For a better monetary policy: Focus on inflation and unemployment

Lars E.O. Svensson
www.larseosvensson.net
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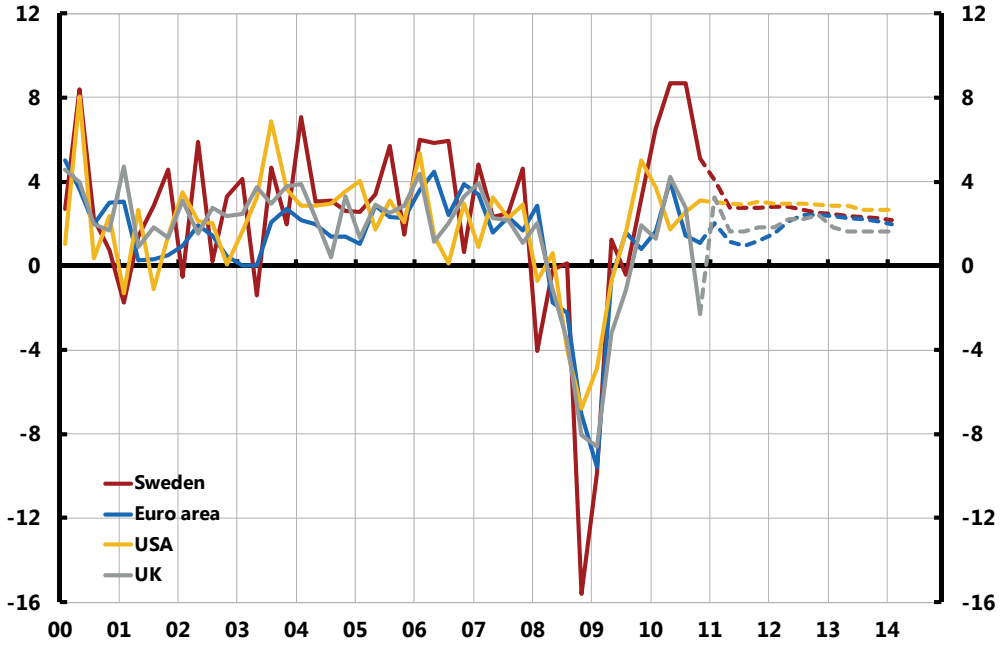
- Strong growth following a severe downturn

GDP growth for Sweden, the euro area, UK and USA

Quarterly changes in per cent calculated as an annual rate, seasonally-adjusted data

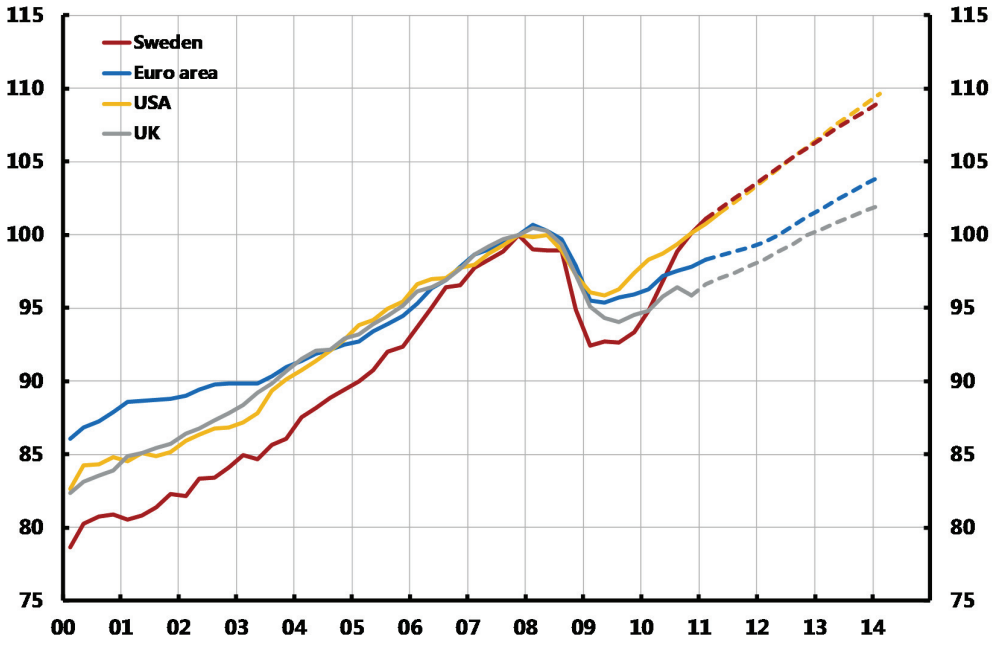


Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

- Strong growth in Sweden following a severe downturn
- GDP just above the pre-crisis level

GDP for Sweden, the euro area, UK, and US

Index 2007 quarter 4 = 100



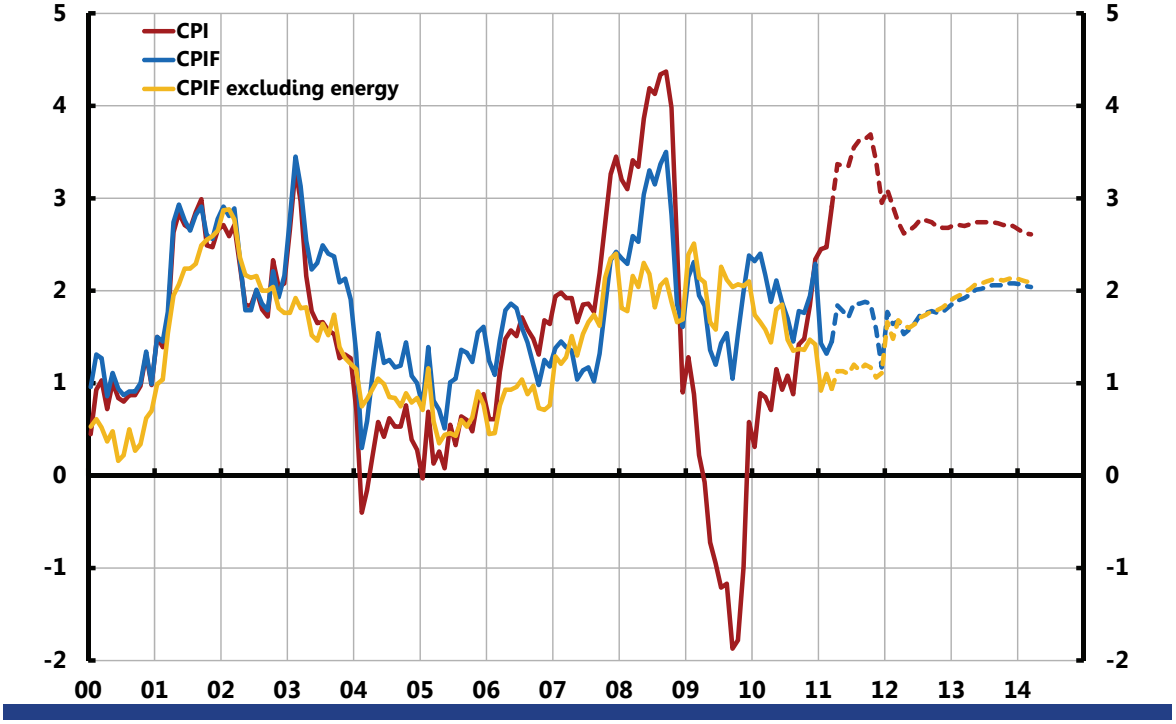
Note. The quarter before the recession began in the USA = 100.

Sources: Bureau of Economic Analysis, Eurostat, Statistics Sweden and the Riksbank

- Strong growth in Sweden following a severe downturn
- GDP just above the pre-crisis level
- CPI forecast above the target
- CPIF forecast (w/o direct effects of repo-rate increases) on average *below* the target

CPI, CPIF and CPIF excluding energy

Annual percentage change



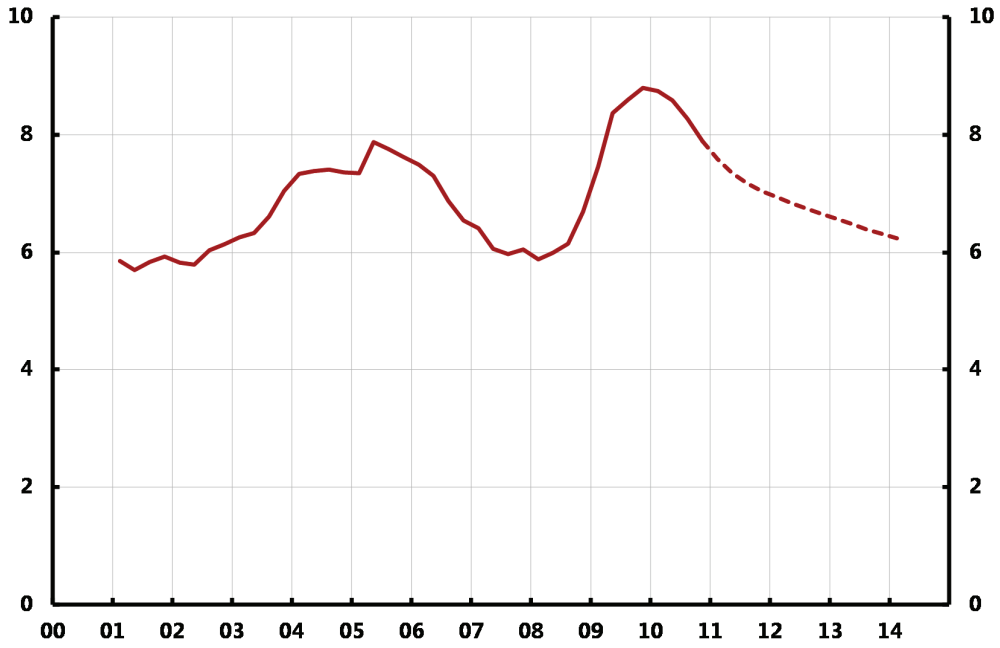
Note. The CPIF is the CPI with a fixed interest rate.

Sources: Statistics Sweden and the Riksbank

- Strong growth in Sweden following a severe downturn
- GDP back to the pre-crisis level
- CPI forecast above the target
- CPIF forecast (without direct effects of repo-rate increases) on average below the target
- High unemployment

Unemployment

Percentage of the labour force, seasonally-adjusted data

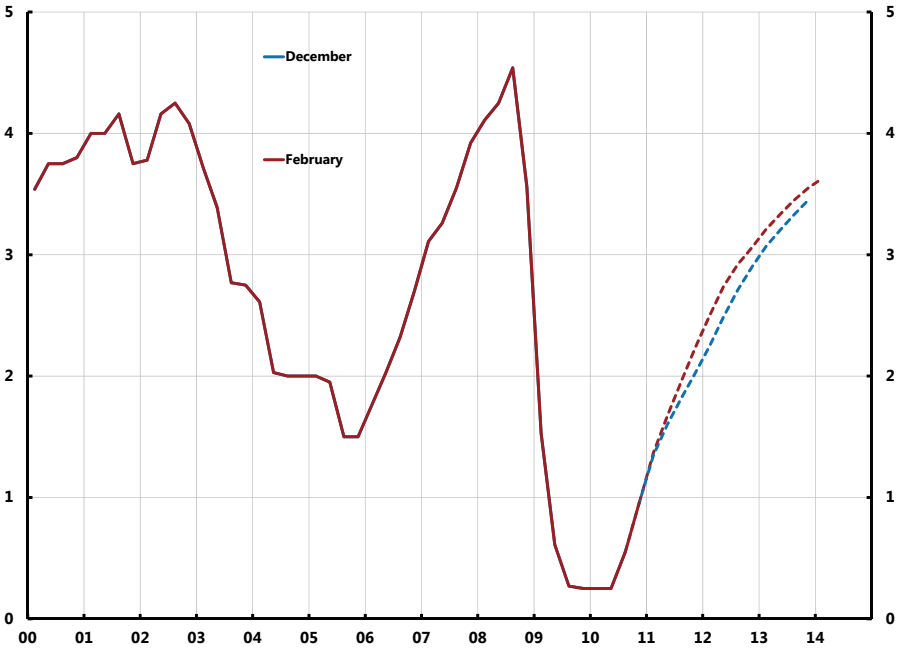


Sources: Statistics Sweden and the Riksbank

Raised repo rate, from 1.5% to 1.75% in April

Repo-rate path unchanged in April

Per cent



Per cent, quarterly mean values

Source: The Riksbank

- Strong growth in Sweden following a severe downturn
- GDP back to the pre-crisis level
- CPI forecast above the target
- CPIF forecast (without direct effects of repo-rate increases) on average below the target
- High unemployment
- Right to raise the repo rate?
- CPIF lower, under the target; unemployment higher

Overview of March speech

- The monetary policy framework can be improved
  - Stabilize CPIF around 2 %
  - Stabilize unemployment around a sustainable rate
- Monetary policy will be simpler, more transparent, more robust
- Reservation in February (and April):
  Lower repo rate path

Overview

- Decisions and communication must not give the impression that there are targets other than inflation and resource utilization(RU)
- Media, market newsletters: House prices, indebtedness …
- Majority's repo-rate path: Poorer target attainment for inflation and RU
- Motives: Growth, house prices, indebtedness, low interest rates, financial imbalances …
- Monetary policy risks becoming opaque

Flexible inflation targeting

- *Monetary Policy in Sweden* 2010, each *Monetary Policy Report*:
- Inflation target: 2 % (CPI)
- "… the Riksbank, in addition to stabilising inflation around the inflation target, also striving to stabilise production and employment around long-term sustainable paths. The Riksbank therefore conducts what is generally referred to as flexible inflation targeting."
- "A well-balanced monetary policy is normally a question of finding an appropriate balance between stabilising inflation around the inflation target and stabilising the real economy."

Flexible inflation targeting

- Stabilizing the real economy =
  stabilizing resource utilization around a normal level
- Stabilize inflation around 2 % and
  stabilize resource utilization around a normal level
- Required:
  - Measure of inflation (proposed: CPIF)
  - Measure of resource utilization and its normal level (proposed: unemployment gap and sustainable unemployment rate)
  - Measure of stability (proposed: mean squared gap)

CPIF the most appropriate measure

- Target expressed in CPI inflation
- Advantages: Measured often, seldom revised, plays a role, best known
- Disadvantage: Includes direct effects of interest rate changes (reverse sign in short term)
- Now major fluctuations in CPI inflation due to substantial interest rate changes

CPIF the most appropriate measure

- Better to disregard the short-term effects of interest rate changes
- Stabilize CPIF inflation around 2 %
- Consistently use CPIF as operational target
- Do not switch between CPI and CPIF; this makes make monetary policy opaque

Unemployment gap most appropriate measure of resource utilization

- Many measures of resource utilization: output gap, hours gap, employment gap, capacity utilization, RU indicator, unemployment gap
- Broad approach? “Overall assessment”? (Riksbank so far)

Unemployment gap most appropriate measure of resource utilization

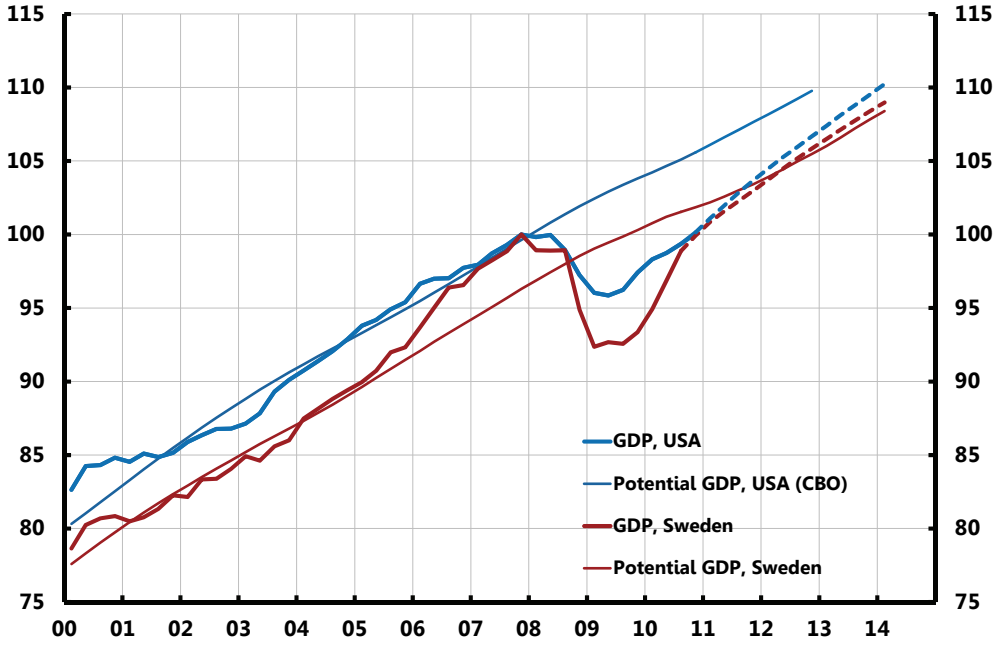
- Inflation target: Not good with several price indices
- If targets and target attainment are to mean anything, use mainly one index
- For the same reasons, not good to have many measures of RU
- If targets and target attainment are to mean anything, use mainly one index

Unemployment gap most appropriate measure of resource utilization

- Problem worse for RU than for inflation: Assessment of normal level required
- Output gap: Assessment of potential GDP
- Complicated, different methods, important assumptions, impenetrable and unverifiable, scope for arbitrary judgements and manipulation
- A certain monetary policy can be justified with a clever choice of potential GDP
- Conclusion: Potential GDP problematic

GDP and potential GDP for Sweden (Riksbank) and US (CBO)

As of February 2011. Index 2007q 4 = 100



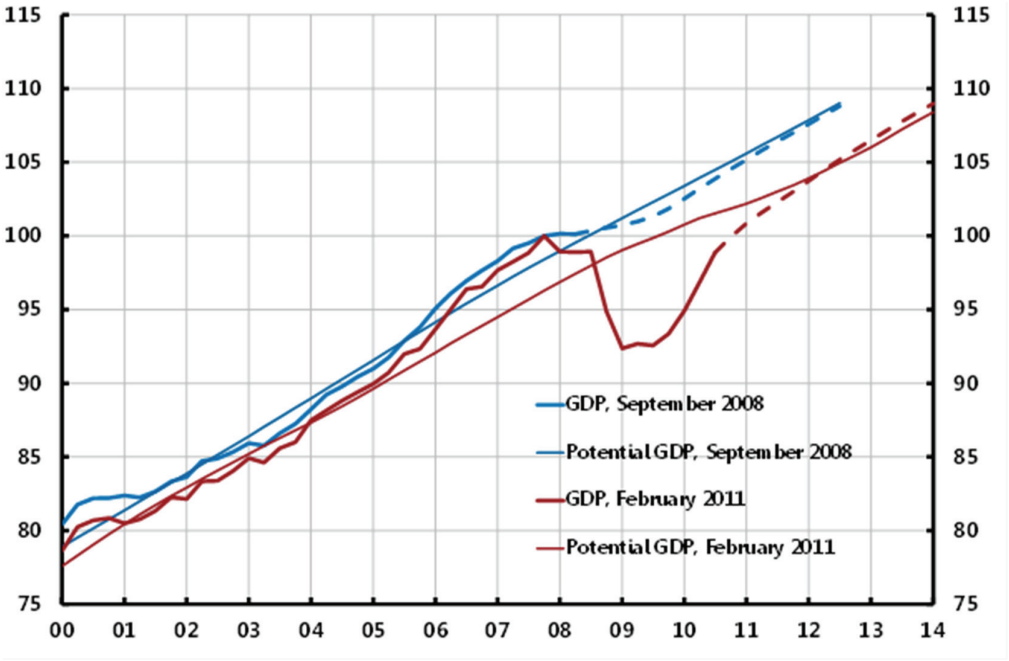
Sources: CBO, Statistics Sweden and the Riksbank

Potential GDP problematic

- USA's potential GDP developing better than Sweden's?
- USA: Financial crisis, structural problems in finance, housing and construction sectors, structural budget and current account deficit
- Sweden: Demand shock via exports, no structural problems, budget and current account surplus
- Why not better development of potential GDP in Sweden than in the USA?

GDP and potential GDP for Sweden (Riksbank), September 2008 and February 2011

Index 2007q4 = 100



Sources: Statistics Sweden and the Riksbank

Potential GDP problematic

- Riksbank forecast for potential GDP in Sweden in the long term 4 per cent lower in February 2011 than in September 2008
- Why should demand shock and absence of structural problems give lower potential GDP?
- My conclusion: Estimates of potential GDP and output gap for Sweden are unreliable

Unemployment gap most appropriate measure of RU

- Advantages: Unemployment is measured often, is not revised (cf. GDP), is directly related to welfare, is best known and understood
- The Riksbank should according to the preparatory works for the Riksbank law support the objectives of national economic policy.
- These to a large extent focuses on labor market

Unemployment gap most appropriate measure of RU

- Difficult: Sustainable unemployment rate
- Not more difficult, in fact simpler, than other measures of RU
- Stable percentage: 5, 5.5, 6, 6.5 %, changes slowly, limited range
- Potential GDP: shooting at moving target, possibly random walk with drift
- Sustainable rate estimated using several different methods, weigh together (with reliability)
- Important: Include assessments of effects of labour-market reforms

Unemployment gap most appropriate measure of RU

- Calculations of sustainable unemployment in open debate within and outside the Riksbank
- Swedish tradition of independent and eminent labour market research
- Simple to conduct sensitivity analyses with different rates of sustainable unemployment
- Important that external analysts can verify and assess the Riksbank's calculations of the normal level of RU (impossible with potential GDP)

Unemployment gap most appropriate measure of RU

- Sustainable unemployment rate?
  - Forslund (2008): 4 – 5 %
  - The Riksbank to date: About 6.5 %
  - My preliminary estimate (October): 5.5 %
  - Ministry of Finance (April): 5 %
  - National Institute of Economic Research, KI (April): 6 %

Unemployment gap most appropriate measure of RU

- Risk to the independence of the Riksbank?
- No external decision on sustainable unemployment, only external evaluation and assessment of policy
- Neglects inflation as overriding target?
- No: Inflation will on average be equal to the target, no setting aside of the price stability target
- Important difference:
  - Inflation target a choice
  - Sustainable unemployment rate an estimate/assessment

Mean squared gap most appropriate measure of stability

- Well-balanced monetary policy: Normally balance between stabilizing inflation and stabilizing RU
- What is meant by more or less stability? Quantitative measures required
- Mean squared gap: mean of squared inflation gaps and unemployment gaps during the forecast period
- Lower mean squared gap:
  Better stability, better target attainment

Decisions and communication: Inflation and RU the only targets

- Decisions and communication must not give the impression that there are more targets than inflation and resource utilization
- Media, market newsletters: House prices, indebtedness …
- Majority's repo-rate path: Poorer target attainment
- Motives: Growth, house prices, indebtedness, low interest rates, financial imbalances …
- Growth, house prices, … only taken into account to the extent they affect forecasts for inflation and RU (Sveriges Riksbank Act, preparatory works), "filter all info through forecast"
- Otherwise, monetary policy risk becoming opaque

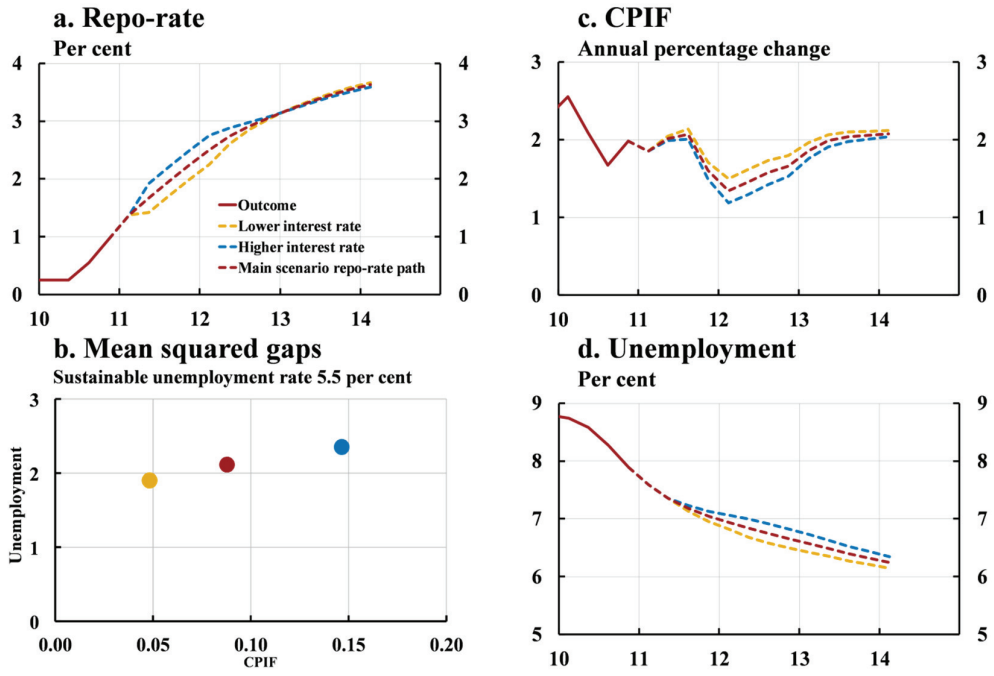
Decisions and communication: Inflation and RU the only targets

- Strong growth: Reason to raise the repo rate?
- Depends on the effects on inflation and RU
- If CPIF too low and unemployment too high, not a reason for an increase
- Given current level of GDP, more or less growth now depending on deeper or shallower previous downturn: Reason for higher or lower policy rate?

February decision

- Main scenario not well-balanced monetary policy
- Lower repo-rate path would stabilize both CPIF inflation and the unemployment gap better

Monetary policy alternatives February 2011



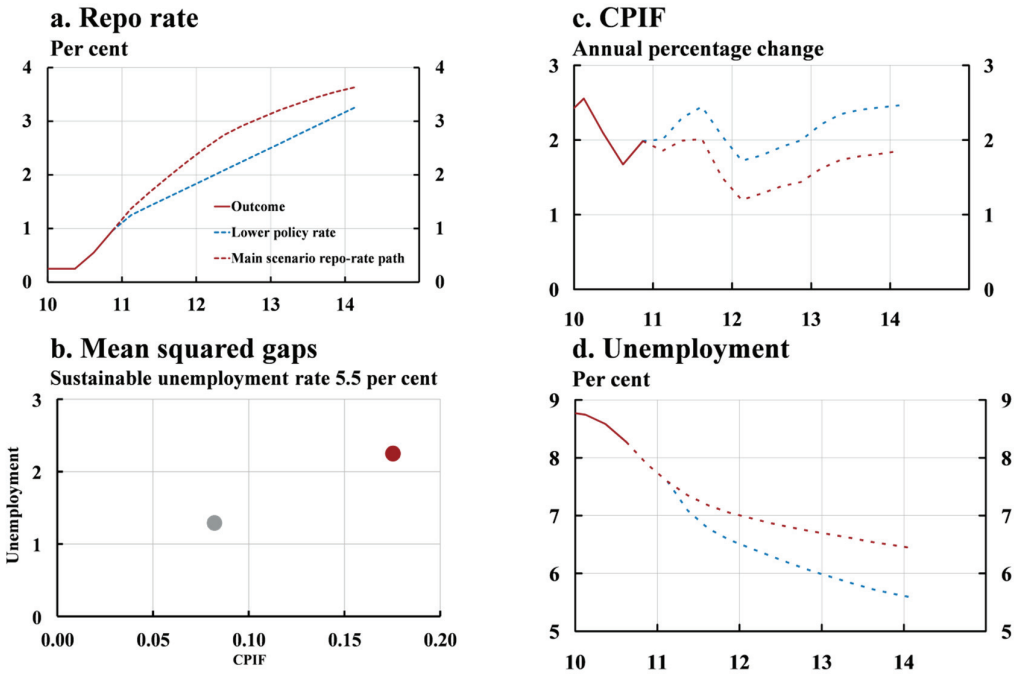
Sources: Statistics Sweden and the Riksbank

February decision

- Main scenario not well-balanced monetary policy
- Lower repo-rate path would stabilize both CPIF inflation and the unemployment gap better
- Karolina Ekholm and I:
  Unchanged repo rate, then lower repo-rate path

Monetary policy alternatives February 2011

Foreign interest rates according to implied forward rates



Sources: Statistics Sweden and the Riksbank

Summary

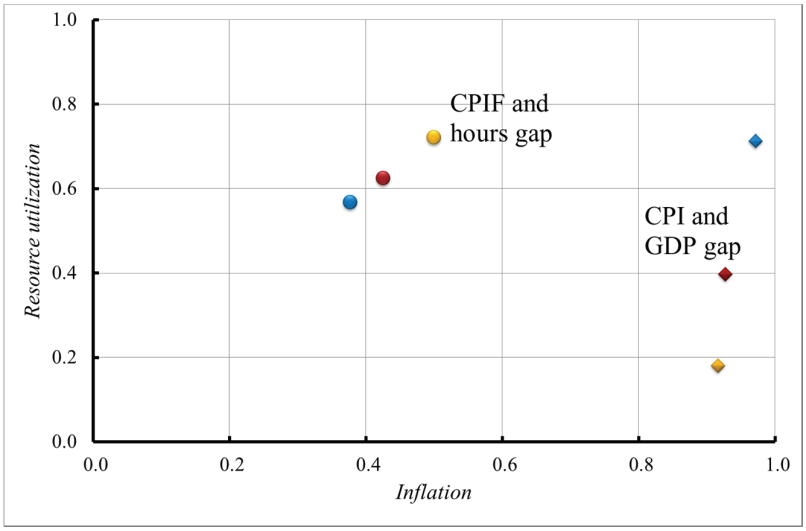
- The monetary policy framework can be improved
  - Stabilize CPIF around 2 %
  - Stabilize unemployment around a sustainable rate
- Monetary policy simpler, more transparent, more robust
- Decisions and communication must not give the impression that there are more targets than inflation and resource utilization
- Reservation: Lower repo-rate path provides better target attainment for CPIF inflation and unemployment gap

Criticism of MSGs (Ingves)

- Difficult to measure RU
  - Unemployment gap best measure
- MSG depends on measure of inflation and RU
  - Yes, stick with CPIF and unemployment gap
- September 2008 problematic

Criticism of MSGs (Ingves)

September 2008



Criticism of MSGs (Ingves)

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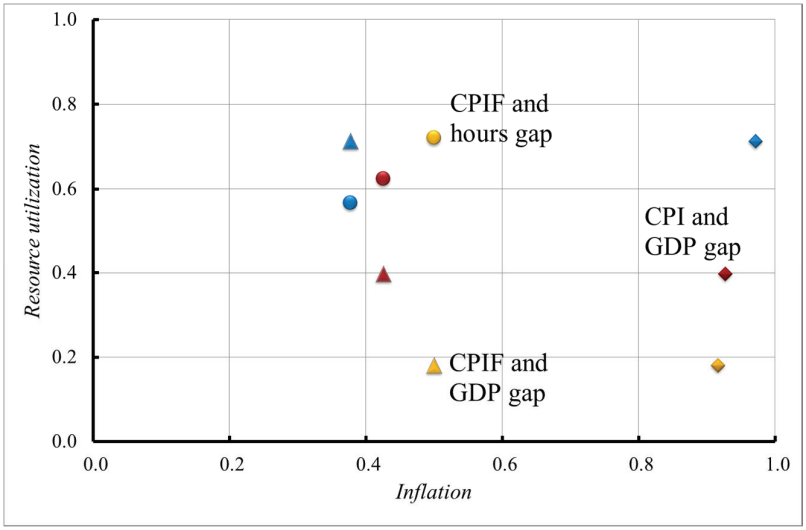

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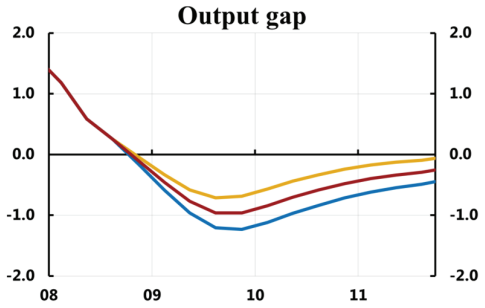

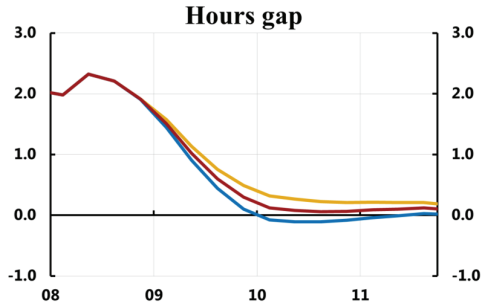

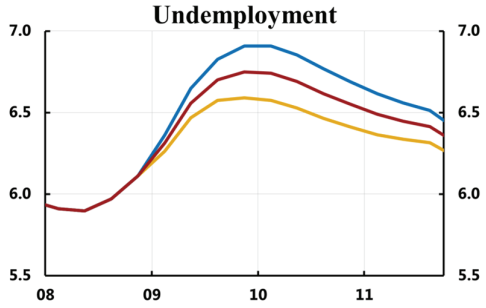

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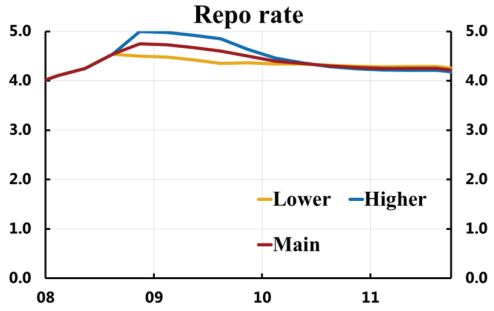
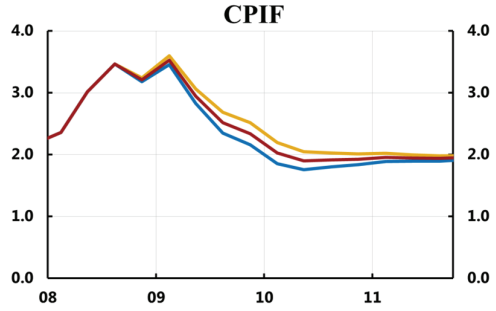
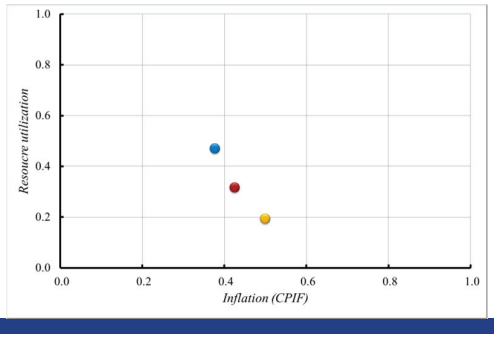
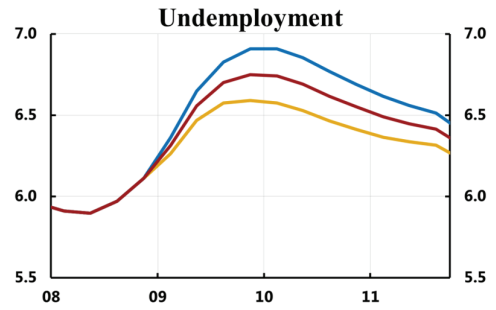




Sustainable unemployment rate 6 %





Criticism of MSGs (Ingves)

- Forecasts beyond 3-year horizon different
  - If significant differences, extend horizon
  - Often little information beyond horizon

$$E_t \pi_{t+\tau} \to E[\pi_{t+\tau}] \text{ when } \tau \to \infty$$

- Consideration of specific risks (credit boom, inflation expectations)
  - Forecast targeting: Mean forecasts, already risk-adjusted, incorporate all info and risk in forecast
  - Minimizing quadratic loss function is "risk management" (Feldstein on Greenspan, AEA)
  - Response to low-probability extreme events, depends on loss function (Svensson 03 "Optimal Policy with Low-Probability Extreme Events")

Criticism of MSGs (Ingves)

- "[I]f one were to reduce monetary policy to a choice between dots on the figure I showed you, it would make it appear as though monetary policy had an exactness that does not actually exist."
  - Uncertainty (lack of exactness?) is taken into account in the right way
  - Any given mean forecast has one distance (one MSG) from target/normal
- "I do not believe it is possible to capture everything with the aid of two aggregates. Now and then something is likely to disappear on route."
  - Two target variables (inflation and resource utilization) not enough?
  - What other target variables? Consistent with mandate?

Alternative to MSGs (Norway)

- Add interest-rate changes and levels among the target variables. Include interest-rate difference to Taylor rules for robustness. (Include possibly GDP growth, asset prices, household debt, and other policy-maker concerns.) Minimize loss function (weights!) subject to given "core" model.
  - Many target variables makes policy arbitrary and opaque
  - Consistent with mandate?
  - Minimizing subject to given model introduces model-dependence
  - Better handle robustness through judgment: Rely on all relevant information, including model uncertainty (implicit model averaging), "filter info through forecast"
  - Better to make policy simple, transparent and robust

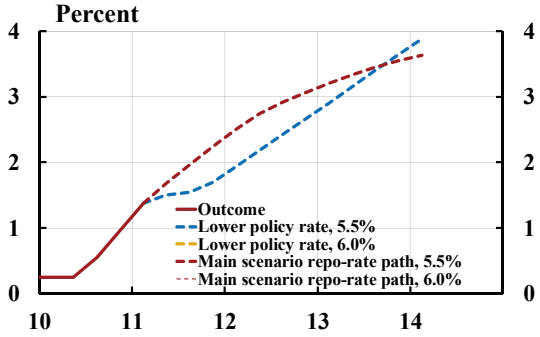
Extra

Monetary policy alternatives, April 2011

Foreign interest rates according to implied forward rates

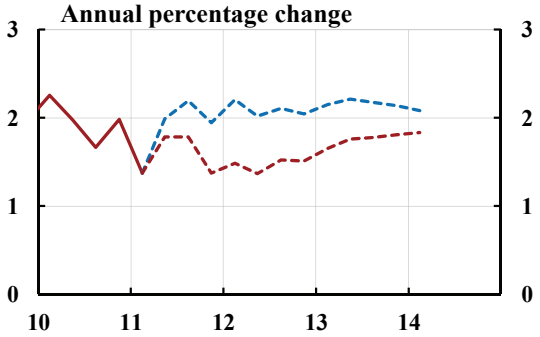
a. Repo-rate

Percent



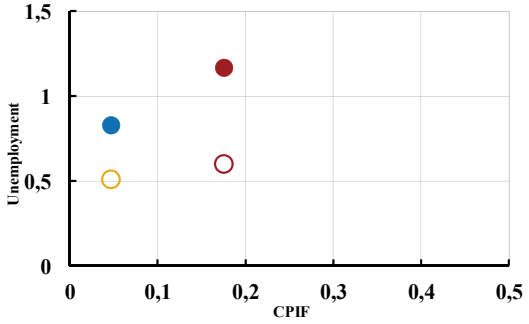
c. CPIF

Annual percentage change



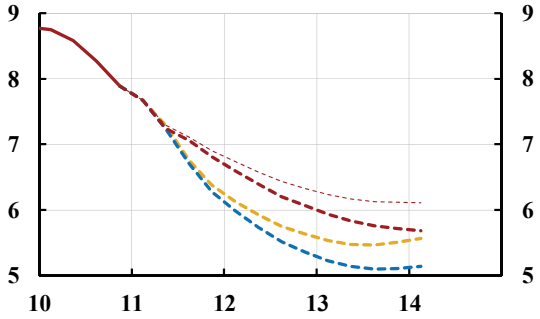
b. Mean squared gaps

Sustainable unemployment rate 5.5% (solid), 6.0% (circles)



d. Unemployment

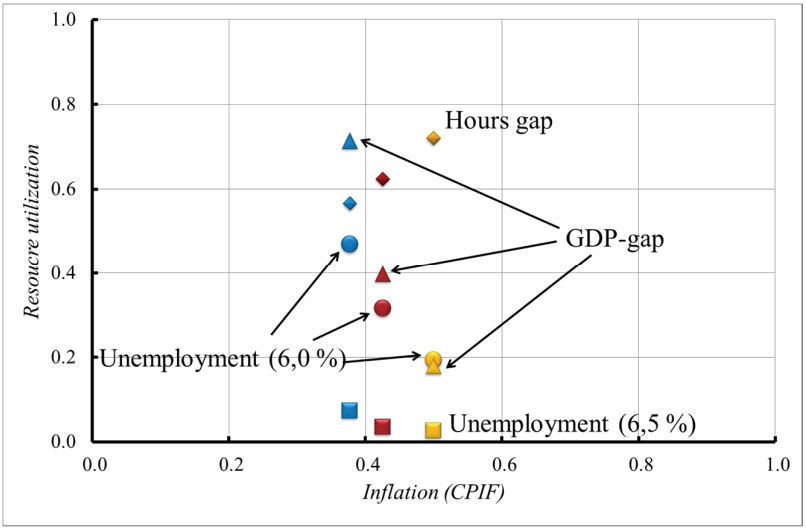
Percent



Sources: Statistics Sweden, own calculations and the Riksbank

Criticism of MSGs (Ingves)

September 2008



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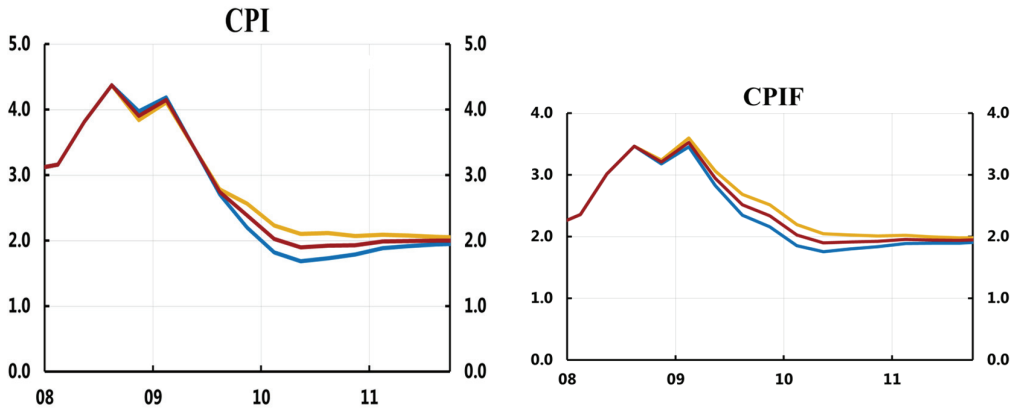
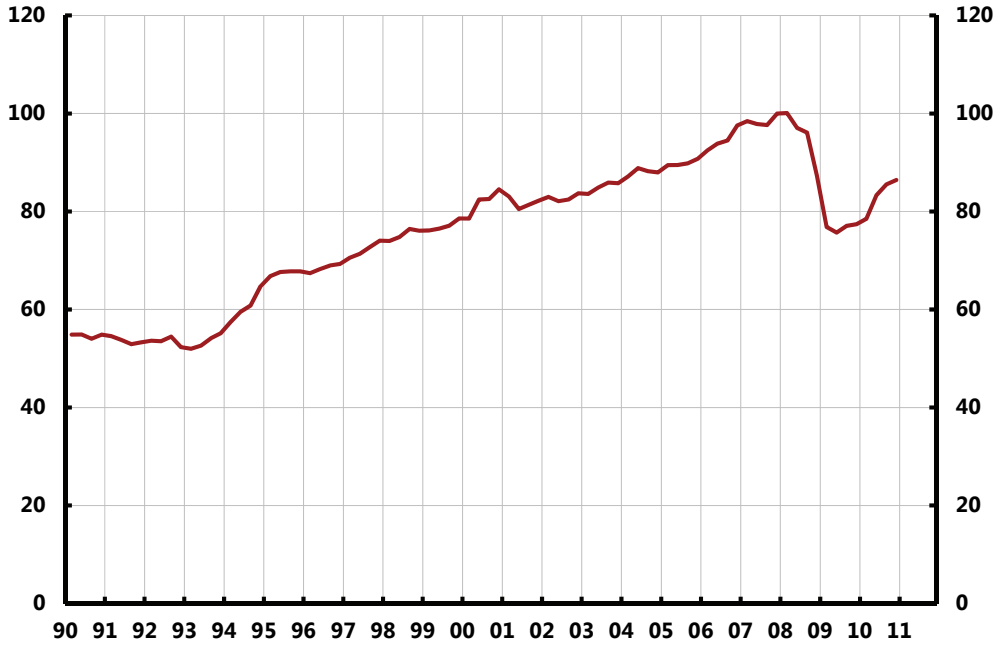


Industrial production for Sweden

Index 2007 quarter 4 = 100

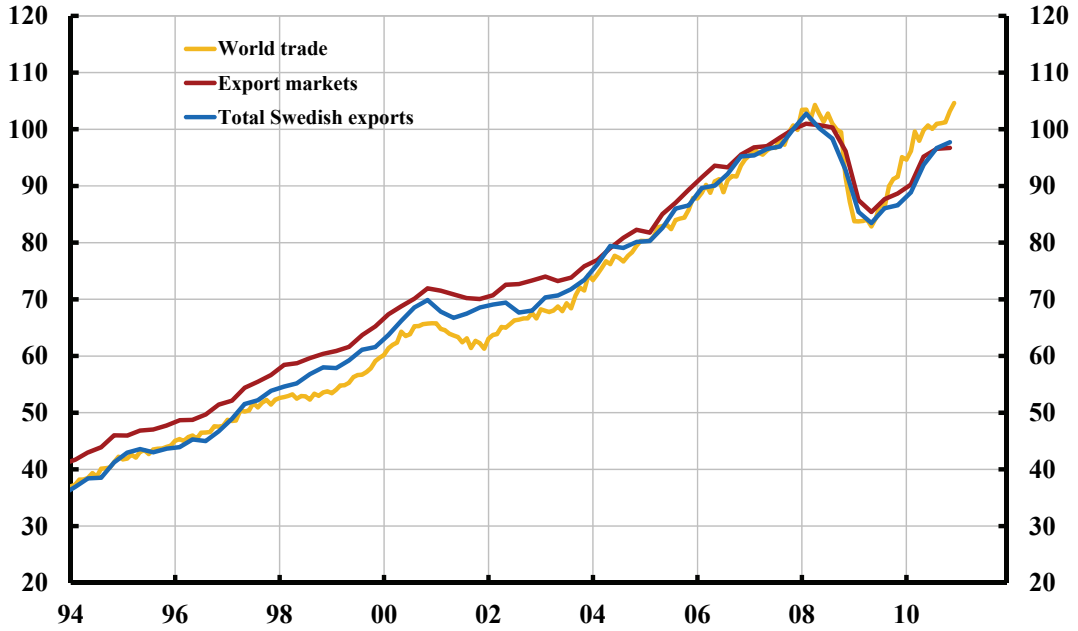


Note. Excluding energy, seasonally adjusted data

Source: Statistics Sweden and the Riksbank

World trade volumes, export market and Swedish exports

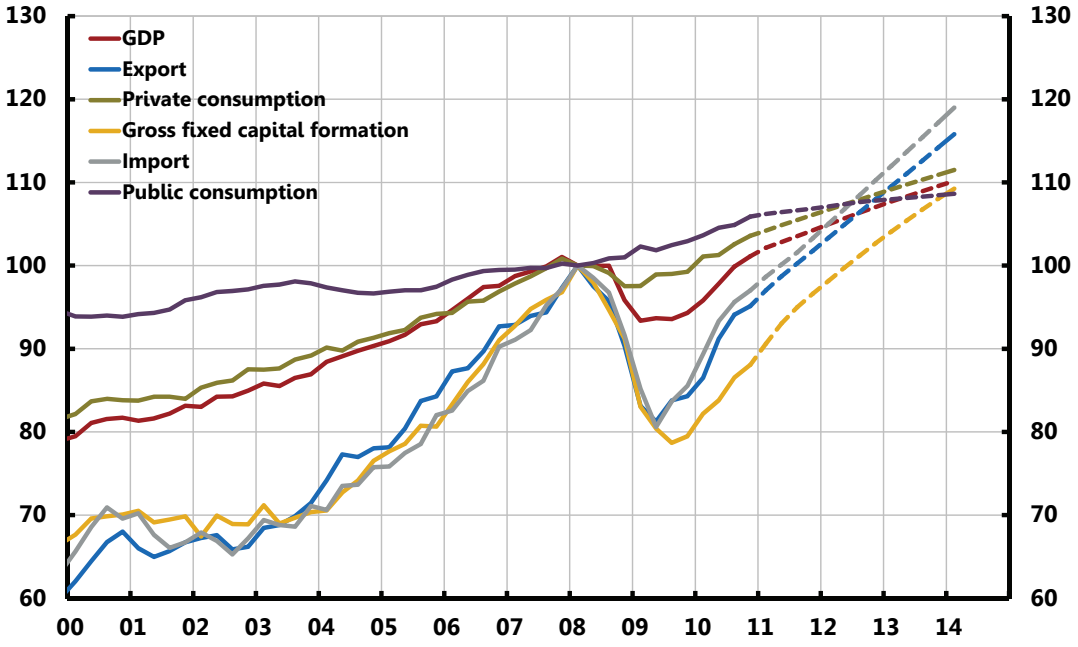
Index 2007 quarter 4 = 100, seasonally adjusted data



Sources: Netherlands Bureau of Economic Analysis, Staistics Sweden and the Riksbank

GDP, export, private and public consumption, investement, import

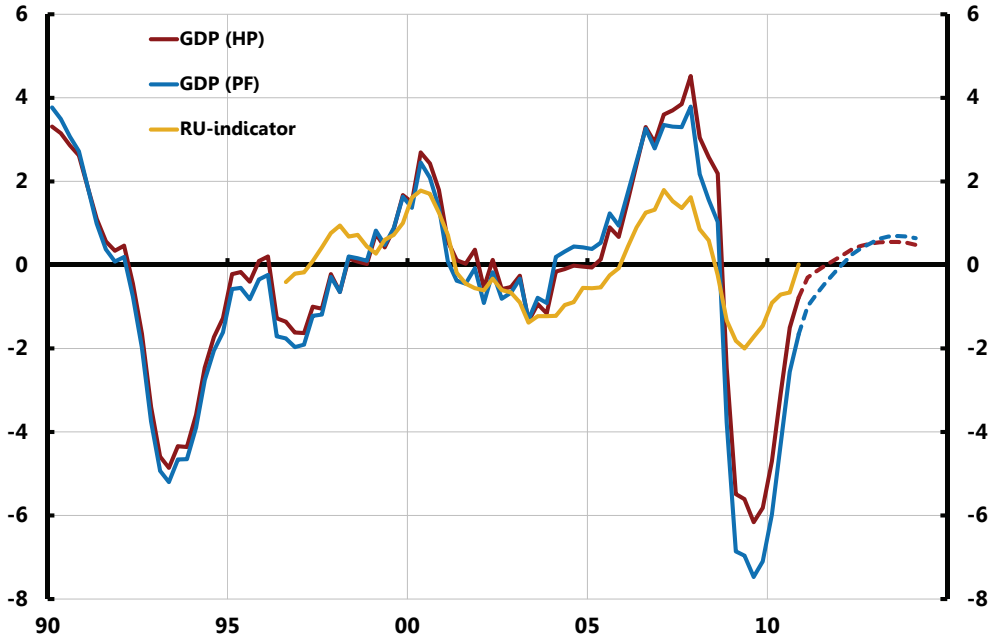
Index 2008q1 = 100



Sources: Statistics Sweden and the Riksbank

GDP-gap and RU-indicator

Percentage deviation from potential level and standard deviation

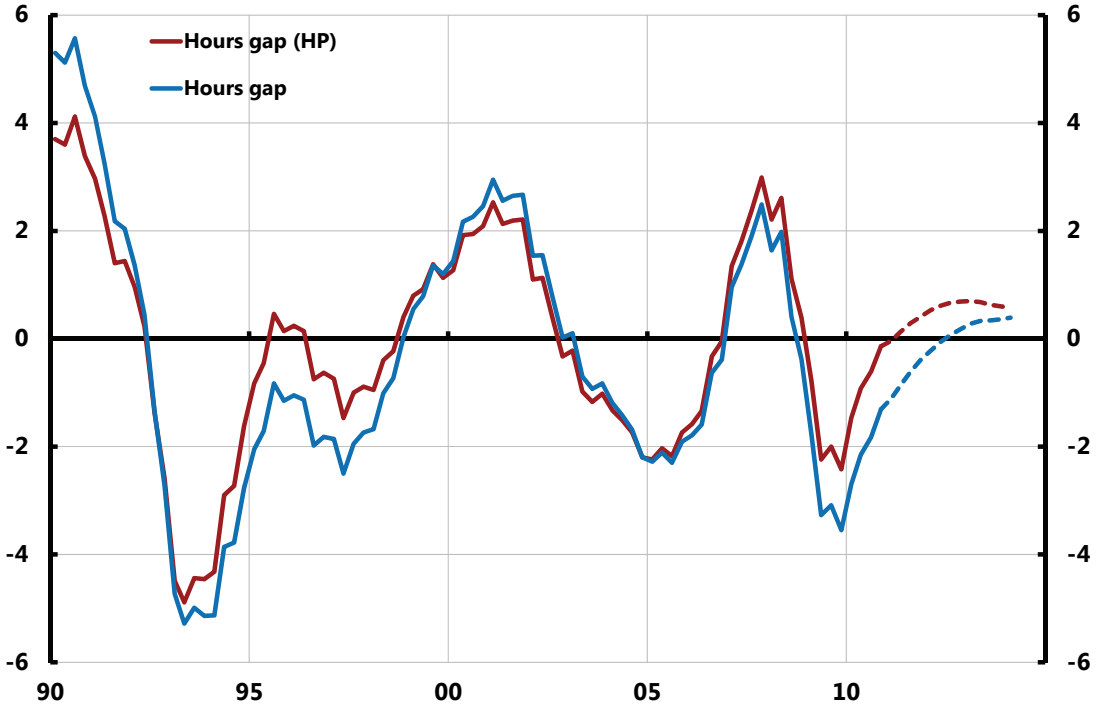


Note. GDP- gap (HP) refers to the deviation from trend in GDP calculated using a Hodrick- Prescott filter. GDP-gap (PF) refers to the deviation from trend in GDP calculated using a production function. The RU-indicator is normalised normalised so that the mean value is zero and the standard deviation is 1.

Sources: Statistics Sweden and the Riksbank

Hours-worked gap

Percentage deviation from potential level

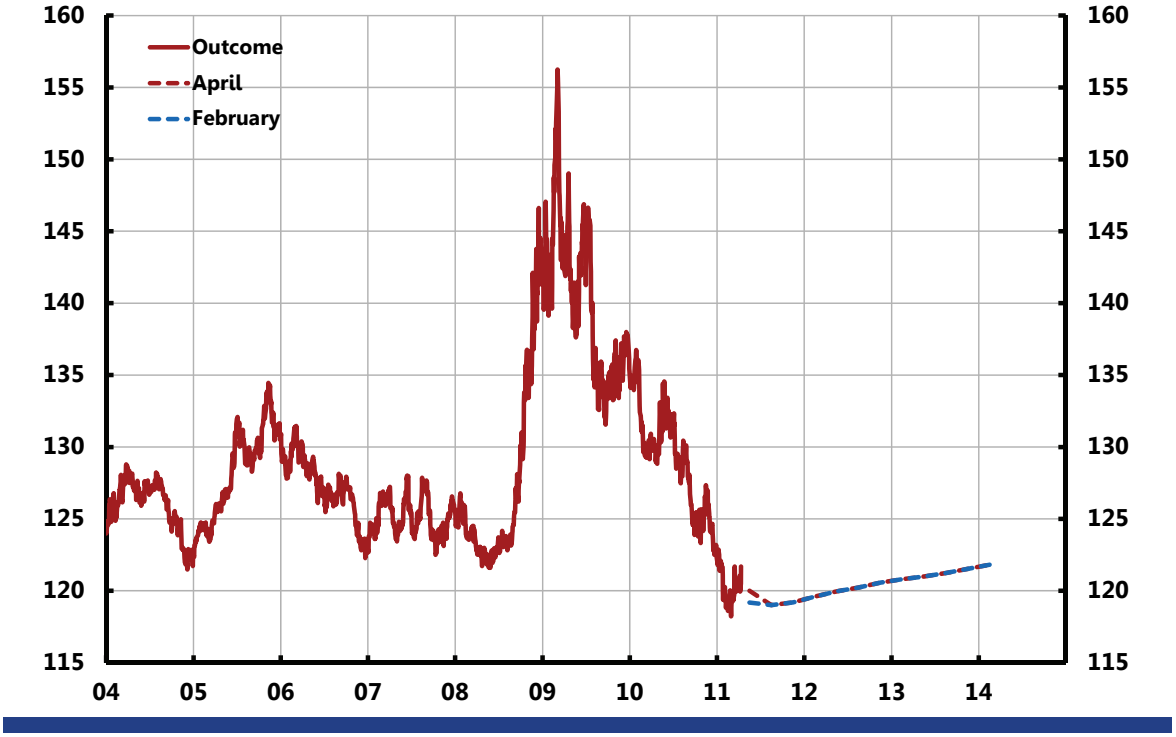


Note. The hours gap (HP) refers to the deviation from trend in the number of hours worked calculated using a Hodrick-Prescott-filter. The hours gap refers to the deviation in the number of hours worked from the Riksbank's assumed trend for the numbers of hours worked.

Sources: Statistics Sweden and the Riksbank

TCW-weighted exchange rate

Index, 18 November 1992 = 100

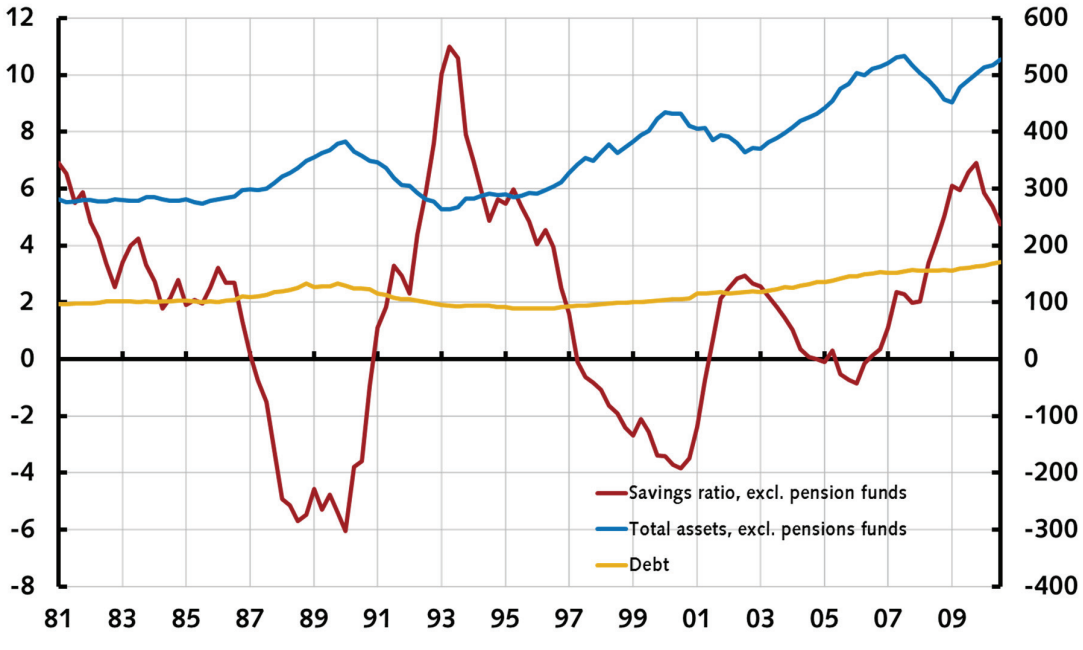


Note. Outcome data are daily rates and forecasts are quarterly averages.

Source: The Riksbank

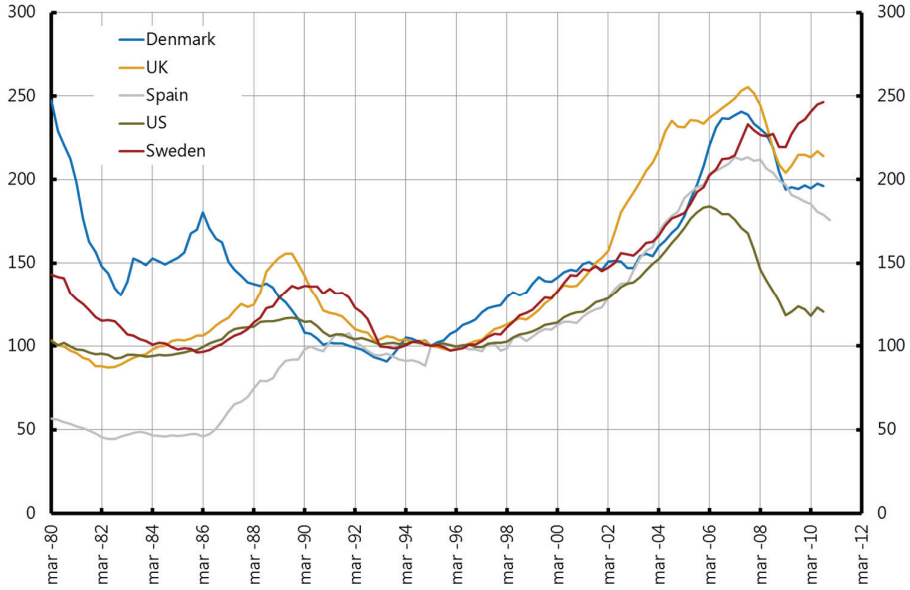
Households' assets, debt and saving

Percentage of disposable income



House prices in the short run

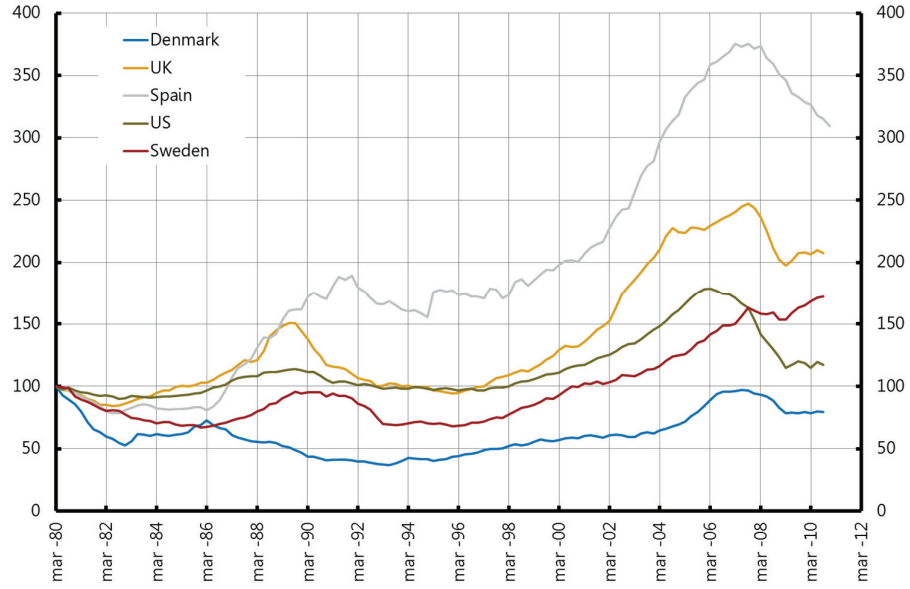
Real house prices in Sweden and selected countries
Index, 1995 Q1 = 100



Sources: Reuters Ecowin and Statistics Sweden

House prices in the longer run

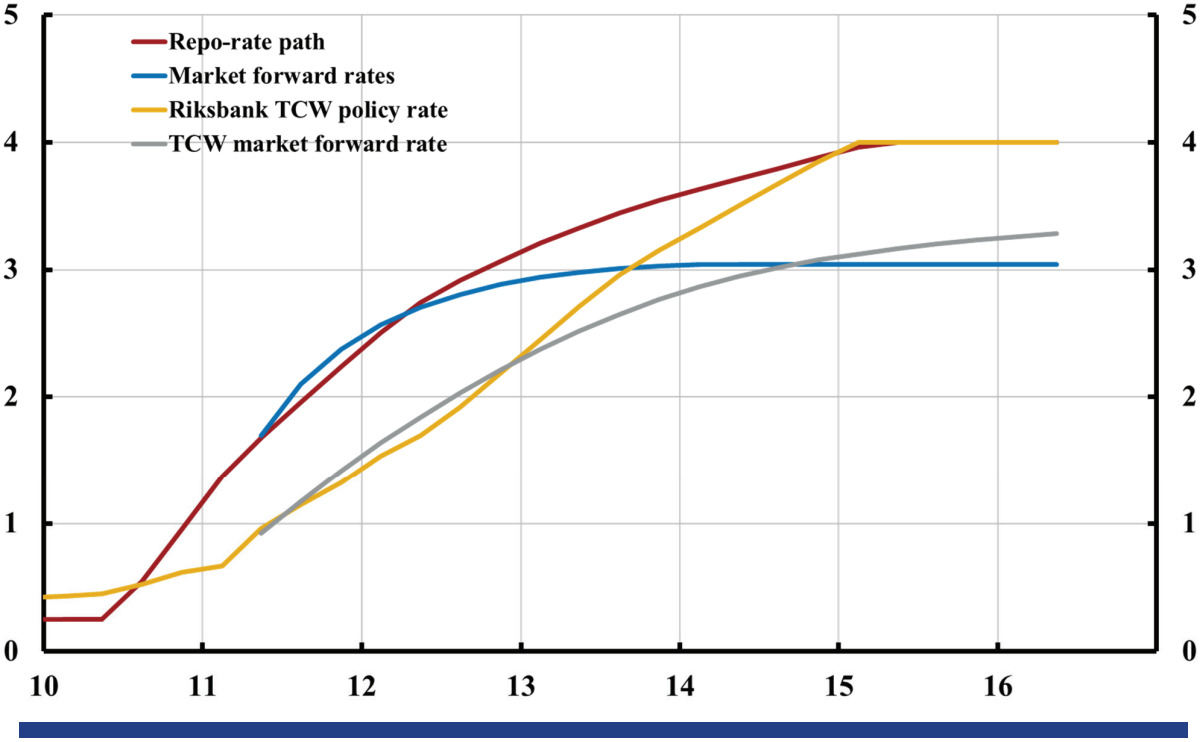
Real house prices in Sweden and selected countries
Index, 1980 Q1 = 100



Sources: Reuters Ecowin and Statistics Sweden

Repo-rate path, forward rates and policy-rate forecasts, MPU 2011 April

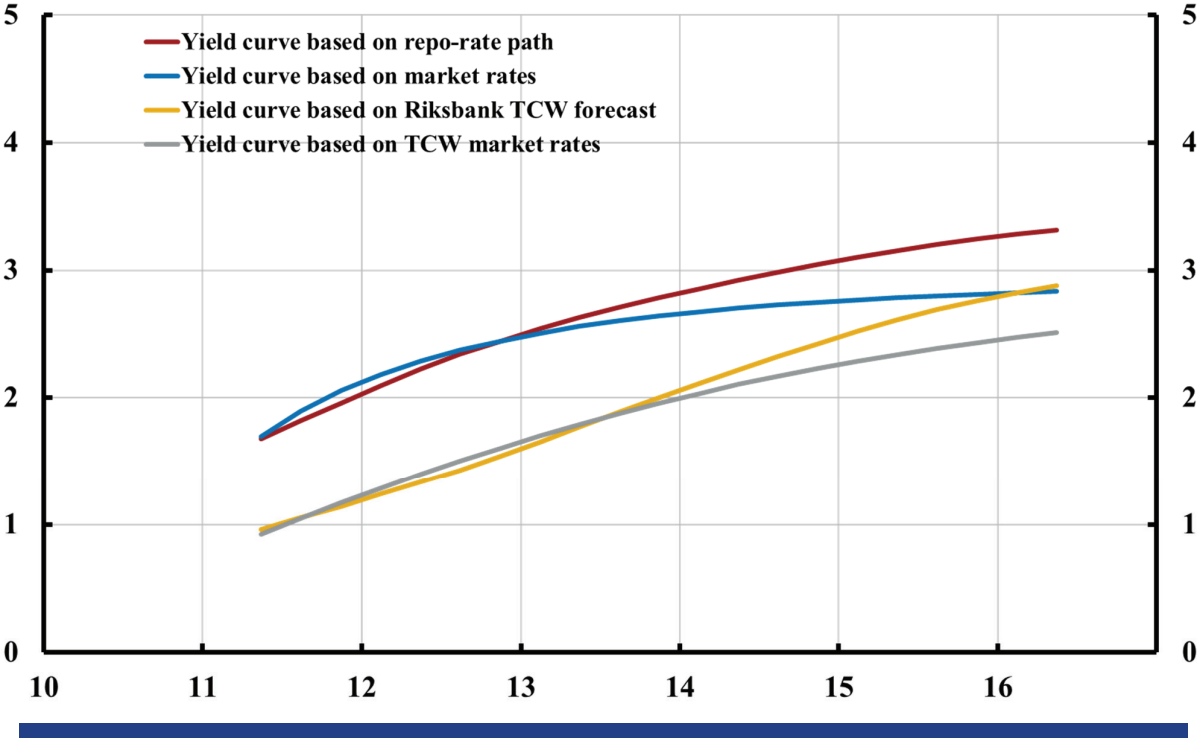
Per cent



Sources: National sources, Reuters EcoWin, the Riksbank and own calculations[59]

Yield curves, MPU 2011 April

Per cent



Sources: National sources, Reuters EcoWin, the Riksbank and own calculations[60]