 and will continue to increase both this year and next. Long periods of sickness absence in particular are pushing up costs. Inflows into disability pensions are also rising, but are being more than matched by outflows into old-age pensions. Expenditure on ill health will decrease relative to GDP in 2014–2016 but then level out in 2017 and 2018 at just under 2 per cent.

Expenditure on unemployment benefits will decrease marginally relative to GDP this year and will continue to fall in the coming years as unemployment drops. Unemployment benefits now include an integration allowance for newly arrived immigrants. The cost of this is estimated at SEK 2.7 billion this year and is expected to rise to SEK 4 billion next year due to higher immigration.

One transfer that has increased considerably since it was introduced in 1994 is assistance compensation for those with disabilities, which will cost just over SEK 28 billion this year, or about the same as central government expenditure on sickness benefit. The rate of increase in expenditure on assistance compensation has slowed in recent years, however, and since 2009 it has risen more or less in line with GDP (see Diagram 113). The number of people receiving assistance compensation increased from around 6,000 in 1994 to 16,000 in 2009. The number of users has stabilised since then, but the number of hours reimbursed per user is continuing to increase. Expenditure on assistance compensation is expected to continue to grow roughly in line with GDP in the coming years.

INTEREST COSTS TO REMAIN LOW

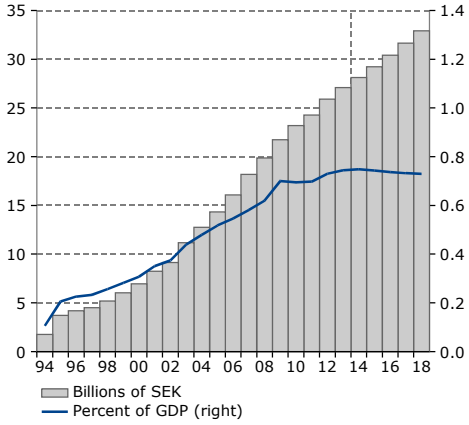
General government interest costs consist primarily of interest on central government debt, which has trended downwards relative to GDP since the mid-1990s, due to both lower levels of debt and lower interest rates (see Diagram 114). Since 2012, central government debt has increased relative to GDP, but interest rates have continued to fall. Interest costs will remain low going forward and will rise only marginally relative to GDP when market interest rates pick up.

Expenditure ceiling limits scope for new measures next year

Budgeting margins will be limited this year and next even if no new spending is included in the budget bill for 2015. This year's margin will be around the government's guideline of a minimum margin of 1 per cent of expenditure covered by the expenditure ceiling. This is the lowest mar-

Diagram 113 Expenditure for assistance compensation

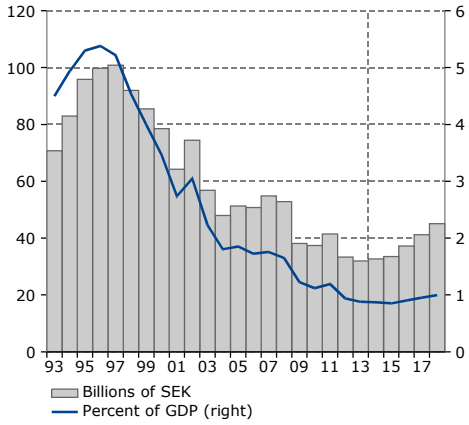
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

Diagram 114 General government interest expenditure

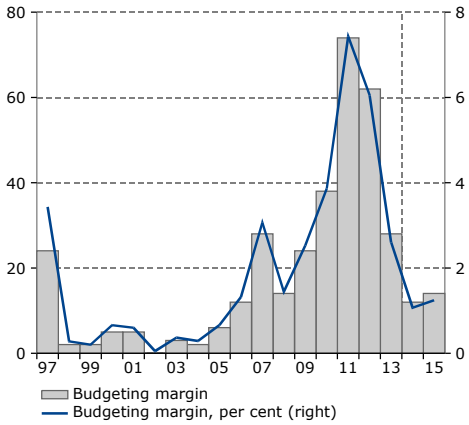
SEK billion and per cent of GDP, respectively



Sources: Statistics Sweden and NIER.

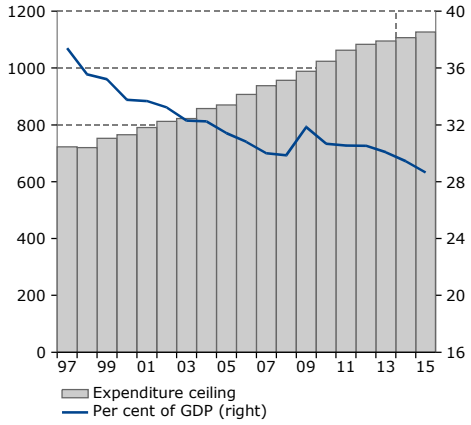
Diagram 115 Margin below the expenditure ceiling based on unchanged rules

SEK billion and per cent of expenditure limited by the expenditure ceiling, respectively



Sources: Swedish National Financial Management Authorityand NIER.

Diagram 116 Expenditure ceiling
SEK billion and per cent of GDP, respectively



Note. Decided expenditure ceiling after technical adjustments.
Sources: Swedish National Financial Management Authority and NIER.

The expenditure ceiling is fixed in nominal terms by the Riksdag for a period of three years ahead. Expenditure covered by the expenditure ceiling may not exceed the level of the ceiling decided by the Riksdag for any given year.

Expenditure covered by the expenditure ceiling are all central government expenditure with the exception of central government debt interest expenditure and the addition of the off-budget expenditure for the old-age pension system.

The budgeting margin is the difference between the expenditure ceiling and the expenditure covered by the ceiling. The government's guideline states that the budgeting margin, in per cent of the expenditure covered, must be larger than or equal to 1 per cent for the current year, 1.5 per cent next year and 2 and 3 per cent, respectively, for the two following years.

gin since 2006 (see Diagram 115). Next year's margin will be 1.2 per cent of relevant expenditure based on unchanged rules. If the expenditure increases of SEK 6 billion assumed in the NIER's forecast are made, however, the margin will be just 0.7 per cent, leaving only a small margin for unexpected increases in expenditure. If, for example, expenditure on unemployment or sickness benefits is higher than forecast, there is a risk of expenditure overshooting the ceiling.

The government could, of course, ask parliament to adjust the expenditure ceiling. How an upward adjustment of the ceiling for 2015 would impact on the credibility of the fiscal policy framework depends to some extent on which government tables the budget bill for 2015. In the NIER's view, if the current opposition forms a government, it will be able to propose a new expenditure ceiling for 2015 without this undermining the credibility of the system with an expenditure ceiling to any great degree. The idea behind the ceiling is not for one government to be able to restrict the following government's ability to introduce new measures on the expenditure side of the budget. If the alliance government remains in power, however, this argument does not apply, because it was the alliance government that proposed the expenditure ceiling for 2015.

Since the expenditure ceiling was first introduced in 1997, it has gradually come down from 37.4 per cent to 28.8 per cent of GDP in 2015 (see Diagram 116), yet it has never been overshot. During the early years of the ceiling, however, the budgeting margins were narrow at times, with a low of SEK 400 million in 2002. In some years, accounting finesses were employed to avoid exceeding the ceiling, which came in for criticism in the Swedish Fiscal Policy Council's 2008 report for not being in the spirit of the ceiling.

Since 2009, the budgeting margin has been more than 2 per cent of relevant expenditure, peaking in 2011 at no less than 7.4 per cent, or around SEK 74 billion. Since then the margin has decreased, due partly to only minor increases in the ceiling and partly to relevant expenditure growing more quickly in 2007–2011.

Fiscal space

An absence of new fiscal policy measures, or unchanged rules, will normally result in automatic budget strengthening, because tax revenue will rise roughly in line with GDP while expenditure will fall relative to GDP. The net lending generated by un-

changed rules can be viewed as space in the central government budget for unfunded measures, or fiscal space.

NEGATIVE FISCAL SPACE IN THE COMING YEARS

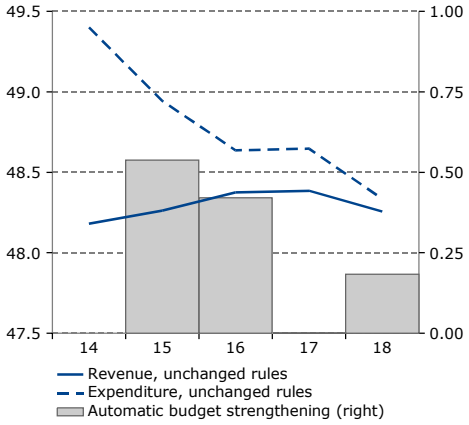
As there is a surplus target for general government net lending in Sweden, it is only net lending in excess of this target with unchanged rules that can be viewed as fiscal space. To meet the target of average net lending of 1 per cent of GDP over a business cycle, the NIER believes that net lending needs to be 1.2 per cent of GDP with normal resource utilisation (see below). Against this background, it is only net lending in excess of 1.2 per cent of GDP with unchanged rules and normal resource utilisation that can be viewed as fiscal space.

With the period through to 2018 as the forecast horizon, this method results in negative fiscal space, or a need for savings. With unchanged rules, expenditure will exceed revenue in the period through to 2018 (see Diagram 117). Automatic budget strengthening will vary between 0 and 0.6 per cent per year and means that cyclically adjusted net lending will be −0.1 per cent in 2018 with unchanged rules, which is 1.3 percentage points (equivalent to SEK 58 billion) below the target level.

This negative fiscal space can be interpreted as a need to make savings corresponding to this negative space for the surplus target to be met. The fiscal policy scenario therefore assumes tightening of SEK 58 billion (see also Table 12 earlier in this chapter). The fact that fiscal space is negative and the need for savings is so considerable in the period to 2018 can be seen as a direct consequence of the structural deficit currently prevailing.

Diagram 117 General government revenue and expenditure based on unchanged rules

Per cent of potential GDP



Note. The automatic budget strangthening is defined as the change of cyclically-adjusted lending given unchanged rules.

Source: NIER.

Diagram 118 Output gap

Per cent of potential GDP

Source: NIER.

The surplus target and asymmetrical business cycles

Business cycles have historically featured longer periods with the economy operating below capacity than above capacity. In other words, the output gap has been negative on average (see Diagram 118). Business cycles can be expected to show a similar asymmetrical pattern in the future, which means that the cyclical effects on general government net lending will be negative on average.

The NIER estimates that the output gap will average a negative 0.5 per cent in future business cycles. The output gap's effect on net lending (budget elasticity) has been 0.4 in recent years, based on the NIER's method for cyclically adjusting net lending. Given these two assumptions, the expected average cyclical effect on net lending is $(-0.5 \times 0.4) = -0.2$ per cent of GDP.

One way of taking account of this expected asymmetry in the business cycle is to have a target of average cyclically adjusted net lending of 1.2 per cent of GDP over the busi-

ness cycle. The NIER's interpretation of future fulfilment of the surplus target is therefore that cyclically adjusted net lending will gradually rise to 1.2 per cent as the economy returns to normal resource utilisation, and hold at this level for as long as resource utilisation is normal.

For a more detailed analysis of the surplus target and asymmetrical business cycles, see the special analysis "The surplus target for general government finances" in *The Swedish Economy*, March 2013.

SPECIAL ANALYSIS

Macroeconomic effects of a decline in housing prices in Sweden

Swedish housing prices have climbed strongly since the mid-1990s, and housing now makes up almost half of gross household wealth. The rise in prices has coincided with a rise in household debt, sparking debate about both the presence of financial imbalances in the Swedish economy and the macroeconomic effects that a correction of these imbalances would have. The following attempts to estimate the possible macroeconomic effects of a decline in housing prices. The NIER's overall conclusion is that a 20 per cent drop in housing prices would have only a moderate impact on the economy. The effects would, however, be greater if falling housing prices coincided with a global economic downturn.[30]

Real housing prices have risen by around 130 per cent since the mid-1990s (see Diagram 119), and housing now accounts for around 45 per cent of households' gross wealth.[31] The dip in prices in connection with the financial crisis of 2008−2009 was short-lived. The rise in housing prices can be explained largely by structural factors: slow growth in the supply of housing, falling real interest rates, lower housing-related taxes and favourable growth in household incomes.[32]

Housing prices have accelerated in the past year, especially for tenant-owned apartments (see Diagram 120). It may be that this increase in prices is only temporary, and that the risk of a decline in housing prices in the coming years has therefore grown.

There is often a correlation between housing prices and consumption at an aggregate level in both Sweden and other developed countries (see Diagram 121).[33] This correlation does not, however, give any guidance on the causal relationship between the variables, and several different explanations for this relation-

Diagram 119 Real housing prices

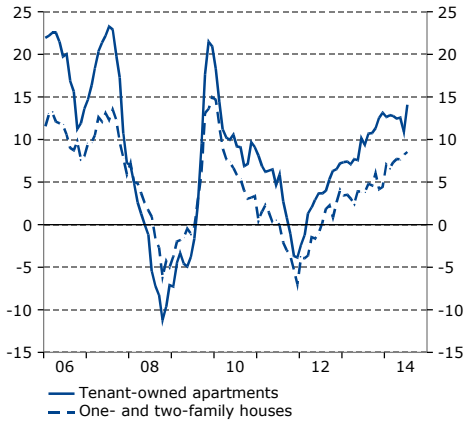
Index 1986=100

Note. Real housing prices are calculated as the real estate price index for one- and two-dwelling buildings for permanent living deflated by seasonally adjusted CPIF. Before 1987 CPIF is linked using CPI excl. mortgage interest costs.

Source: Statistics Sweden.

Diagram 120 HOX price index, tenant-owned apartments and one- and two-family houses

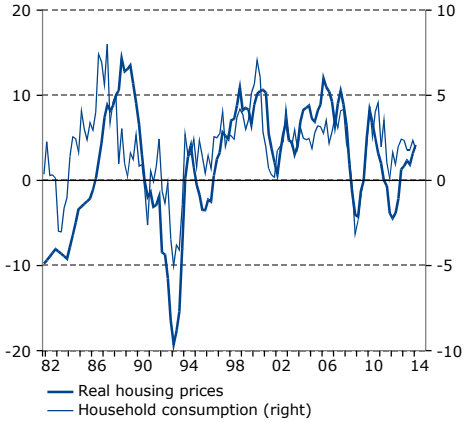
Annual percentage change



Sources: Valueguard and NIER.

Diagram 121 Real housing prices and household consumption

Annual percentage change



Source: Statistics Sweden.

[30] This special analysis is a summary of "Makroekonomiska effekter av ett bostadsprisfall i Sverige" [Macroeconomic effects of a decline in housing prices in Sweden], *Specialstudie* 41, Swedish National Institute of Economic Research, 2014.

[31] Housing wealth is defined as the estimated market value of houses, holiday homes and shares in housing cooperatives (tenant-owned apartments).

[32] See, for example, Claussen, C.A. et al., "A macroeconomic analysis of house prices in Sweden", in *The Riksbank's inquiry into the risks in the Swedish housing market,* Sveriges Riksbank, 2011, pp. 67–96, and Hansen, S. "Förklaringar till utvecklingen av hushållens skuldsättning sedan mitten av 1990-talet" [Explanations for the rise in household indebtedness since the mid-1990s], October 2013, Finansinspektionen.

[33] See, for example, Case, K. et al., "Comparing Wealth Effects: The Stock Market versus the Housing Market", *Advances in Macroeconomics* 5, 2005, pp. 1–32.

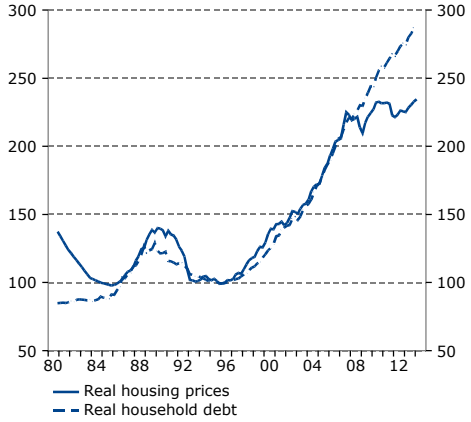
ship can be found in the economic literature. In recent years, "balance sheet effects" have been mooted as an explanation of the impact of housing price deflation on consumption.[34] One key element of this argument is that household debt is pivotal in understanding the consumption effects of falling housing prices. Lower housing prices lead to an increase in household indebtedness. Households wishing to avoid this will do so mainly by spending less so that they can save more and repay their loans.

As housing prices in Sweden have climbed since the mid-1990s, so has household indebtedness (see Diagram 122).[35] This has prompted debate about both the presence of financial imbalances and the macroeconomic effects that a correction of these imbalances would have. The Riksbank, for example, has expressed concern that developments in housing prices and household debt could eventually lead to an unfavourable macroeconomic situation and jeopardise the achievement of monetary policy objectives.[36] According to the Riksbank, such a scenario would arise where a fall in housing prices (and so household wealth) causes households to consume less in favour of saving and repaying debts. This would lead to an economic downturn and excessively low inflation.

Against this background, it is important to quantify the extent to which household consumption would be affected by a drop in housing prices.

Diagram 122 Real housing prices and real household debt

Index 1986=100



Note. Nominal series are deflated using seasonally adjusted CPIF.

Source: Statistics Sweden.

FALLING HOUSING PRICES IMPACT BOTH HOUSEHOLD CONSUMPTION AND UNEMPLOYMENT

The present analysis looks at the macroeconomic effects of a decline in housing prices with the emphasis on household consumption and unemployment. A Bayesian VAR model[37] is used

[34] See discussion of this and other explanatory models in the study cited in footnote 30.

[35] It should be noted, however, that real debt ought to grow more quickly than real housing prices in the long term, as the housing stock (number of homes) will increase over time.

[36] See, for example, the article "Financial imbalances in the monetary policy assessment" in *Monetary Policy Report*, July 2013, Sveriges Riksbank. See also the articles by Lars E.O. Svensson and Per Jansson in *Ekonomisk Debatt*, No. 3, 2014, for a presentation of different standpoints on these issues.

[37] The model is described in Villani, M., "Inference in Vector Autoregressive Models with an Informative Prior on the Steady State", *Journal of Applied Econometrics*, 24, 2009, pp. 630-650. The model specification used includes KIX16-weighted GDP (seasonally adjusted), the spread between US junk bonds and US Treasuries, the unemployment rate in the 15-74 age group (seasonally adjusted), household consumption (seasonally adjusted), real housing prices (deflated by seasonally adjusted CPIF inflation), three-month mortgage rates (list price) and a financial uncertainty index. The model is estimated on data from the first quarter of 1989 through to the fourth quarter of 2013.

to create four different scenarios where the impact of housing prices on consumption and unemployment are analysed.[38]

Scenario 1: Short-term decline in housing prices

In the first scenario, housing prices are assumed to fall by 5 percentage points for four successive quarters to a good 20 per cent below the base scenario, and then follow the historical pattern. The impact on household consumption is greatest after five quarters, when it is 1.8 percentage points lower than in the base scenario, and it takes 18 quarters for consumption to return to the trend level (see Diagram 123). Unemployment peaks at 1.5 percentage points higher than in the base scenario after eight quarters, and is still 1.2 percentage points higher after three years (see Diagram 124).

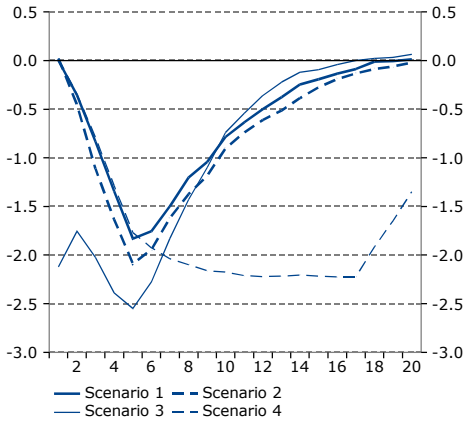
Scenario 2: Short-term decline in housing prices combined with weaker domestic financial conditions

Another conceivable scenario is where a drop in housing prices coincides with a deterioration in domestic financial conditions. Besides the previous assumption of a short-term decline in housing prices, it is now also assumed that the Swedish financial sector's position weakens to approximately the same degree as in autumn 2008.[39] Not unexpectedly, the weaker state of the domestic financial sector leads to more negative economic developments. Household consumption is 2 percentage points below the base scenario after five quarters, and only returns to the trend level after 20 quarters. Unemployment peaks at 1.8 percentage points higher than in the base scenario, and is still 1.6 percentage points higher after three years (see Diagram 124).

Scenario 3: Short-term decline in housing prices combined with international shocks

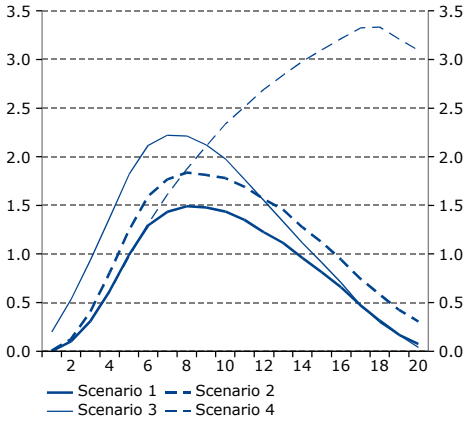
The third scenario aims to shed light on the effects of a decline in housing prices together with a major global economic downturn and turmoil in global financial markets. As well as a short-term fall in housing prices, it is assumed that there is a decline in

Diagram 123 Household consumption
Difference from base scenario, percentage points



Note. Quarters are on the X axis. Housing prices start falling in the first quarter in the graph.
Source: NIER.

Diagram 124 Unemployment
Difference from base scenario, percentage points



Note. Quarters are on the X axis. Housing prices start falling in the first quarter in the graph.
Source: NIER.

[38] To take account of there currently being limited scope to lower the repo rate, all the scenarios assume that mortgage rates do not fall below 1.5 per cent.

[39] A domestic financial uncertainty index is included in the model with the aim of providing a summary measure of the health of the financial sector. It has three components: a short real interest rate, a short interbank spread and movements on the Stockholm Stock Exchange (sign reversed). These three components are given equal weights in the estimation of the index. In scenario 2, it is assumed that the domestic financial uncertainty index climbs 15 points in the first quarter and by a further 15 points in the second.

global GDP and increased financial uncertainty,[40] to approximately the same degree as during the financial crisis.[41] In this case, household consumption falls as far as 2.6 percentage points below the base scenario after five quarters. Even in the first quarter the impact on consumption is considerable at 2.1 percentage points, and consumption only returns to the trend level after 17 quarters (see Diagram 123). Unemployment is 2.2 percentage points higher after seven quarters and is still 1.5 percentage points higher than in the base scenario after three years.

Scenario 4: Prolonged decline in housing prices

A fourth possible scenario is where the decline in housing prices is more protracted, as was the case in the 1990s crisis (see Diagram 119). The scenario has been constructed by assuming that housing prices fall by 20 percentage points in the first year and are then unchanged for three years. Unsurprisingly, this more prolonged decline has longer-lasting effects on household consumption, which hits a low of 2.2 percentage points below the base scenario after 17 quarters. There is an even greater impact on unemployment, which peaks 3.3 percentage points above the base scenario after 18 quarters.

Effects on GDP and investment

The impact of a decline in housing prices on investment and GDP has also been analysed. The effects on investment are significant, but arrive later than those on household consumption. The effects on GDP growth are also negative, but not statistically significant. This can probably be explained largely by both the 1990s crisis and the financial crisis coinciding with a weakening of the krona. This contributed to a rapid recovery in net exports, which softened the impact on GDP growth.

THE EFFECTS MAY BE UNDERESTIMATED – OR OVERESTIMATED

Although the model's results are robust for various specifications, there is reason to be cautious when interpreting them. First, one key assumption is that the impact of lower housing prices on consumption is approximately linear. In other words, if prices fall by 5 percentage points rather than 1 percentage point, the impact on consumption will be five times as great.

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[40] The increase in financial uncertainty is approximated by an increase in the spread between US junk bonds and US Treasuries.

[41] Approximated by a drop in global GDP of 2 percentage points and an increase in the spread between US junk bonds and US Treasuries of 7 percentage points in the first quarter.

Such an assumption is considered reasonable for a decline in housing prices of the magnitude analysed here, but if prices fall sharply enough to disrupt the functioning of financial markets, the model's predictions will probably underestimate the actual impact.

Second, it is important to bear in mind that the model is estimated over a period when in some ways the economy probably worked somewhat differently to today. The model is based on a period when a weak housing market coincided with a deterioration in the krona and an increase in net exports. Future falls in housing prices need not necessarily be associated with a similar situation, and the effects may therefore be greater than the model's results indicate.

On the other hand, there are factors that suggest that the effects on consumption and unemployment could be smaller than the model's results indicate. Household saving is higher, and public finances stronger, than in the period on which the model is based, which could spell less negative macroeconomic effects.

THE OVERALL CONCLUSION IS THAT A DECLINE IN HOUSING PRICES WOULD HAVE A MODERATE IMPACT ON THE ECONOMY

The model's results indicate that household consumption would be affected negatively by a drop in housing prices, and unemployment would rise. The effect is not negligible, and increases if the downturn in the housing market coincides with other shocks. The decline in housing prices assumed in the model scenarios could be explained as a correction of expectations (bubble bursting), but also as an adjustment to changes in the fundamental determinants of housing prices. Given the magnitude of the macroeconomic effects in the model exercises above, there may therefore be reason for decision makers to analyse carefully how different policy changes could affect these fundamental determinants and, thereby, housing prices. The NIER's overall conclusion, however, is that the effects of a drop in domestic housing prices of the size analysed here, with or without additional shocks, need not have greater macroeconomic consequences than in a normal economic downturn.[42] Compared with the time period used to estimate the model, public finances are currently strong. The limited scope for monetary policy stimuli can therefore be supplemented with more expansionary fiscal policy than normal to counter a downturn in demand. House-

[42] For example, household consumption fell, and unemployment increased, significantly further in both the 1990s crisis and the financial crisis than is estimated here.

hold saving is also high, which could soften the effects on consumption and, thereby, unemployment.

SPECIAL ANALYSIS

Uncertain preliminary national accounts data complicate forecasting

National accounts data are revised over time as more detailed information becomes available. It is important for economic statistics to be updated once Statistics Sweden gains access to better data and methods, but major revisions come at a cost to users, partly because they make economic forecasts more uncertain. It is also problematic if there are systematic patterns in the revisions. The following presents an analysis of the characteristics of historical revisions of GDP, the components of demand (the expenditure side) and production in various sectors (the production side).[43] On balance, the results show that the characteristics of the revisions are more problematic for the production side than for GDP and the expenditure side.

NATIONAL ACCOUNTS DATA ARE REVISED REPEATEDLY

The quarterly national accounts are initially published around 60 days after the end of a quarter and are based largely on surveys. There are then repeated revisions in connection with subsequent quarterly releases in line with the revision policy for the national accounts.[44] Data are also revised in connection with the annual estimates, which are based on more detailed information, such as tax returns and annual reports. Besides these regular quarterly revisions and annual estimates, there are more general reviews roughly every five years as a result of new estimation methods, new data sources and the general accommodation of EU requirements and recommendations. These reviews also lead to revisions, often stretching far back in time. Thus, revisions of national accounts data are only natural and ought to contribute to an increasingly accurate picture of the Swedish economy's performance at a given time. However, the fact that the initial statistics do not necessarily provide an accurate picture makes the work of forecasters and economic decision-makers more difficult. Major revisions of the data can also complicate evaluations of economic policy decisions if the revised series paint a

[43] This analysis is a summary of "En statistisk analys av revideringar till nationalräkenskapsdata" [A statistical analysis of revisions of national accounts data], *Specialstudie* 42, Swedish National Institute of Economic Research, 2014.

[44] See "Revideringspolicy för BNP-beräkningarna och reala sektorräkenskaperna – NR0103" [Revision policy for GDP estimates and the real sector accounts – NR0103], NR-PM 2012:07, Statistics Sweden, www.scb.se/NR0103.

different picture of the state of the economy to the data available when the decisions were taken.[45]

To gain an impression of the extent to which revisions of national accounts data might prove problematic for users, the characteristics of revisions of a number of key variables have been assessed, and the results of this analysis are presented here.[46, 47]

DATA

The variables assessed are listed in Table 15.

Table 15 Variables

GDP by expenditure	Production
GDP	General government production
Household consumption	Non-profit institutions serving households (NPISH)
General government consumption	Business sector (SNI A-U)
Gross fixed capital formation	Goods producers (SNI A-F)
Exports	Agriculture, forestry, fishing (SNI A)
Goods	Mining (SNI B)
Services	Manufacturing (SNI C)
Imports	Construction (SNI F)
Goods	Service producers (SNI G-U)
Services	Trade (SNI G)
	Financial services (SNI K)
	Real estate activities (SNI L)

Note. SNI codes refer to SNI 2007 which is the Swedish implementation of the NACE Rev. 2 classification.

Source: Statistics Sweden.

[45] The present study does not distinguish between the different types of revision. It should, however, be noted that while, for example, revisions following the general reviews due to changes in definitions may be problematic for users, they are largely inevitable, as the statistics need to be adapted to a changing world and new methods. Any shortcomings in the revisions resulting from these general reviews are therefore difficult to address.

[46] See "En statistisk analys av revideringar till nationalräkenskapsdata" [A statistical analysis of revisions of national accounts data], *Specialstudie* 42, Swedish National Institute of Economic Research, 2014, for a complete account of the analysis and results.

[47] Regarding the terminology used in this special analysis – and more generally in related literature studying similar issues – it should be noted that it is normally the revisions' characteristics that are discussed. This may be somewhat ambiguous. It seems reasonable to describe a "good" revision as a revision that means that the data provide a more accurate picture of the economy. It is also quite possible to imagine a situation where every revision of the data that is made leads to a more accurate picture being obtained, but where the characteristics of the revisions are still problematic. The origin of the problem in this case is, of course, that the initial publication has shortcomings and could, in theory, have been better. This terminological issue should be borne in mind when discussing the results.

The assessment is based on data from the second quarter of 1999 (the first release based on the ESA 95 nomenclature) through to the fourth quarter of 2013.[48] Actual quarterly values in fixed prices (expressed as the annual percentage change, i.e. the percentage change relative to the same quarter the previous year, and also referred to below as the growth rate) have been used.

EMPIRICAL ANALYSIS

The revisions are defined as

$$r_{j,t} = x_{j,t} - x_{f,t}$$

where $x_{f,t}$ is the first estimate published for quarter *t* for a particular variable, and $x_{j,t}$ is the estimate for quarter *t* published *j* quarters after the first published estimate. The analysis spans *j=(1,2,..,7,s)* where *s* is the latest estimate published by Statistics Sweden.[49] The revisions at the different horizons have been assessed chiefly on the basis of two different characteristics.[50]

The first characteristic is *bias*. The expected value of the revision should be zero. If it is not, this means that there is systematic over/underestimation, or bias, in the first published estimate.

The second characteristic is the *volatility* – the standard deviation – in the revisions. If there is little volatility, this means that later estimates will not differ as much from the initial estimate. If, on the other hand, the volatility in the revisions is considerable, this means that the estimate originally published provides a poorer picture of the underlying state of the economy. Since different variables' growth rates vary to differing extents, there is a case for comparing the volatility of the revisions with the vari-

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[48] Statistics Sweden's real-time data for the expenditure side can be downloaded from its website on the "National Accounts, quarterly and annual estimates" page under the "Tables and Graphs" tab.

[49] The most recently published estimate in this study is from February 2014 with data through to the fourth quarter of 2013.

[50] "En statistisk analys av revideringar till nationalräkenskapsdata" [A statistical analysis of revisions of national accounts data], *Specialstudie* 42, Swedish National Institute of Economic Research, 2014, also looks at the characteristic of forecast efficiency, which means that the revisions cannot be explained using information that was available at the time of the first publication. A correlation with information that was available then means that it ought to be possible to improve the statistics published initially. The two efficiency tests carried out indicate that there are efficiency shortfalls for many variables on both the expenditure and production sides. The results indicate that, in theory, it ought to be possible to produce more accurate statistics in the earlier publications. However, shortfalls in efficiency are not necessarily easy to address in practice. The results of the efficiency tests must not therefore be interpreted as meaning that Statistics Sweden could have done a better job in those cases where the tests were significant. Instead, the results indicate where potential improvements could be made and/or additional resources could be deployed.

ables' own volatility, even though it is not necessarily the case that a more volatile variable will be revised more than a less volatile variable.[51] The higher the ratio between the volatility in the revisions and the volatility in the variable, the less information the first publication contains about the latest publication.

SYSTEMATIC UNDERESTIMATION OF GDP GROWTH…

The test for bias indicates that growth rates for GDP, household consumption, exports and imports have been systematically underestimated in the initially published estimates. On average, the growth rate for these variables has been revised up from the first to the latest estimate (see Table 16). In the case of exports, this bias stems from exports of services, whereas the bias in imports relates largely to imports of goods. The growth rates for public sector consumption, exports of goods, imports of services and gross fixed capital formation, however, are unbiased (see Table 16).

… AND OF GROWTH IN BUSINESS SECTOR PRODUCTION AND SERVICES PRODUCTION

The first publication of business sector production is not an unbiased estimate.[52] The positive value indicates that – as with GDP growth – the initial publication underestimates the latest publication (see Table 16). This is largely because the initial release for services production tends to be an underestimate. The production of services accounts for almost 70 per cent of business sector production and also has a significant bias. The production of goods, on the other hand, appears to be an unbiased estimate, but the same does not apply to all of its components. Neither construction, mining nor manufacturing production are unbiased estimates of the latest publication.[53] The coefficients have different signs, however, which means that the aggregate for goods production is not affected to the same degree. Despite substantial revisions, the initial publication of public sector production seems to be an unbiased estimate.

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[51] The variable's own volatility has been estimated on the basis of the latest data to be published.

[52] Production refers here to value added.

[53] The high negative value for construction production is due partly to a single major revision made in September 2013, when growth in construction production in 2011 was revised down by more than 10 percentage points.

Table 16 Results

	Unbiasedness	Volatility ratio
GDP	0.3[b]	0.2
Household consumption	0.5[a]	0.4
General government consumption	–0.1	0.7
Gross fixed capital formation	0.4	0.3
Exports	0.6[b]	0.2
Goods	0.3	0.1
Services	1.9[b]	0.6
Imports	0.7[a]	0.2
Goods	0.8[a]	0.1
Services	0.2	0.5
General government production	–0.2	0.9
Non-profit institutions serving households	–0.8	0.3
Business sector	0.5[a]	0.3
Goods producers	0.6	0.4
Agriculture, forestry and fishing	1.5	1.0
Mining	–3.8[b]	0.7
Manufacturing	1.7[b]	0.4
Construction	–2.9[a]	0.9
Service producers	0.5[b]	0.4
Trade	0.4	0.7
Financial services	1.5	1.1
Real estate activities	0.7	0.8

Note. Values refer to an analysis based on the most recently published data, i.e., *j=s*. The volatility ratio is the standard deviation for the revision divided by the standard deviation for the variable. The "Unbiasedness" column shows the average revision on the *j=s horizon*. Superscripts "a" and "b" denote rejection of the null hypothesis on the one and five per cent level, respectively.

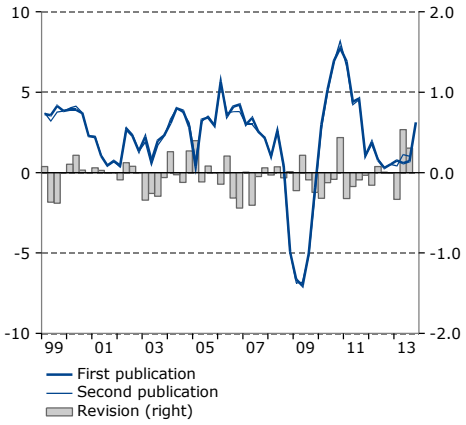
Source: NIER.

GENERALLY LIMITED VOLATILITY IN THE REVISIONS OF GDP AND THE EXPENDITURE SIDE

The volatility in the revisions increases with the revision horizon. Diagrams 125 and 126 present time series with the first, second and latest publications of GDP growth and the revisions between these series. The revision is greater for the latest publication than for the second publication, which is to be expected, as the statistics are revised further relative to the initial publication as more detailed information becomes available.

Diagram 125 GDP

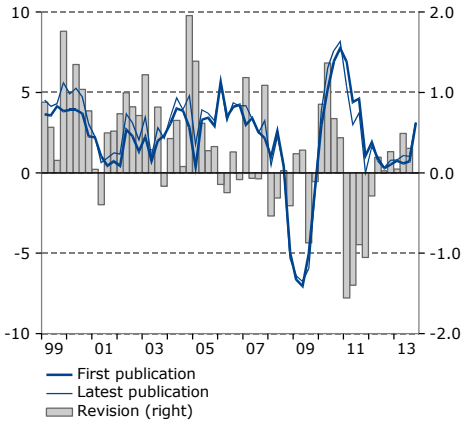
Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

Diagram 126 GDP

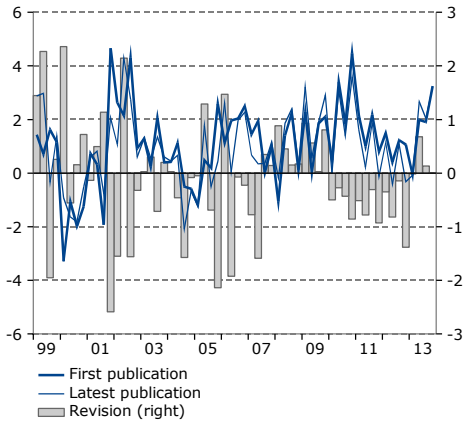
Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

Diagram 127 General government consumption

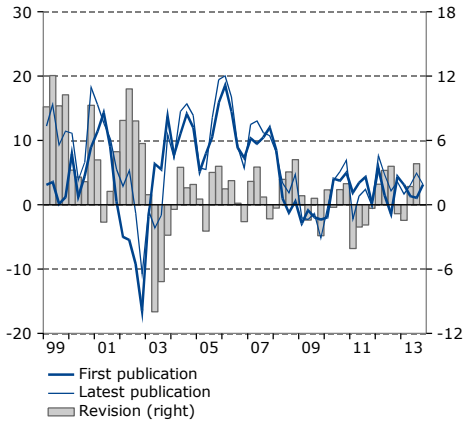
Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

Diagram 128 Exports of services

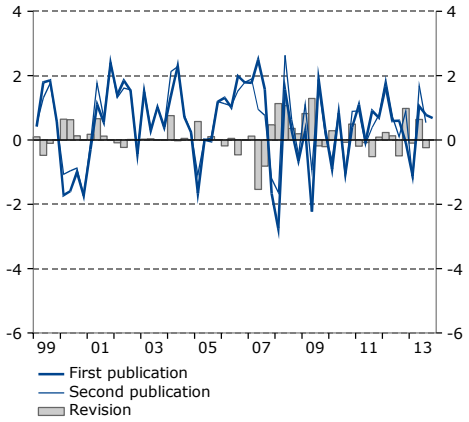
Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

Diagram 129 General government production

Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

The volatility in the revisions of GDP and most of the variables analysed on the expenditure side is relatively low, however. The ratio between the volatility in the revisions for the latest publication (i.e. *j=s*) and the volatility in the variable itself is 0.3 or less for most of the variables (see Table 16).

It is primarily the volatility in the revisions of public sector consumption and exports of services that appears to be problematic (see Diagrams 127 and 128). These variables are revised substantially further, and the ratio between the volatility in the revisions for the latest publication and the volatility in the variable itself is more than 0.7 for public sector consumption and more than 0.6 for exports of services (see Table 16).[54] The ratio for imports of services is also relatively high.

CONSIDERABLE VOLATILITY IN THE REVISIONS OF PRODUCTION IN DIFFERENT SECTORS

On the production side, public sector production – which accounts for almost 20 per cent of GDP – is heavily revised. The volatility in the revisions of public sector production is considerable in the second publication (i.e. *j=1*) and even higher in the latest publication (see Diagrams 129 and 130). The ratio between the volatility in the revisions for the latest publication and the volatility in the variable itself is 0.9 (see Table 16), which indicates that it is difficult to draw any conclusion about production from the first data published.

The volatility in the revisions for business sector production is smaller (see Diagram 131). The ratio between the volatility in the revisions for the latest publication and the volatility in the variable itself is 0.3.[55]

The volatility in the revisions for the production of goods and the production of services is somewhat higher than for the business sector as a whole. The ratio between the volatility in the

[54] Some variables were affected more than others by the financial crisis. This means that there is also a case for comparing the volatility in the revisions with the volatility in the variable over a shorter time period, so that the volatility in the revisions is not compared with a period when the variable's volatility was abnormally high. In the case of GDP and gross fixed capital formation, the ratio rises to 0.5 when compared with volatility in the variable for the period from the second quarter of 1999 to the third quarter of 2008 (i.e. excluding the financial crisis and subsequent period). See "En statistisk analys av revideringar till nationalräkenskapsdata" [A statistical analysis of revisions of national accounts data], *Specialstudie* 42, Swedish National Institute of Economic Research, 2014, for detailed results.

[55] Growth in business sector production has been unusually volatile since the financial crisis. If the period since the third quarter of 2008 is excluded, the ratio climbs to 0.5.

revisions and the variables' own volatility is 0.4 for both aggregates.[56]

For all of the smaller sector aggregates assessed, the revision volatility in the revisions is considerable. The production of financial services stands out with substantial revisions as early as the second publication (see Diagram 132). The ratio between the volatility in the revisions for the second publication and the volatility in the variable itself is 0.8. Compared with the latest estimate to be published, the ratio rises to 1.1, which means that the volatility in the revisions is greater than the volatility in the variable itself.

DISAGGREGATED DATA SHOULD BE INTERPRETED WITH CARE

The analysis of the revisions of national accounts data presented here indicates that there are various shortcomings in terms of both bias and volatility. Although these shortcomings can be found on both the expenditure and production sides, the production side is more problematic on account of what are, in some cases, highly volatile revisions.

One reason for the high volatility in the revisions on the production side is that the quarterly estimates lack information on intermediate consumption in different sectors, which means that Statistics Sweden is forced to make assumptions about input coefficients. The assumption is normally an unchanged input coefficient from the latest annual estimate. The revisions in connection with the annual estimates can therefore be considerable if the coefficients change. It can be difficult for Statistics Sweden to address this problem, however, as more complete sources are not available at the time of the initial estimates.

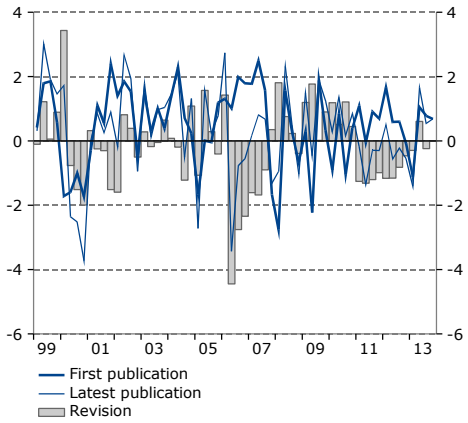
The NIER has a long tradition of producing forecasts for production in different sectors. The results of this analysis indicate, however, that the information value of the initial data for production in some sectors leaves something to be desired. The basis for producing sector analyses and forecasts is therefore not as good, which is something that users of statistics and forecasts need to bear in mind.

The bias observed for a number of variables on both the expenditure and production sides indicates that there is room for improvement in the production of the statistics. Bias also undermines the basis for high forecast accuracy, and it would be

[56] If the period since the financial crisis is excluded, however, the ratio rises to 0.9 for goods-producing sectors and 0.6 for services-producing sectors. The difference is explained by it mainly being the goods-producing sectors that were hit by the financial crisis.

Diagram 130 General government production

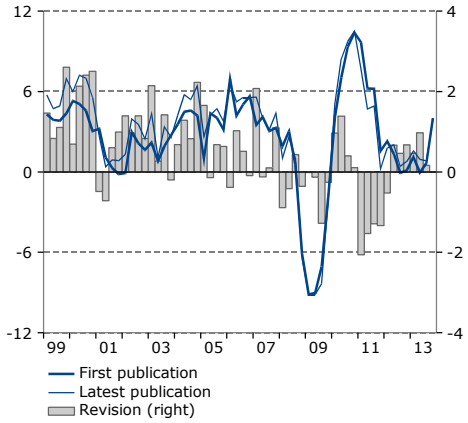
Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

Diagram 131 Business sector production

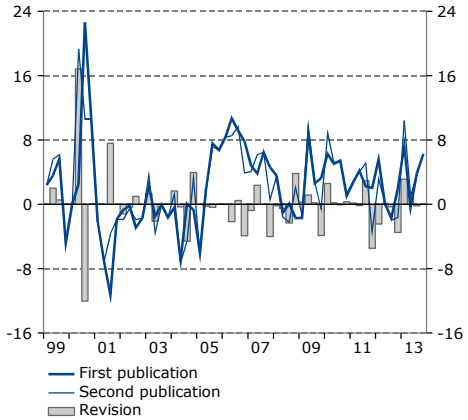
Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

Diagram 132 Financial services production

Percentage change and percentage points, respectively



Sources: Statistics Sweden and NIER.

useful for the causes of this bias to be investigated so that any problems can be resolved.

SPECIAL ANALYSIS

National accounts to move to ESA 2010

From 18 September, Statistics Sweden will switch to publishing the national accounts in line with the new ESA 2010 rules, which update the current ESA 95 to a more modern description of the economy. Other countries will also be migrating. The introduction of ESA 2010 entails changes in more than 40 areas, of which a dozen will affect GDP and GNI to varying degrees. The following summarises some of the most important changes for Sweden's part.[57]

NEW APPROACH TO R&D THE MOST IMPORTANT FACTOR IN ESA 2010 PUSHING UP GDP AND GNI

Calculations performed by Statistics Sweden suggest that the introduction of ESA 2010 will increase Swedish GDP and GNI in 2011 by around 4 per cent.[58] The change with the greatest impact on Swedish GDP is that research and development (R&D) costs will no longer be treated as expenditure but as capital formation.[59] This change accounts for around 80 per cent of the overall increase and affects both purchased and own-account R&D. With own-account R&D, the value of the investment is based largely on costs incurred, but in the case of market producers there is also a mark-up to reflect market value better.

Another major change, which accounts for around 10 per cent of the overall increase in GDP, concerns military equipment. Under ESA 95, only military equipment and facilities that could also be put to civilian use were recorded as capital formation. All other military equipment was recorded as current expenditure even if used for several years. Under ESA 2010, what were previously referred to as "military capital assets" will change name to "military weapons systems", and these weapons systems will be recorded as capital formation rather than expenditure. In the year of acquisition, GDP will not be higher because government consumption will decrease by the same amount. In subsequent years, however, government consump-

[57] For a more detailed description, see "Manual on the Changes between ESA 95 and ESA 2010", Eurostat, November 2013.

[58] Besides the effect of the transition to ESA 2010, GDP and GNI will increase further by approximately 1 per cent as a result of a general review of the national accounts estimates that will be presented at the same time. See "Sweden's economy – statistical perspective", Statistics Sweden, June 2014.

[59] One exception is such purchases in SNI sector 72 (scientific research and development).

tion will be higher under ESA 2010 (by each year's capital consumption) until the investment has been written off.

EXPORTS AND IMPORTS WILL BE LOWER, BUT NET FOREIGN TRADE WILL BE UNCHANGED

One important change in the recording of foreign trade concerns goods sent abroad for processing and then returned to the owner in the original country. Under ESA 95, it was the crossing of a national boundary that determined whether or not an activity counted as foreign trade. All flows across national borders were therefore recorded as exports and imports. Under ESA 2010, however, there must also be a change of ownership. This means that only the value of the processing carried out abroad is recorded, as an import of goods, and no exports are recorded. Where such processing takes place in Sweden, it is recorded as an export of goods. Both exports and imports will therefore be lower than today, but the net of these transactions will be unchanged.

The accounting treatment of merchanting will also change under ESA 2010. In the foreign trade statistics, this is where, for example, a Swedish firm purchases goods abroad and sells them on to a foreign customer without the goods actually entering Sweden. A special case is where a Swedish firm invoices supplies from a foreign subsidiary to a foreign end-customer. Under ESA 95, the margin on the transaction was recorded as an export of services, while the receiving country recorded the total value of the goods as an import, resulting in an imbalance in the recording of international trade in goods and services. With the introduction of ESA 2010, merchanting transactions will instead be treated as exports of goods. The overall level of exports will be unaffected, but it means that in 2013, for example, exports worth more than SEK 70 billion will be recorded as exports of goods rather than exports of services.

SOME FIRMS WILL MOVE FROM THE PRIVATE TO THE PUBLIC SECTOR

The implementation of ESA 2010 will see 25 enterprises currently included in the business sector (including a number of large hospitals) being transferred to the public sector as a result of a review of the boundary between the public and private sectors. This will not affect general government consumption expenditure, because there will be a redistribution from social assistance benefits in kind (around SEK 7 billion in 2011) to own-account production. GDP will not change, therefore, but business sector production will decrease and public sector produc-

tion will increase. Employees and hours worked at the firms in question will be transferred from the private to the public sector. According to information from Statistics Sweden, this will apply to around 11,000 workers.

The recording of pensions will also change. The new rules mean, for example, that total occupational pension obligations in the central government sector will be included in central government financial liabilities in the same way that the equivalent obligations in the local government sector are already part of local government financial liabilities. At present, only inward and outward payments are included in the national accounts. This change in the treatment of pensions will not affect Maastricht debt because pensions are not included in that measure.

TAX BECOMES CURRENT TRANSFER, PUSHING UP GNI

Another example of how ESA 2010 will affect the national accounts is that the VAT-based third EU own resource will be treated as a current transfer rather than a tax, which will push up GNI by around 0.2 per cent.

LIMITED IMPACT ON FORECASTS

The change of rules ought to have only a marginal impact on the NIER's analyses and forecasts of economic developments. In a number of areas, the statistics will nevertheless be affected in ways that should be borne in mind when analysing them. For example, the new estimates will paint a slightly different picture of capital formation in the economy, which will be higher than the current estimates indicate. In 2013, capital formation accounted for just over 18 per cent of GDP; once ESA 2010 is applied, this will rise to nearly 22 per cent. Around three-quarters of the increase in GDP relates to business sector production, resulting in higher operating profits and so a slightly higher profit margin historically than in the current estimates. Maastricht debt will also fall from 39 to 37 per cent of GDP due to the higher level of GDP.

Most of the statistics will not, however, be affected by the transition. For example, the long-term sustainable rate of wage growth compatible with the inflation target will not be impacted at all by the new rules.

SPECIAL ANALYSIS

Long-term unemployment in the Swedish labour market

Rising unemployment brings an increased risk of more people becoming long-term unemployed. Compared with the short-term jobless, it is harder for the long-term jobless to find work again once the economy picks up, which can result in persistently higher unemployment levels. Given that unemployment has been high since the financial crisis struck in 2008, there is therefore reason to look at developments in long-term unemployment. The analysis reveals that the number of long-term jobless as a share of the total number of jobless has fallen since 2009 despite high unemployment. It also shows that the rise in long-term unemployment has been relatively limited, and that it is only just above the historical average.

Long-term unemployment has great social and economic costs for both the individual and society. An extensive body of economic research has documented the negative consequences of an extended period of unemployment for a person's chances of finding work again. The long-term jobless struggle in the labour market because they lose contacts and skills and seek work less intensively.[60] Research also shows that, when recruiting, employers tend to overlook the long-term jobless in favour of those who are in work and the short-term unemployed, based on an expectation that the long-term jobless will be less productive.[61] The long-term jobless therefore have greater problems finding work when the economy normalises, and high levels of long-term unemployment make it harder to bring down unemployment as a whole.

Unemployment in Sweden has risen over the past five years. There are several reasons for this. The financial crisis and ensuing economic downturn have reduced demand for labour. The labour force has grown since 2007 as a result of economic policy initiatives to increase the income differential between workers and non-workers, and to integrate those on disability benefits and newly arrived refugees into the labour force. These initia-

Short-term and long-term unemployment

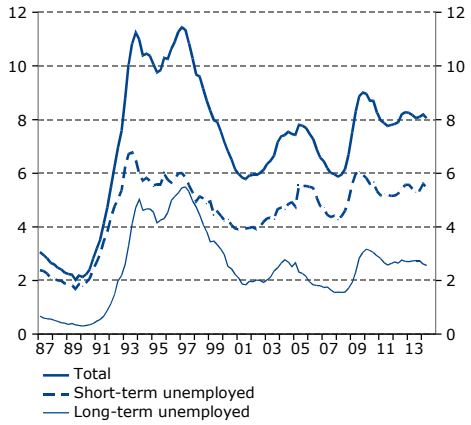
In Statistics Sweden's official labour market statistics, the Labour Force Survey (LFS), a person is classified as **unemployed** if he or she is without work but is applying actively for work and is able to work. The concept of applying actively here comprises widely different levels of activity, ranging from browsing job advertisements on the internet to attending job interviews. The unemployed and the employed together make up the labour force. Those who are without work but are not actively seeking work or not able to take up an employment are outside the labour force and not counted as unemployed. This official unemployment definition based on the LFS is the focus of this special analysis. In the Swedish Public Employment Service's statistics, other definitions are applied.

Long-term unemployment is defined as unemployment in excess of 26 weeks (without interruptions for, e.g., temporary work). **Short-term unemployment**, on the other hand, is defined as unemployment for at most 26 weeks.

[60] Hensvik, L. and O. Nordström-Skans, "Networks and youth labor market entry", Working Paper 2013:20, Swedish Institute for Evaluation of Labour Market and Education Policy, and Edin, P.A. and M. Gustavsson, "Time out of work and skill depreciation", *Industrial & Labor Relations Review* 61, 2008, pp. 163-180.

[61] Kroft, K., F. Lange and M.J. Notowidigdo, "Duration dependence and labor market conditions: Evidence from a field experiment", *Quarterly Journal of Economics* 128, 2013, pp. 1123-1167, and Eriksson, S. and D-O. Rooth, "Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment", *American Economic Review* 104, 2014, pp. 1014-1039.

Diagram 133 Unemployment and long-term unemployment, 16–64 years
Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 134 Long-term unemployment, 16–64 years
Per cent of labour force, seasonally adjusted quarterly values

Sources: Statistics Sweden and NIER.

tives and demographic developments have served to increase the supply of labour, while at the same time the slump in the economy has eroded demand for labour.[62] Taken together, the outcome has been higher unemployment and so an increased risk of more people being out of work for more than six months.

The present analysis examines long-term unemployment in Sweden between 1987 and the first half of 2014. It looks first at long-term unemployment as a share of the labour force, both as a whole and broken down by age, origin, education and gender.

This is followed by an exploration of long-term unemployment as a share of total unemployment to shed light on whether the duration of unemployment has changed over time in the various groups analysed. The analysis is based on the official labour market statistics from Statistics Sweden published in the Labour Force Survey (LFS), and focuses chiefly on the 16–64 age group.[63]

MOVEMENTS IN LONG-TERM UNEMPLOYMENT OVER TIME

Since the financial crisis erupted in autumn 2008, unemployment has risen by 2.2 percentage points, from 5.9 per cent of the labour force in the second quarter of 2008 to 8.1 per cent in the second quarter of 2014 (see Diagram 133). Over the same period, long-term unemployment has increased by 1 percentage point, from 1.6 per cent to 2.6 per cent of the labour force. The present rate of long-term unemployment is therefore close to the historical average since 1987 of 2.5 per cent (see Diagram 134).[64]

Although the levels measured historically are associated with some uncertainty,[65] the number of long-term jobless as a per-

[62] See also the special analysis "Labour market participation has increased" in *The Swedish Economy*, March 2014.

[63] Since 2001, statistics have been reported for the population aged 15-74. Before that, information was collected only for those aged 16-64. To follow trends over time, therefore, the main focus of the present analysis is on unemployment among those aged 16-64. Some breakdowns of the statistics are only available for the 15-74 age group, however. As a rule, the different age ranges do not affect the description of unemployment, as the contribution from those aged 15 and 65-74 is only marginal.

[64] The 1980s and 1990s can be excluded so that average unemployment is measured since 1999 instead. This reduces the average level of long-term unemployment only slightly from 2.5 to 2.4 per cent of the labour force, and means that the level of long-term unemployment in the second quarter of 2014 was still close to the average for the period since 1999.

[65] Major changes were made to the LFS in 2005, but the previous data have been adjusted by Statistics Sweden to allow comparison. Adjustments of this kind introduce more uncertainty than standard statistical uncertainty – see the special analysis "Changeover in LFS Complicates Interpretation of the Labour Market Situation" in *The Swedish Economy*, August 2005. In addition, there is particular uncertainty about the length of periods of unemployment, as information is unavailable for the period from April 2005 to January 2006 due to collection problems, which has been addressed by means of imputation.

centage of the labour force is currently only slightly above the historical average whether measured since 1987 or since 1999.

DIFFERENCES IN LONG-TERM UNEMPLOYMENT BETWEEN GROUPS

The following breaks down unemployment of different durations by age, origin, education and gender. Unemployment in each group has been calculated as the number of jobless in that group as a percentage of the labour force in that group, and then divided into short-term and long-term.

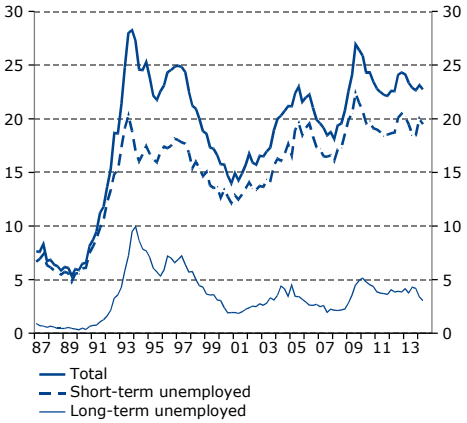
Young people out of work for relatively short periods

In 2013, average long-term unemployment was highest in the youngest age group (16−24), where 23.3 per cent of the labour force was out of work (see Table 17). This breaks down into long-term unemployment of 4.1 per cent and short-term unemployment of 19.2 per cent, which means that short-term unemployment was by far the more common category of unemployment in this age group.

Youth unemployment has been on the increase for a long time (see Diagram 135). One contributing factor is an increase in the proportion of full-time students among the jobless in this age group.[66] This has coincided with the expansion of further and higher education. Entry into the labour market may also have become more difficult in recent years. Studying is a way for full-time students to support themselves, giving them a reason to remain students while seeking work.[67] The growing share of students among the young unemployed should also mean that fewer go on to become long-term jobless, because they can abandon the hunt for work and return to full-time studies. Despite the relatively high overall level of youth unemployment, long-term unemployment in this age group is well below the levels of the 1990s (see Diagram 3). This means that the increase in youth unemployment is due mainly to an increase in short spells without work.

Diagram 135 Unemployment for short-term and long-term unemployed, 16–24 years

Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

[66] See the special analysis "Arbetslöshet bland unga" [Youth Unemployment] in *The Swedish Economy*, June 2012.

[67] One further explanation may be that the definition of unemployment means that "looking at vacancies" is sufficient to count as actively seeking work. Now that the availability of job advertisements has increased, the level of unemployment recorded may therefore also have increased.

Table 17 Unemployment 2013

Per cent of labour force, 16–64 years

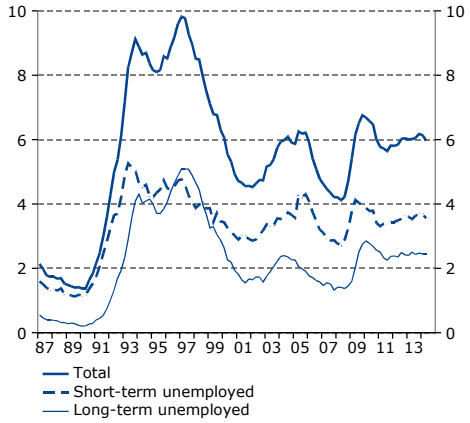
Group	Unemployed[1]	Unemployed 1–26 weeks[1]	Unemployed 27– weeks[1]
16–24 years[2]	23.3	19.2	4.1
25–54 years	6.1	3.6	2.5
55–64 years	5.1	2.4	2.7
Born in Sweden	6.2	4.5	1.7
Men	6.3	4.4	1.8
Women	6.0	4.5	1.5
Born abroad	16.0	8.9	7.1
Men	16.5	8.8	7.8
Women	15.5	9.0	6.4
Women	7.7	5.3	2.4
Men	8.1	5.2	2.9
Total 16–64 years[2]	**7.9**	**5.2**	**2.6**

[1] Per cent of labour force, adjusted for partial non-response regarding unemployment duration. [2] Data for the age groups 15–24 and 15–74 are almost identical to those for age groups 16–24 and 16–64 respectively, since relatively few aged 15 and 65–74 are defined as unemployed. See also note 63 on page 78.

Sources: Statistics Sweden and NIER.

Diagram 136 Unemployment for short-term and long-term unemployed, 25–54 years

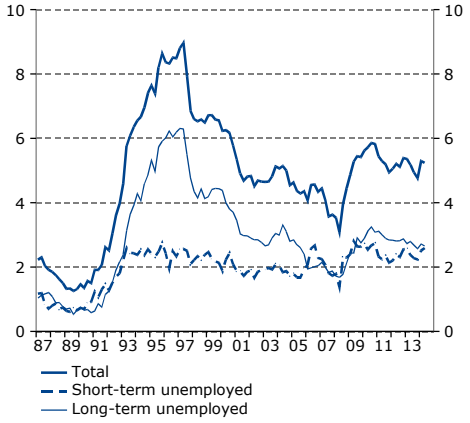
Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 137 Unemployment for short-term and long-term unemployed, 55–64 years

Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

In the 25–54 age group, long-term and short-term unemployment have moved together (see Diagram 136). Increases in unemployment as a whole have brought increases in both short-term and long-term unemployment, which means that a larger number of short-term jobless in this group leads to more people becoming long-term jobless. There is thus a risk of the newly unemployed squeezing out those who have been out of work for longer when vacancies are filled.[68]

In the oldest age group (55–64), the situation is largely the reverse of that in the youngest group. Here, long-term unemployment has largely followed overall unemployment, while short-term joblessness has held around 2 per cent since the early 1990s (see Diagram 137). This means that an increase in overall unemployment in this group largely translates into a corresponding increase in long-term joblessness. Those aged 55–64 therefore have a smaller chance of finding work within six months than the younger age groups.

[68] See footnote 61 on page 77.

Those with further/higher education least affected by the financial crisis

There are also major variations between groups with different levels of education. Long-term unemployment is most common among those with only compulsory education, and lower for those with further and higher education (see Table 18).

Table 18 Unemployment and level of education 2013

Per cent of labour force, 15–74 years

Highest level of education attained	Unemployed[1]	Unemployed 1–26 weeks[1]	Unemployed 27– weeks[1]
Compulsory education	20.0	14.2	5.8
Secondary education	7.7	5.0	2.8
Post-secondary education	4.9	3.3	1.6
Total 15–74 years[2]	**8.0**	**5.4**	**2.6**

[1] Per cent of labour force, adjusted for partial non-response regarding unemployment duration. [2] Data for the age groups 15–24 and 15–74 are almost identical to those for age groups 16–24 and 16–64 respectively, since relatively few aged 15 and 65–74 are defined as unemployed. Se även not 63 på sidan 78.

Sources: Statistics Sweden and NIER.

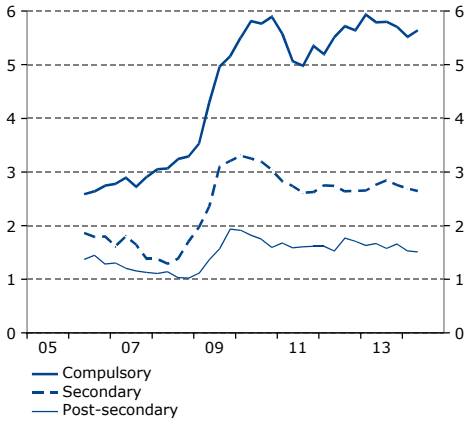
Long-term unemployment among those with only compulsory education increased sharply in early 2009 (see Diagram 138).[69] In this group, long-term unemployment has levelled off since the financial crisis rather than decreased, and it is now significantly higher than in the groups with further and higher education, where it has fallen since the financial crisis. Long-term unemployment among those with further and higher education also rose as a result of the financial crisis, but to a much lesser extent. The number of long-term jobless climbed from around 1 to almost 2 per cent of the labour force in these groups in 2009 before falling back to around 1.5 per cent, which is almost the same level as in 2006.

Higher long-term unemployment among those born abroad

Long-term unemployment among those born abroad has been measured since 2005.[70] In this group, the financial crisis led to an increase in long-term unemployment from just over 4 per cent of the labour force to around 7 per cent (see Diagram 139).

Diagram 138 Long-term uemployment for different educational levels, 15–74 years

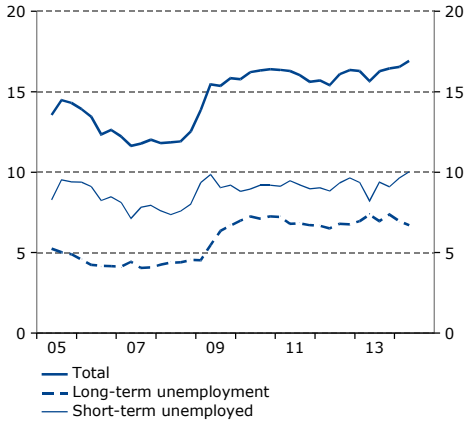
Per cent of labour force, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Diagram 139 Unemployment for persons born abroad, 15–74 years

Per cent of labour force, seasonally adjusted quarterly values



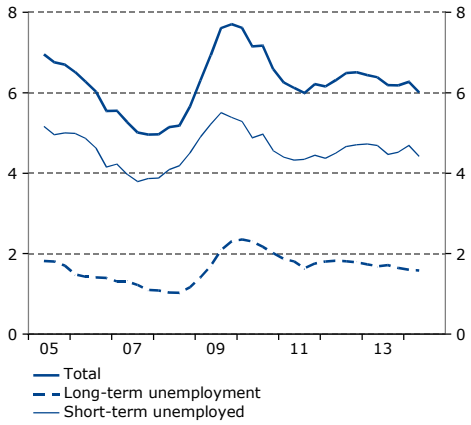
Sources: Statistics Sweden and NIER.

[69] The long-term unemployed as a percentage of the labour force can only be broken down by education from 2006 onwards.

[70] Before 2005, foreign origin was recorded only for the unemployed, and not for the population as a whole, the labour force or the employed. This means that unemployment as a percentage of the population or the labour force cannot be calculated using the data available from Statistics Sweden.

Diagram 140 Unemployment for persons born in Sweden, 15–74 years

Per cent of labour force, seasonally adjusted quarterly values



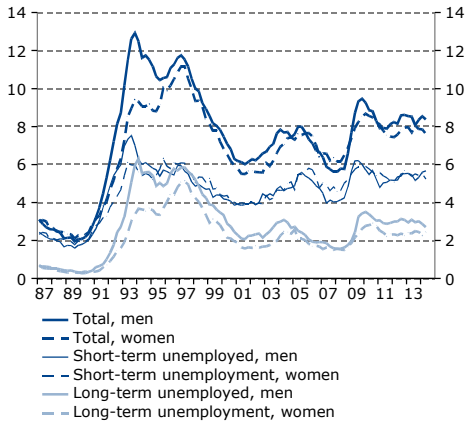
Sources: Statistics Sweden and NIER.

Among those born in Sweden, both short-term and long-term unemployment have fallen back to levels close to those before the financial crisis (see Diagram 140). One reason why long-term unemployment has persisted among those born abroad is that the chances of finding work as an immigrant are lower than for native Swedes.[71] This means that those born abroad remain out of work for longer after an economic downturn than those born in Sweden.

Besides these more structural explanations for higher long-term unemployment in the foreign-born population, cyclical factors and economic policy initiatives have widened the gap between the two groups over the past five years. Despite weak demand in the economy, the supply of labour has increased in both groups as a result of various policy initiatives. The supply of foreign-born labour has risen following the introduction of the Integration Initiative in December 2010. As a result of this change, refugees, other persons in need of protection and family members coming to Sweden are registered with the employment service as jobless as soon as they receive a residence permit. The labour supply has also increased in the population in general, partly because income from employment has risen faster than social insurance replacement rates, and those on disability benefits who are deemed fit to work are being referred back to the employment service. An increase in the labour supply provides a basis for higher employment in the longer term.[72] In the short term, however, growth in the labour force may lead to more people competing for the same jobs. As those born abroad initially find life harder in the labour market, the combination of these reforms and the economic downturn may have contributed to a temporary increase in long-term unemployment in this group.

Diagram 141 Unemployment for men and women

Per cent of labour force, age 16–64, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

More men than women long-term unemployed

There are also some differences, albeit small ones, between men and women in terms of both overall and long-term unemployment (see Diagram 141). Joblessness is higher among men than among women, especially long-term joblessness. The lower overall level of unemployment among women in the current economic downturn can be explained by more women working

[71] An Arab name on an otherwise identical job application reduces the chances of being called to interview by almost 80 per cent compared with an ethnic Swedish name. See Carlsson, M. and D-O. Rooth, "Evidence of ethnic discrimination in the Swedish labor market using experimental data", *Labour Economics* 14, 2007, pp. 716-729.

[72] See chapter 5, "Equilibrium unemployment and its explanatory factors" in *Report on Wage Formation in Sweden*, Swedish National Institute of Economic Research, 2013.

in the public sector where the risk of losing one's job is lower than in the private sector. Given that long-term unemployment is more prevalent among those born abroad than among those born in Sweden, it will also be more common among men, as labour market participation rates are higher among foreign-born men than among foreign-born women. The gender differences in long-term unemployment may also be due to women exiting the labour force earlier on average than men – for example, women are more likely to study than men.

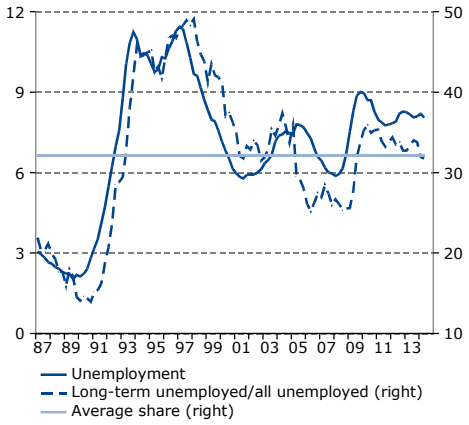
LONG-TERM UNEMPLOYMENT'S SHARE OF TOTAL UNEMPLOYMENT

Given that long-term unemployment is harder to escape than short-term unemployment, it is important to investigate how the risk of becoming long-term jobless has changed over time. This is particularly relevant given the high levels of unemployment since 2008. Unemployment is broken down here by age and origin.[73]

High unemployment has historically coincided with the long-term jobless accounting for a large proportion of the total number out of work (see Diagram 142). Over the past decade, however, this relationship has weakened. The change has become more marked since the financial crisis, with the long-term unemployed's share of the total number of unemployed falling despite high unemployment. In the first two quarters of 2014, long-term unemployment as a share of total unemployment was around the historical average, which means that recent years' high unemployment has featured a higher proportion of people out of work for short periods than is normal for that level of unemployment.

Diagram 142 Long-ter unemployment share, 16–64 years

Per cent of labour force and per cent of all unemployed, respsctively, seasonally adjusted quarterly values



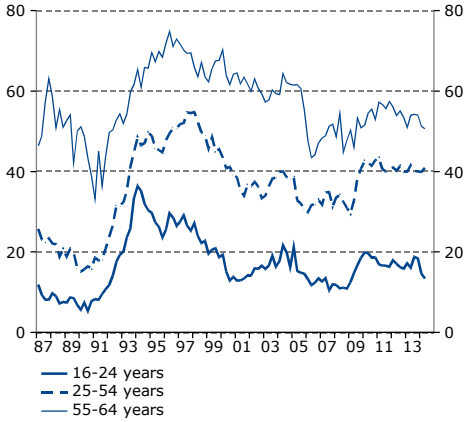
Sources: Statistics Sweden and NIER.

Age differences in long-term unemployment share

As mentioned earlier, both long-term and short-term unemployment as a percentage of the labour force is higher among young people than among older people (see Table 17). The risk of short-term joblessness becoming long-term joblessness, however, is lower among the young than in the other age groups (see Diagram 143). The fact that the under-25s now account for a larger share of unemployment than before may be one reason for recent years' decline in the long-term unemployed's share of overall unemployment. In the period since the financial crisis,

Diagram 143 Long-term unemployment share for different age groups

Per cent of all unemployed in the relevant age group, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

[73] No breakdown by education or gender is performed here. The diagrams above show that the differences in the risk of unemployment becoming long-term associated with education and gender are relatively limited and have not changed notably during the period studied.

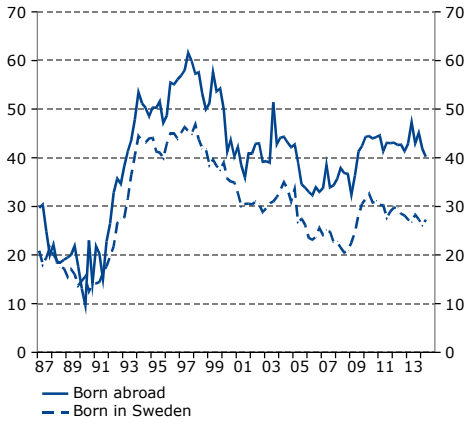
just under 20 per cent of young people out of work have been long-term jobless, which is lower than in the economic downturns of the 1990s and early 2000s. During the sharp recession of the 1990s crisis, the risk of unemployment turning into long-term unemployment was much higher than it is today, with more than 30 per cent of the jobless in this age group becoming long-term jobless. Even during the milder economic downturn at the start of the new millennium, the risk of young people becoming long-term unemployed was somewhat higher than it is today.

In the 25–54 age group, 40 per cent of the jobless are currently long-term jobless. Comparing the situation over the past five years with the economic downturns of the 1990s and the early 2000s indicates that the financial crisis hit this group harder in terms of long periods of unemployment.

In the 55–64 age group, almost half of the unemployed in recent years have been out of work for more than six months. However, the risk of long-term unemployment among the jobless in this group is lower than it was a decade ago, and lower than it was in the 1990s, and has only been lower during the economic boom of 2005–2007 and the years around 1990 (see Diagram 143). It should be noted, however, that this does not necessarily mean that the over-55s are returning to work more quickly today than before. A decrease in long-term unemployment's share of total unemployment means only that more of these people stop seeking work within 27 weeks. This may be because they have left the labour force. At the same time, it should be stressed that the number of people transferring from unemployment to early retirement and disability pensions has decreased. There is therefore reason to believe that people in this age group are indeed finding work again more quickly than 5–10 years ago.

Diagram 144 Long-term unemployment share for persons born abroad and persons born in Sweden, 16–64 years

Per cent of all unemployed in the relevant group, seasonally adjusted quarterly values



Sources: Statistics Sweden and NIER.

Differences in long-term unemployment between those born in Sweden and abroad

The risk of unemployment becoming long-term has been greater among the foreign-born population than among the Swedish-born population more or less throughout the period from 1987 to 2014 (see Diagram 144). The long-term unemployed's share of total unemployment has followed the same trend in both groups, both before and after the financial crisis. The long-term jobless accounted for 42 per cent of unemployment among those born abroad on average from the second quarter of 2008 to the second quarter of 2014, while the equivalent figure for those born in Sweden was 28 per cent.

CLOSING REMARKS

Long-term joblessness in Sweden has been relatively stable around 2.5 per cent of the labour force since the late 1990s. The relatively high overall level of unemployment currently seen in Sweden is due largely to an increase in short periods without work, especially among the young.

Long-term unemployment has been slightly above the historical average since the financial crisis, but the increase has not been dramatic. Despite the persistent economic slump since the financial crisis began in 2008, the number of long-term jobless as a percentage of the total number of jobless has fallen since 2009 and is currently lower than during the economic downturns of the 1990s and the early 2000s. This means that fewer people have become long-term unemployed in the recent recession than during the two previous ones.

The breakdown by demographics and education reveals other patterns. Long-term unemployment as a percentage of the labour force among those with only compulsory education and those born abroad has increased since the mid-2000s.

SPECIAL ANALYSIS

Inflation expectations by gender, age and education

Households' inflation expectations for the coming year are published monthly in the NIER's Economic Tendency Survey. The following looks at households' forecasting performance, both as a whole and for various sub-groups. The analysis reveals that all of the groups studied have systematically overestimated future inflation. Households' forecast accuracy is also only moderate: a strategy where the forecast on each occasion is equal to the inflation target is associated with greater forecast accuracy during the period than any of the groups analysed.

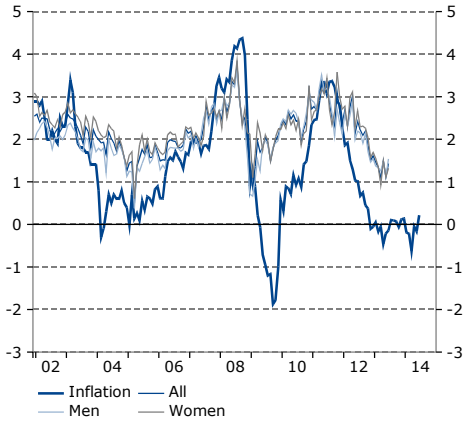
HOUSEHOLDS' INFLATION EXPECTATIONS IN THE ECONOMIC TENDENCY SURVEY

Each month the NIER publishes its Economic Tendency Survey, which presents the results of Sweden's most extensive survey of how households and firms view both their own finances and the Swedish economy as a whole. One of the questions asked each month of those selected to represent each household is what inflation will be in 12 months' time.[74] The following analysis looks at households' forecasting performance, both as a whole and broken down by gender, age and education.[75]

The analysis spans inflation expectations collected for the period from December 2001 to June 2013 (see Diagrams 145–148).[76, 77] Besides households' expectations, two very simple

Diagram 145 Inflation and inflation expectations, one year horizon, for men and women

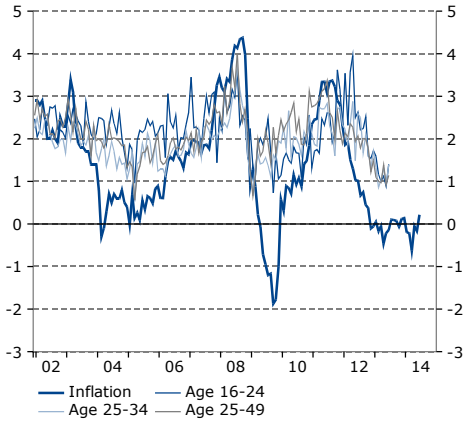
Per cent, monthly values



Sources: Statistics Sweden and NIER.

Diagram 146 Inflation and inflation expectations, one year horizon, for different age groups

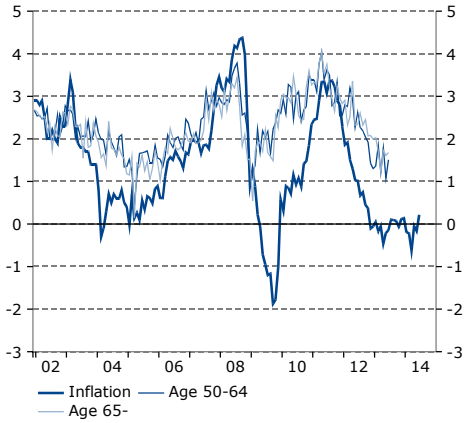
Per cent, monthly values



Sources: Statistics Sweden and NIER.

Diagram 147 Inflation and inflation expectations, one year horizon, for different age groups

Per cent, monthly values



Sources: Statistics Sweden and NIER.

[74] More precisely, the question is formulated as follows: "By how many per cent do you think prices will rise/fall (in other words, what the rate of inflation/deflation will be) over the next 12 months?"

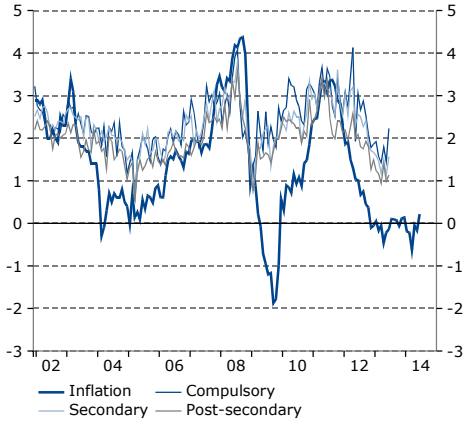
[75] The responses to all questions in the consumer side of the Economic Tendency Survey are broken down into a number of different groups. The data can be downloaded from statistik.konj.se.

[76] Households' inflation expectations began to be measured in the late 1970s, but there are a number of advantages of restricting the analysis to the period from December 2001 to June 2013. First, all of the observations then date from the current monetary policy regime with an inflation target, which can be considered firmly established by December 2001. This means that there are no structural breaks where the formation of expectations varies with the monetary policy regime. Second, the method used to collect households' inflation expectations has changed somewhat over time. GfK Sweden AB took over the collection of data from Statistics Sweden in 2001, and the first observation based on GfK Sweden AB's data was in December 2001. (Since October 2009, the survey has been conducted by CMA Research AB. As CMA Research AB uses similar methods to GfK Sweden AB, the NIER does not believe that the change of research firm in itself has impacted on the time series.) For more detail on the methodology, see the "User Guide to the Economic Tendency Survey", which can be downloaded from www.konj.se.

[77] The series for actual CPI inflation (see Diagram 145) consisted until December 2004 of the rate calculated by Statistics Sweden using the "old method", i.e. the change in prices for an unchanged basket of goods. This series can be downloaded from www.statistikdatabasen.scb.se. From January 2005 to June 2014, CPI inflation is the annual percentage change in the CPI.

Diagram 148 Inflation and inflation expectations, one year horizon, for different educational levels

Per cent, monthly values



Sources: Statistics Sweden and NIER.

alternative forecasting methods are evaluated. The first is a naive forecast, where the inflation forecast on each occasion is the same as the current rate of inflation. The second is where inflation in a year's time is assumed to be in line with the inflation target, or 2 per cent. The reason for including these alternative forecasts is to provide a benchmark for assessing how good households' expectations are.

ALL GROUPS HAVE OVERESTIMATED INFLATION

Two aspects of forecasting performance have been examined. The first is whether expectations are biased, i.e. whether there is any systematic over/underestimation. This is done by studying average forecast error, or mean error.[78] Table 19 shows that the forecasts from all groups/methods have a negative mean error. This means that all the forecasts are associated with overestimation of inflation. Four sub-groups have a mean error below −1: women, the 50−64 age group, those with compulsory education, and those with further education. In all of these groups, the overestimation of inflation is statistically significant (at the 5 per cent level).[79] Only in the case of the naive forecast, where the mean error is closest to zero, can the null hypothesis of no bias not be rejected.

MODERATE FORECAST ACCURACY

The other aspect of forecasting performance studied is forecast accuracy. This has been assessed using root mean square error (RMSE).[80] The lower the RMSE of a forecast, the higher the forecast accuracy.

Table 19 shows that the group with the highest accuracy is those with higher education, followed by the 25−34 age group and men. The difference between these three groups is marginal, however, and not statistically significant.[81]

---

[78] The forecast error $e_{t+12|t}$ is defined here as the actual value less the forecast value, i.e. $e_{t+12|t} = \pi_{t+12} - \pi_{t+12|t}$. The mean error (ME) is given by the equation $ME = (1/n)\sum_{i=0}^{n-1} e_{t+12+i|t+i}$.

[79] Statistical significance has been tested by estimating an equation for each group/method where the forecast error is explained only by a constant. The null hypothesis of unbiased forecasts can be rejected if the absolute value of the t-statistic for the constant is sufficiently high. Robust standard errors – or Newey-West standard errors – have been used in the calculations to handle the serial correlation that arises by definition in this analysis.

[80] The root mean square error is given by the equation

$$RMSE = \sqrt{(1/n)\sum_{i=0}^{n-1}\left(e_{t+12+i|t+i}\right)^2}.$$

[81] Pairwise Diebold-Mariano test statistics cannot reject the null hypothesis of equal forecast accuracy at reasonable significance levels. See Diebold, F.X. and R.S. Mariano, "Comparing predictive accuracy", *Journal of Business and Economics Statistics* 13, 1995, pp. 253-263, for a detailed description of the test.

The lowest forecast accuracy among the groups in the Economic Tendency Survey is for those with compulsory education, followed by women, the 16–24 and 50–64 age groups, and those with further education. These groups' forecast accuracy is also significantly lower than for the group with higher education.[82]

The highest forecast accuracy of all, however, is achieved by the method where inflation one year ahead is assumed to be in line with the inflation target.

Table 19 Mean errors and root mean square errors for household inflation expectations December 2001–February 2013

	Mean error	RMSE
Total	–0.90	1.67
Women	–1.01	1.76
Men	–0.79	1.60
16–24	–0.93	1.76
25–34	–0.64	1.58
35–49	–0.85	1.65
50–64	–1.05	1.76
65–	–0.99	1.73
Compulsory	–1.13	1.81
Secondary	–1.03	1.76
Post-secondary	–0.70	1.56
Naive	–0.23	1.98
Target	–0.74	1.52

Note. "RMSE" denotes the root mean square error."Naive" denotes a forecast based on actual inflation at the time of the forecast. "Target" denotes a forecast at all times equal to the Riksbank's target of 2 per cent.

Sources: Statistics Sweden and NIER.

THE CAUSES OF THE DIFFERENCES BETWEEN GROUPS HAVE NOT BEEN ANALYSED

The analysis above reveals statistically significant differences in forecast accuracy between the various groups. It should, however, be borne in mind that the differences between groups that emerge here may be due to factors other than those used to form these groups. If, for example, women on average have a lower level of education than men, and education is a factor that impacts on forecast accuracy, a difference observed between

[82] Here, too, pairwise Diebold-Mariano test statistics have been used.

men and women could be due to differences in education rather than gender.[83] Although it might be interesting from a number of angles to know how and why expectations differ, this has not been explored further here. From a forecasting perspective, it is most interesting to know the characteristics of the groups actually reported in the Economic Tendency Survey, as these are, after all, the ones available to analysts and forecasters.[84]

GENERAL SHORTCOMINGS IN HOUSEHOLDS' INFLATION EXPECTATIONS

In summary, it has been found that households' inflation expectations in the Economic Tendency Survey appear to have some shortcomings. Although those with higher education and those in the 25−34 age group seem to have both the lowest systematic error in their forecasts and the highest forecast accuracy (when it comes to the expectations in the Economic Tendency Survey analysed here), it is also the case that these groups' expectations are not unbiased, and that their forecast accuracy is lower than can be achieved using the simplistic method of assuming that the inflation target will always be met one year ahead. The fact that these forecasts have shortcomings from a forecasting perspective does not mean that they lack value when analysing the Swedish economy, but it may be useful for those using these forecasts as a basis for analysis to be aware of their characteristics.

---

[83] Research in the field indicates that there are differences in inflation forecasts due to factors such as an individual's age, gender, education and income. A number of explanations have been proposed for these differences, such as different consumption patterns in different groups, but this explanation is not universally accepted. For examples of empirical studies and further discussion in this area, see, for example, Jonung, L. (1981), "Perceived and Expected Rates of Inflation in Sweden," *American Economic Review* 71, pp. 961-968, and Bryan, M.F. and G. Venkatu, "The Curiously Different Inflation Perspectives of Men and Women", *Federal Reserve Bank of Cleveland Economic Commentary*, November 2001.

[84] Nor does the present analysis consider the issue of the implications for the economy as a whole (e.g. when it comes to wage formation or household consumption) that these documented characteristics of households' inflation expectations might have.

Statistical appendix

Data on additional variables and longer time series can be found at www.konj.se/statistics.

CONTENTS

International developments 92
Table A1 Oil price 92
Table A2 Selected indicators for the euro area 92
Table A3 Selected indicators for the US 93
The Swedish economy 94
Table A4 GDP by expenditure 94
Table A5 Household income 95
Table A6 Household consumption expenditure 95
Table A7 Stockbuilding 96
Table A8 Current account 96
Table A9 GNI 96
Table A10 Production 97
Table A11 Hours worked 97
Table A12 Productivity 97
Table A13 Resource utilisaton 98
Table A14 Hourly earnings according to short-term earnings statistics 98
Table A15 Supply and use prices 99
Table A16 Business sector prices, costs and profits 99
Macroeconomic scenario and economic policy through to 2018 100
Table A17 Potential GDP, employment and productivity 100
Table A18 GDP by expenditure 100
Table A19 Interest rates and exchange rates 100
Public finances 2014−2018 101
Table A20 Central government budget balance and debt 101
Table A21 Transfers to households 101
Table A22 Income pension recalculation 101
Table A23 Central government expenditure ceiling 102
Table A24 Cyclically-adjusted net lending with different fiscal policy forecasts 102
Table A25 Surplus target indicators 102
Table A26 General government finances 103

International developments

Table A1 Oil price

Dollar per barrel, annual average

	2008	2009	2010	2011	2012	2013	2014	2015
Crude oil (Brent)	98.5	62.3	80.2	110.9	111.8	108.8	107.2	105.3

Note. A barrel is 159 litres. Brent refers to North Sea oil.

Sources: Intercontinental Exchange and NIER.

Table A2 Selected indicators for the euro area

EUR billion, current prices, and percentage change, constant prices, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Household consumption expenditure	5 396	–0.9	1.0	0.3	–1.4	–0.6	0.7	1.3
General government consumption expenditure	2 038	2.6	0.6	–0.1	–0.6	0.2	0.8	0.5
Gross fixed capital formation	1 670	–12.5	–0.5	1.6	–3.7	–2.8	1.3	2.7
Stockbuilding[1]	5	–1.4	1.0	0.5	–0.7	0.0	0.2	0.0
Exports	4 274	–12.2	11.3	6.5	2.6	1.4	2.8	4.4
Imports	3 949	–10.6	9.7	4.5	–0.9	0.4	3.2	4.3
GDP	**9 435**	**–4.4**	**1.9**	**1.6**	**–0.6**	**–0.4**	**0.9**	**1.6**
HICP[2]		0.3	1.6	2.7	2.5	1.4	0.6	1.1
Unemployment[3]		9.5	10.0	10.0	11.3	11.9	11.6	11.3
Policy rate[4]		1.00	1.00	1.00	0.75	0.25	0.15	0.15
Interest rate, 10-year government bond[5]		3.3	2.8	2.6	1.6	1.6	1.4	1.6
Dollar per euro[6]		1.39	1.33	1.39	1.29	1.33	1.36	1.32

[1] Change in per cent of GDP previous year. [2] Percentage change. [3] Per cent of labour force. [4] Refi rate level, per cent, at year-end. [5] Level, per cent, Germany. [6] Level.

Note. Euro area denotes euro 12, representing just over 98 per cent of the total euro area economy.

Sources: ECB, Eurostat and NIER.

Table A3 Selected indicators for the US

USD billion, current prices, and percentage change, constant prices, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Household consumption expenditure	11 484	–1.6	1.9	2.3	1.8	2.4	2.4	2.7
General government consumption expenditure	2 548	3.8	0.1	–2.7	–0.6	–1.3	0.0	0.3
Gross fixed capital formation	3 170	–13.0	1.1	3.7	5.4	2.8	3.8	7.0
Stockbuilding[1]	74	–0.8	1.4	–0.1	0.1	0.0	0.0	0.0
Exports	2 262	–8.8	11.9	6.9	3.3	3.0	3.3	6.5
Imports	2 770	–13.7	12.7	5.5	2.3	1.1	4.6	6.3
GDP	**16 768**	**–2.8**	**2.5**	**1.6**	**2.3**	**2.2**	**2.1**	**3.1**
CPI[2]		–0.4	1.6	3.2	2.1	1.5	1.9	2.0
Unemployment[3]		9.3	9.6	8.9	8.1	7.4	6.3	5.9
Policy rate[4]		0.3	0.25	0.25	0.25	0.25	0.25	1.00
Interest rate, 10-year government bond[5]		3.3	3.2	2.8	1.8	2.4	2.6	3.0
Dollar per euro[6]		1.39	1.33	1.39	1.29	1.33	1.36	1.32

[1] Change in per cent of GDP previous year. [2] Percentage change. [3] Per cent of labour force. [4] Fed funds target rate level, per cent, at year-end. [5] Level, per cent. [6] Level.

Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve and NIER.

The Swedish economy

Table A4 GDP by expenditure

SEK billion, current prices, and percentage change, constant prices, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Household consumption expenditure	1 765	–0.3	4.0	1.7	1.6	2.0	2.5	2.4
General government consumption expenditure	998	2.2	2.1	0.8	0.3	2.0	1.2	1.7
Central government consumption expenditure	273	2.2	5.4	0.6	0.9	3.6	0.9	0.4
Local government consumption expenditure	725	2.1	0.9	0.9	0.1	1.3	1.3	2.2
Gross fixed capital formation	668	–15.5	7.2	8.2	3.3	–1.1	4.3	7.3
Business sector	556	–18.5	7.5	10.1	3.2	–0.7	4.0	8.2
Industry	87	–26.3	2.7	17.1	8.3	–4.4	–4.3	7.3
Other goods producers	101	–13.4	6.0	0.0	16.1	–4.7	1.0	12.9
Services producers[1]	245	–16.6	7.8	10.7	3.4	–0.9	–0.4	6.0
Housing	122	–19.1	15.7	10.4	–11.2	6.3	21.2	9.3
General government	112	1.4	5.4	–0.7	4.0	–3.2	5.5	3.1
Final domestic expenditure	*3 432*	*–2.9*	*4.0*	*2.7*	*1.6*	*1.4*	*2.5*	*3.2*
Stockbuilding[2]	2	–1.6	2.2	0.5	–1.2	0.2	0.1	0.0
Total domestic expenditure	*3 434*	*–4.6*	*6.5*	*3.2*	*0.3*	*1.6*	*2.6*	*3.2*
Exports	1 668	–13.8	11.4	6.1	0.7	–0.4	2.7	5.2
Exports of goods	1 117	–18.4	15.0	8.6	–0.8	–2.8	2.2	5.4
Processed goods	864	–21.1	16.9	10.5	–4.4	–1.3	0.8	5.5
Crude materials	253	–7.2	7.1	1.5	12.3	–7.4	6.9	4.9
Exports of services	551	–2.8	3.9	0.4	4.4	4.8	3.8	4.8
Total uses	*5 102*	*–8.0*	*8.2*	*4.2*	*0.5*	*0.9*	*2.6*	*3.9*
Imports	1 461	–14.3	12.0	7.1	–0.6	–0.8	4.7	5.7
Imports of goods	1 036	–16.6	16.5	8.4	–2.1	–2.3	3.8	5.9
Processed goods	731	–18.6	20.1	11.7	–4.3	–1.0	3.4	6.0
Crude materials	306	–11.5	6.6	–0.1	3.5	–5.3	4.7	5.6
Imports of services	425	–7.8	1.2	3.5	3.8	3.1	6.7	5.3
Net exports[2]	*207*	*–0.7*	*0.5*	*–0.1*	*0.6*	*0.2*	*–0.6*	*0.1*
GDP	**3 641**	**–5.0**	**6.6**	**2.9**	**0.9**	**1.6**	**1.8**	**3.1**

[1] Excl. housing, vessels and aircraft. The excluded components are included in the business sector total, however. [2] Change in per cent of GDP previous year.

Sources: Statistics Sweden and NIER.

Table A5 Household income

SEK billion, current prices, and percentage change, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Total earnings, adjusted for external transactions	1 515	0.1	3.1	5.6	3.8	2.7	4.3	4.2
Hourly earnings (national accounts)		2.9	1.1	3.2	2.8	2.2	2.7	2.9
Hours worked[1,2]		–2.8	2.0	2.4	0.9	0.6	1.5	1.3
Transfers from general government. net	574	7.4	0.5	–0.9	4.5	4.5	1.1	2.1
Property income. net	148	21.9	–3.0	4.3	13.7	6.6	4.1	4.8
Other income. net	115	–21.3	21.4	7.6	–0.9	8.5	3.8	7.3
Income before taxes[3]	**2 353**	**1.9**	**2.8**	**4.0**	**4.3**	**3.7**	**3.5**	**3.9**
Direct taxes (contribution)	473	2.2	0.3	1.0	0.4	–0.4	0.3	–0.3
Disposable income	**1 880**	**4.1**	**3.1**	**5.0**	**4.7**	**3.3**	**3.8**	**3.5**
Consumer prices[4]		2.1	1.5	1.7	1.2	0.7	0.9	1.5
Real disposable income	**1 880**	**2.0**	**1.6**	**3.3**	**3.5**	**2.6**	**2.8**	**2.0**
per capita[5]	196	1.1	0.7	2.5	2.7	1.7	1.8	0.9

[1] Calendar adjusted. [2] For employees. [3] Growth in income before taxes is calculated as a weighted sum of the earnings sum, transfers, capital income and other income. [4] Implicitprisindex för hushållens konsumtionsutgifter. [5] SEK thousand.

Sources: Statistics Sweden and NIER.

Table A6 Household consumption expenditure

SEK billion, current prices, and percentage change, constant prices, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Durables	322	0.1	5.1	1.2	2.6	2.9	5.5	5.0
Cars	49	–14.0	33.1	12.4	–8.0	1.2	13.9	3.2
Non-durables	273	3.0	0.1	1.2	1.6	0.6	2.4	1.0
Fuels	52	–0.8	–4.3	–6.2	–3.6	–4.3	–1.1	–0.4
Services excl. housing	566	0.5	3.6	4.5	1.7	3.0	0.4	1.8
Housing incl. energy	462	1.7	2.5	–1.1	2.1	1.6	1.5	0.7
Consumption abroad	82	–13.8	13.5	7.2	6.6	7.7	15.4	7.5
Minus: Consumption in Sweden by non-residents	96	4.8	–0.9	7.1	3.9	2.8	11.8	0.0
Non-profit institutions	55	–1.5	0.7	0.5	2.9	–0.8	4.5	2.1
Consumption expenditure	**1 765**	**–0.3**	**4.0**	**1.7**	**1.6**	**2.0**	**2.5**	**2.4**
Disposable income	1 880	2.0	1.6	3.3	3.5	2.6	2.8	2.0
Saving[1]	249	11.0	8.3	10.4	12.2	12.3	12.6	12.1
Own saving[1]	115	4.5	2.3	3.8	5.6	6.1	6.4	6.0
Net lending[1]	204	8.6	5.3	7.5	9.8	10.1	10.3	9.5

[1] Saving, SEK billion, current prices, and per cent of disposable income, respectively. Own saving excludes negotiated pension funds and premium pensions. Net lending excludes real saving.

Sources: Statistics Sweden and NIER.

Table A7 Stockbuilding

SEK billion, constant prices, and per cent, respectively

	2008	2009	2010	2011	2012	2013	2014	2015
Industry, inventories of input goods	1.7	–14.7	1.6	6.0	–6.1	–1.3	–1.0	0.0
Industry, inventories of goods in processing and finished goods	–7.0	–16.7	8.6	11.6	–2.8	–1.3	–1.7	0.0
Trade inventories	0.5	–24.7	2.3	10.5	–3.2	–2.4	2.6	0.0
Forest inventories	6.9	9.9	7.5	10.0	12.3	14.1	8.7	8.0
Other inventories[1]	5.8	–3.1	4.3	3.7	–0.4	–6.9	–2.4	0.0
Total changes in inventories	**8.0**	**–49.3**	**24.2**	**41.6**	**–0.3**	**2.1**	**6.2**	**8.0**
Change in stocks[2]	–16.0	–52.6	69.5	17.5	–40.7	6.4	4.1	1.8
Change in stocks,[2] per cent of total demand previous year[3]	–0.4	–1.1	1.6	0.4	–0.8	0.1	0.1	0.0
Change in stocks, per cent of GDP previous year[3]	–0.5	–1.6	2.2	0.5	–1.2	0.2	0.1	0.0

[1] Other inventories mainly consist of fuel inventories in the electricty and gas supply industry and of valuables. [2] The change in stocks is defined as the current year's change in inventories minus the previous year's change in inventories. [3] When inventories increase more (less) in the current year than in the previous year, the change in stocks is positive (negative) and registered as a positive (negative) contribution to GDP growth in the national accounts. The net effect on GDP is typically smaller, however, since inventory changes affect imports as well.

Sources: Statistics Sweden and NIER.

Table A8 Current account

SEK billion, constant prices, and per cent, respectively

	2008	2009	2010	2011	2012	2013	2014	2015
Balance of trade	117	97	86	78	85	81	72	71
Balance of services	99	104	121	116	121	126	115	120
Earnings, net	–2	–2	–2	–2	–2	–3	–3	–3
Kapitalavkastning, netto	109	56	73	77	89	104	107	107
Transfers etc., net	–41	–42	–47	–52	–64	–62	–61	–61
Current account	**283**	**213**	**231**	**216**	**229**	**246**	**231**	**233**
Per cent of GDP	*8.8*	*6.9*	*6.9*	*6.2*	*6.5*	*6.8*	*6.1*	*5.9*
Capital tranfers	–5	–4	–5	–4	–4	–9	–9	–10
Net lending, rest of the world	277	209	226	212	225	237	222	223
Per cent of GDP	*8.7*	*6.7*	*6.8*	*6.1*	*6.3*	*6.5*	*5.9*	*5.7*

Sources: Statistics Sweden and NIER.

Table A9 GNI

SEK billion, current prices, thousands, ratio and annual percentage change, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
GNI	3 744	–4.6	7.8	4.3	2.3	2.8	3.2	4.5
Deflator, domestic use		1.9	1.2	1.7	1.4	1.1	1.4	1.5
Real GNI		**–6.3**	**6.5**	**2.6**	**0.9**	**1.7**	**1.8**	**3.0**
Population	9 599	0.9	0.9	0.8	0.7	0.9	1.0	1.1
Real GNI per capita[1]	**390**	**–7.1**	**5.6**	**1.8**	**0.1**	**0.9**	**0.8**	**1.8**

[1] SEK thousand.

Sources: Statistics Sweden and NIER.

Table A10 Production

SEK billion, current prices, and percentage change, constant prices, respectively, calendar-adjusted values

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Goods producers	823	–14.8	16.7	2.3	0.0	–0.4	1.3	4.1
Of which: Industry	496	–20.8	27.0	3.8	–2.5	–1.6	–0.3	4.6
Construction	172	–6.8	3.6	–1.2	2.1	2.9	6.5	4.8
Service producers	1 683	–2.8	4.0	5.4	2.4	3.0	2.6	3.0
Of which: Trade	358	–2.8	6.0	3.5	1.1	2.4	3.5	3.6
Business services	316	–5.1	8.6	6.1	4.3	3.3	2.4	3.7
Business sector	2 505	–7.1	8.2	4.3	1.6	1.8	2.2	3.4
Government	648	1.3	0.2	–0.5	0.5	0.4	0.8	0.9
GDP at basic prices[1]	**3 199**	**–5.3**	**6.5**	**3.3**	**1.4**	**1.5**	**1.9**	**2.8**
Taxes/subsidies on products	447	–1.9	5.2	0.8	0.8	2.7	2.1	3.2
GDP at market prices	3 646	–4.9	6.3	2.9	1.3	1.6	1.9	2.9

[1] Including production in non-profit institutions serving households.

Note. Production here refers to value added.

Sources: Statistics Sweden and NIER.

Table A11 Hours worked

Hours million and percentage change, respectively, calendar-adjusted values

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Goods producers	1 881	–7.4	1.1	2.5	–1.1	–1.9	–0.6	1.1
Of which: Industry	1 038	–11.6	1.3	1.5	–2.3	–2.9	–1.9	0.0
Construction	538	–2.4	0.8	2.7	0.7	1.0	0.7	3.3
Service producers	3 482	–1.2	4.2	2.7	1.0	1.3	2.5	1.5
Of which: Trade	1 007	–0.6	2.4	2.1	1.5	2.2	3.6	2.0
Business services	752	–3.6	6.1	3.7	2.1	–0.3	0.8	2.0
Business sector	5 364	–3.6	3.0	2.6	0.2	0.1	1.4	1.4
Government	2 021	–0.5	–0.5	0.4	1.6	1.1	1.2	1.0
Total economy[1]	**7 545**	**–2.6**	**2.0**	**2.0**	**0.7**	**0.4**	**1.4**	**1.3**

[1] Including production in non-profit institutions serving households.

Sources: Statistics Sweden and NIER.

Table A12 Productivity

SEK per hour (basic prices) and percentage change, constant prices, respectively, calendar-adjusted values

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Goods producers	437	-8.0	15.4	–0.2	1.1	1.5	1.9	2.9
Of which: Industry	478	–10.4	25.4	2.3	–0.2	1.3	1.6	4.6
Construction	320	–4.6	2.8	–3.7	1.4	2.0	5.7	1.4
Service producers	483	–1.6	–0.2	2.6	1.4	1.7	0.1	1.5
Of which: Trade	356	–2.2	3.5	1.3	–0.4	0.2	–0.2	1.6
Business services	421	–1.6	2.4	2.3	2.1	3.6	1.6	1.7
Business sector	467	–3.6	5.0	1.6	1.4	1.6	0.8	1.9
Government	320	1.8	0.7	–0.9	–1.1	–0.8	–0.3	0.0
Total economy[1]	**424**	**–2.8**	**4.4**	**1.2**	**0.7**	**1.1**	**0.5**	**1.5**

[1] Including production in non-profit institutions serving households.

Sources: Statistics Sweden and NIER.

Table A13 Resource utilisaton

Percentage change, calendar-adjusted values, unless otherwise indicated

	2008	2009	2010	2011	2012	2013	2014	2015
Equilibrium unemployment[1]	6.6	6.6	6.6	6.7	6.7	6.7	6.7	6.6
Actual unemployment[2]	6.2	8.3	8.6	7.8	8.0	8.0	7.9	7.6
Potential hours worked	1.1	1.0	1.3	1.1	0.8	0.9	1.0	1.0
Actual hours worked	0.7	–2.6	2.0	2.0	0.7	0.4	1.4	1.3
Labour market gap[3]	0.7	–2.9	–2.2	–1.3	–1.5	–2.0	–1.6	–1.4
Potential productivity	0.9	0.5	0.9	0.6	0.8	1.3	1.0	1.0
Actual productivity	–1.5	–2.4	4.2	0.9	0.6	1.3	0.6	1.6
Productivity gap[4]	–0.5	–3.5	–0.3	0.0	–0.1	–0.2	–0.6	–0.1
Potential GDP	2.0	1.5	2.2	1.7	1.6	2.2	2.0	2.0
Actual GDP	–0.8	–4.9	6.3	2.9	1.3	1.6	1.9	2.9
Output gap[5]	0.1	–6.3	–2.5	–1.3	–1.6	–2.1	–2.3	–1.5

[1] Level, per cent of potential labour force. [2] Level, per cent of labour force. [3] Difference between actual and potential hours worked, in per cent of potential hours worked. [4] Difference between actual and potential productivity, in per cent of potential productivity. [5] Difference between actual and potential GDP, in per cent of potential GDP.

Sources: Statistics Sweden and NIER.

Table A14 Hourly earnings according to short-term earnings statistics

Per cent and percentage change, respectively

	Weight 2013	2009	2010	2011	2012	2013	2014	2015
Business sector	68.4	3.2	2.5	2.5	3.2	2.4	3.0	3.0
Industry	16.8	3.0	2.8	2.5	3.9	2.2	2.7	2.9
Construction	6.3	3.5	1.9	3.1	2.6	3.1	3.4	3.0
Service sector	45.3	3.2	2.4	2.4	3.0	2.4	3.1	3.0
Local government	25.1	3.9	2.7	2.3	2.7	2.9	3.0	3.0
Central government	6.4	3.9	3.1	1.9	2.1	2.5	2.6	2.7
Total	**100.0**	**3.4**	**2.6**	**2.4**	**3.0**	**2.5**	**3.0**	**2.9**
Nominal hourly earnings		3.4	2.6	2.4	3.0	2.5	3.0	2.9
Real hourly earnings (CPI)[1]		3.9	1.4	–0.5	2.1	2.6	3.0	1.9
Real hourly earnings (CPIF)[2]		1.7	0.6	1.0	2.0	1.7	2.4	1.4

[1] Deflated by the consumer price index (CPI). [2] Deflated by the consumer price index with fixed mortgage rate (CPIF).

Sources: National Mediation Office, Statistics Sweden and NIER.

Table A15 Supply and use prices

Per cent and percentage change, respectively

	Weight 2013	2009	2010	2011	2012	2013	2014	2015
GDP	71.4	2.1	0.8	1.3	1.0	0.9	1.4	1.5
Government[1]	13.6	0.2	1.5	3.8	4.0	3.5	3.0	1.9
Business sector[2]	49.1	2.6	0.5	0.7	0.5	0.4	1.3	1.3
Taxes, net	8.8	2.2	1.7	1.4	–0.3	0.2	–0.2	1.5
Imports	28.6	0.2	0.2	–0.4	–1.0	–2.8	1.7	–0.1
Processed goods	14.3	3.7	–4.5	–3.7	–2.6	–3.8	1.6	–0.6
Crude materials	6.0	–11.9	15.1	9.3	0.2	–3.8	0.6	0.7
Services	8.3	3.3	–0.1	–0.8	1.0	–0.4	2.4	0.2
Supply/use[3]	**100.0**	**1.5**	**0.6**	**0.8**	**0.4**	**–0.2**	**1.5**	**1.0**
General government consumption expenditure	19.6	0.8	1.4	3.0	3.1	2.4	2.3	1.8
Household consumption expenditure	34.6	2.1	1.5	1.7	1.2	0.7	0.9	1.5
Gross fixed capital formation	13.1	3.0	0.5	0.0	0.3	0.3	1.5	0.8
Exports	32.7	0.8	–0.5	–0.9	–1.4	–2.8	1.7	0.0
Processed goods	16.9	4.7	–4.7	–3.3	–1.9	–3.0	2.1	–0.4
Crude materials	5.0	–11.1	16.6	5.1	–3.3	–3.8	0.8	0.8
Services	10.8	–0.1	0.4	0.8	0.3	–1.8	1.4	0.3

[1] Including non-profit institutions serving households. [2] Value added price at base prices. [3] Including stockbuilding.

Sources: Statistics Sweden and NIER.

Table A16 Business sector prices, costs and profits

SEK billion, percentage change, and per cent, respectively

	Level 2013	2009	2010	2011	2012	2013	2014	2015
Value added, constant prices[1]		-7.2	8.5	4.2	1.3	1.8	2.1	3.6
Value added deflator		2.6	0.5	0.7	0.5	0.4	1.3	1.3
Value added. current prices [2]	2 498	–4.8	9.0	4.9	1.7	2.1	3.3	4.9
Hours worked, employees		–4.2	3.9	3.1	–0.3	0.5	1.3	2.0
Labour cost per hour[3]	310	2.7	–0.5	3.4	4.4	2.1	3.1	2.4
Total labour cost[4]	1 524	–1.6	3.3	6.6	4.1	2.5	4.4	4.5
Gross profit	974	–9.6	18.0	2.6	–1.7	1.4	1.6	5.6
Profit share		**38.4**	**41.6**	**40.6**	**39.3**	**39.0**	**38.4**	**38.6**
Adjusted profit share[5]		28.7	33.0	32.2	30.9	30.9	30.4	30.7

[1] Calculated at basic prices. [2] Calculated at factor prices. [3] SEK. [4] Including wage-related other taxes on production for employees. [5] Excluding one and two family houses and secondary homes, adjusted for the number of hours worked by self-employed. egenföretagare.

Sources: Statistics Sweden and NIER.

Macroeconomic scenario and economic policy through to 2018

Table A17 Potential GDP, employment and productivity

Percentage change unless otherwise noted

	2011	2012	2013	2014	2015	2016	2017	2018
Potential GDP	1.7	1.6	2.2	2.0	2.0	2.4	2.4	2.2
Potential hours worked	1.1	0.8	0.9	1.0	1.0	0.9	0.7	0.5
Potential employment	0.9	1.0	1.1	1.0	0.9	0.7	0.6	0.5
Potential productivity	0.6	0.8	1.3	1.0	1.0	1.5	1.7	1.6
Potential productivity, business sector	1.0	1.4	1.8	1.4	1.4	1.9	2.1	2.1

Sources: Statistics Sweden and NIER.

Table A18 GDP by expenditure

Percentage change, constant prices, calendar-adjusted values

	2011	2012	2013	2014	2015	2016	2017	2018
Household consumption expenditure	1.7	1.8	2.0	2.5	2.3	3.0	2.9	2.5
General government consumption expenditure	0.8	0.8	2.0	1.4	1.4	1.6	1.8	1.8
Gross fixed capital formation	8.3	3.8	–1.2	4.4	7.0	6.2	5.1	3.7
Final domestic demand	*2.7*	*1.9*	*1.4*	*2.6*	*3.0*	*3.3*	*3.0*	*2.6*
Stockbuilding[1]	0.5	–1.1	0.0	0.1	0.0	0.0	0.0	0.0
Total domestic demand	*3.2*	*0.6*	*1.6*	*2.7*	*3.0*	*3.3*	*3.0*	*2.6*
Exports	6.1	1.4	–0.4	2.9	4.8	5.3	5.2	4.5
Total demand	*4.2*	*0.9*	*0.9*	*2.8*	*3.6*	*3.9*	*3.7*	*3.2*
Imports	7.2	0.0	–0.8	4.9	5.3	5.9	5.3	4.7
Net exports[1]	*–0.1*	*0.6*	*0.1*	*–0.6*	*0.0*	*0.0*	*0.2*	*0.1*
GDP	**2.9**	**1.3**	**1.6**	**1.9**	**2.9**	**3.1**	**3.1**	**2.5**

[1] Change in per cent of GDP previous year.

Sources: Statistics Sweden and NIER.

Table A19 Interest rates and exchange rates

Per cent, index 18 November 1992 = 100 and SEK per currency unit, respectively

	2011	2012	2013	2014	2015	2016	2017	2018
At year-end								
Repo rate	1.75	1.00	0.75	0.25	0.50	1.00	1.75	2.25
Annual average								
Repo rate	1.8	1.5	1.0	0.5	0.3	0.8	1.3	2.0
5-year government bond rate	2.3	1.1	1.6	1.1	1.4	2.1	2.8	3.4
10-year government bond rate	2.6	1.6	2.1	1.8	2.1	2.7	3.3	3.8
KIX index for the Swedish krona	107.6	106.1	103.0	106.2	105.2	103.0	102.7	102.4
Euro	9.0	8.7	8.7	9.1	8.9	8.7	8.7	8.6
Dollar	6.5	6.8	6.5	6.7	6.7	6.6	6.6	6.5

Sources: The Riksbank and NIER.

Public finances 2014–2018

Table A20 Central government budget balance and debt

SEK billion, and per cent of GDP, respectively

	2011	2012	2013	2014	2015
Central government net lending	**-6.8**	**–32.0**	**–30.4**	**–69.9**	**–45.8**
Accruals	47.2	12.7	–33.8	–18.9	5.3
Delimitations and adjustments	27.4	–5.6	–66.6	10.3	6.6
Budget balance	**67.8**	**–24.9**	**–130.9**	**–78.6**	**–33.8**
Stock-flow adjustment	–30.0	–18.6	13.9	–20.7	14.2
Central government debt, change	–37.8	43.5	117.0	99.3	19.6
Central government debt	**1 075**	**1 119**	**1 236**	**1 335**	**1 355**
Per cent of GDP	*30.9*	*31.5*	*33.9*	*35.5*	*34.4*

Sources: Statistics Sweden, Swedish National Financial Management Authority, Swedish National Debt Office and NIER.

Table A21 Transfers to households

Per cent of BNP

	2011	2012	2013	2014	2015	2016	2017	2018
Pensions[1]	8.2	8.5	8.8	8.5	8.4	8.5	8.5	8.5
Labour market[2]	0.9	0.9	1.0	0.9	0.8	0.8	0.7	0.7
Illness and disability[3]	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9
Family and children[4]	1.8	1.8	1.9	1.8	1.8	1.8	1.8	1.8
Education[5]	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Social assistance	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Others[6]	1.6	1.6	1.7	1.6	1.6	1.6	1.6	1.6
Transfers till households	**15.4**	**15.8**	**16.1**	**15.7**	**15.3**	**15.3**	**15.2**	**15.1**

[1] Income pension, supplementary pension, guaranteed pension, survivor's pension, central government occupational pensions and housing supplement for pensioners. [2] Unemployment benefit, labour market program benefits and salary guarantee. [3] Sickness and rehabilitation benefit, activity and sickness compensation, work injury compensation and disability allowance. [4] Parental benefit, child allowance, care allowance and housing allowance. [5] Student grant and study allowance. [6] Assistance compensation, financial support for asylum seekers and income support for the elderly.

Sources: Statistics Sweden and NIER.

Table A22 Income pension recalculation

Percentage change unless otherwise noted

	2011	2012	2013	2014	2015	2016	2017	2018
Income index[1]	1.9	4.9	3.7	0.5	2.1	3.0	4.1	3.9
Balance index[1]	–2.7	5.2	5.7	–1.1	2.5	6.5	6.3	3.9
Balancing effect[2]	–4.6	0.3	2.1	–1.6	0.4	3.5	2.2	0.0
Balance ratio[3]	0.955	1.002	1.020	0.984	1.004	1.034	1.029	1.013
Nominal income pension[4]	**–4.3**	**3.5**	**4.1**	**–2.7**	**0.9**	**4.8**	**4.6**	**2.2**

[1] NIER's model based calculations for 2015–2018. [2] Balance index minus income index. [3] The balance ratio expresses the pension system's assets in relation its liabilities two years before the current year. [4] Balance index minus 1.6.

Sources: Swedish Pensions Agency and NIER.

Table A23 Central government expenditure ceiling

SEK billion and per cent of GDP, respectively

	2008	2009	2010	2011	2012	2013	2014	2015
Central government expenditure ceiling	**957**	**989**	**1 024**	**1 063**	**1 084**	**1 095**	**1 107**	**1 127**
Per cent of GDP	*29.9*	*31.8*	*30.7*	*30.5*	*30.5*	*30.1*	*29.4*	*28.7*
Expenditure covered by the expenditure ceiling	943	965	986	990	1 022	1 067	1 095	1 119
Per cent of GDP	*29.4*	*31.1*	*29.5*	*28.4*	*28.8*	*29.3*	*29.1*	*28.4*
Budget margin	**14**	**24**	**38**	**74**	**62**	**28**	**12**	**8**
Budgeting margin, unchanged rules	14	24	38	74	62	28	12	14

Sources: Ministry of Finance, Swedish National Financial Management Authority and NIER.

Table A24 Cyclically-adjusted net lending with different fiscal policy forecasts

Per cent of GDP and per cent of potential GDP, respectively

	2014	2015	2016	2017	2018
Net lending	–2.2	–1.3	–0.5	0.5	1.3
Net lending excluding additional policy measures	–2.2	–1.4	–0.8	–0.4	0.2
Cyclically-adjusted net lending	–1.2	–0.7	0.0	0.6	1.2
Cyclically-adjusted net lending excluding additional policy measures	–1.2	–0.7	–0.3	–0.3	–0.1

Source: NIER.

Table A25 Surplus target indicators

Per cent of potential GDP and per cent of GDP, respectively

	2011	2012	2013	2014	2015	2016	2017	2018
Cyclically-adjusted net lending	1.1	0.2	–0.7	–1.2	–0.7	0.0	0.6	1.2
Seven-year indicator	–0.4	–0.9	–0.9	–0.8	–0.6	–0.3	0.0	0.5
Seven-year indicator. cyclically-adjusted	0.7	0.2	0.0	–0.1	–0.1	0.1	0.3	0.7
10-year indicator	0.7	0.7	0.7	0.5	0.2	–0.1	–0.4	–0.5
10-year indicator, cyclically-adjusted	1.0	1.2	1.2	1.0	0.7	0.6	0.4	0.3

Note. The 10-year indicator is a 10-year backward-looking moving average for general government net lending. The seven-year indicator is a centred seven-year mean for general government net lending. Here, the indicators are calculated both based on actual ned lending and based on cyclically-adjusted net lending. All calculations are based on NIER's fiscal policy scenario.

Source: NIER.

Table A26 General government finances

SEK billion, current prices, and per cent of GDP, respectively

	2011	2012	2013	2014	2015	2016	2017	2018
Revenue	**1 730**	**1 760**	**1 820**	**1 825**	**1 914**	**2 032**	**2 167**	**2 295**
Per cent of GDP	*50*	*50*	*50*	*49*	*49*	*49*	*50*	*51*
Taxes and contributions	1 539	1 555	1 612	1 644	1 722	1 832	1 955	2 069
Capital income	74	73	73	60	61	68	75	83
Other revenue	117	132	134	122	131	131	137	143
Expenditure	**1 731**	**1 787**	**1 864**	**1 907**	**1 967**	**2 053**	**2 147**	**2 238**
Per cent of GDP	*49.7*	*50.3*	*51.2*	*50.7*	*50.0*	*49.7*	*49.6*	*49.6*
Transfers to houesholds	537	561	586	590	602	630	658	680
Transfers to corporations	58	59	61	62	64	66	69	71
Transfers to rest of the world	53	54	61	58	60	63	66	69
Consumption	924	956	998	1 034	1 071	1 115	1 165	1 218
Capital formation etc.	114	121	122	128	133	139	145	152
Interest expenditure etc.	45	36	35	35	36	40	44	48
Net lending	**0**	**–26**	**–44**	**–82**	**–52**	**–22**	**20**	**57**
Per cent of GDP	*0.0*	*–0.7*	*–1.2*	*–2.2*	*–1.3*	*–0.5*	*0.5*	*1.3*
Central government	–7	–32	–30	–70	–46	–9	34	66
Old-age pension system	19	9	–7	2	2	–4	–8	–6
Local government	–13	–4	–8	–13	–8	–9	–5	–3
Consolidated gross debt	**1 345**	**1 360**	**1 475**	**1 590**	**1 625**	**1 667**	**1 676**	**1 656**
Per cent of GDP	*38.6*	*38.3*	*40.5*	*42.3*	*41.3*	*40.4*	*38.8*	*36.7*
GDP, current prices	3 481	3 550	3 641	3 760	3 934	4 130	4 324	4 512
Potential GDP, current prices	3 526	3 608	3 721	3 847	3 992	4 161	4 325	4 498

Sources: Statistics Sweden and NIER.

National Institute of Economic Research, Kungsgatan 12 - 14, Box 3116, SE - 103 62 Stockholm, Sweden
Phone: +46 8 453 59 00, Fax: +46 8 453 59 80, E-mail: ki@konj.se, Website: www.konj.se

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