

# NBP

Narodowy Bank Polski

## Inflation projection of the National Bank of Poland based on the NECMOD model

Economic Institute



## Overview

### CHANGES IN THE SCENARIO

- » Changes in the assumptions
- » Current vs previous projection

### PROJECTION

- » Projection 2013-15

### UNCERTAINTY

- » Risk factors
- » Fan charts

1. Changes between projection rounds
  - Changes in the projection assumptions
  - July projection compared to March projection
2. Projection 2013-2015
3. Uncertainty
  - Risk factors
  - Fan charts

CHANGES IN  
THE SCENARIO

- » Changes in the assumptions
- » Current vs previous projection

PROJECTION

- » Projection 2013-15

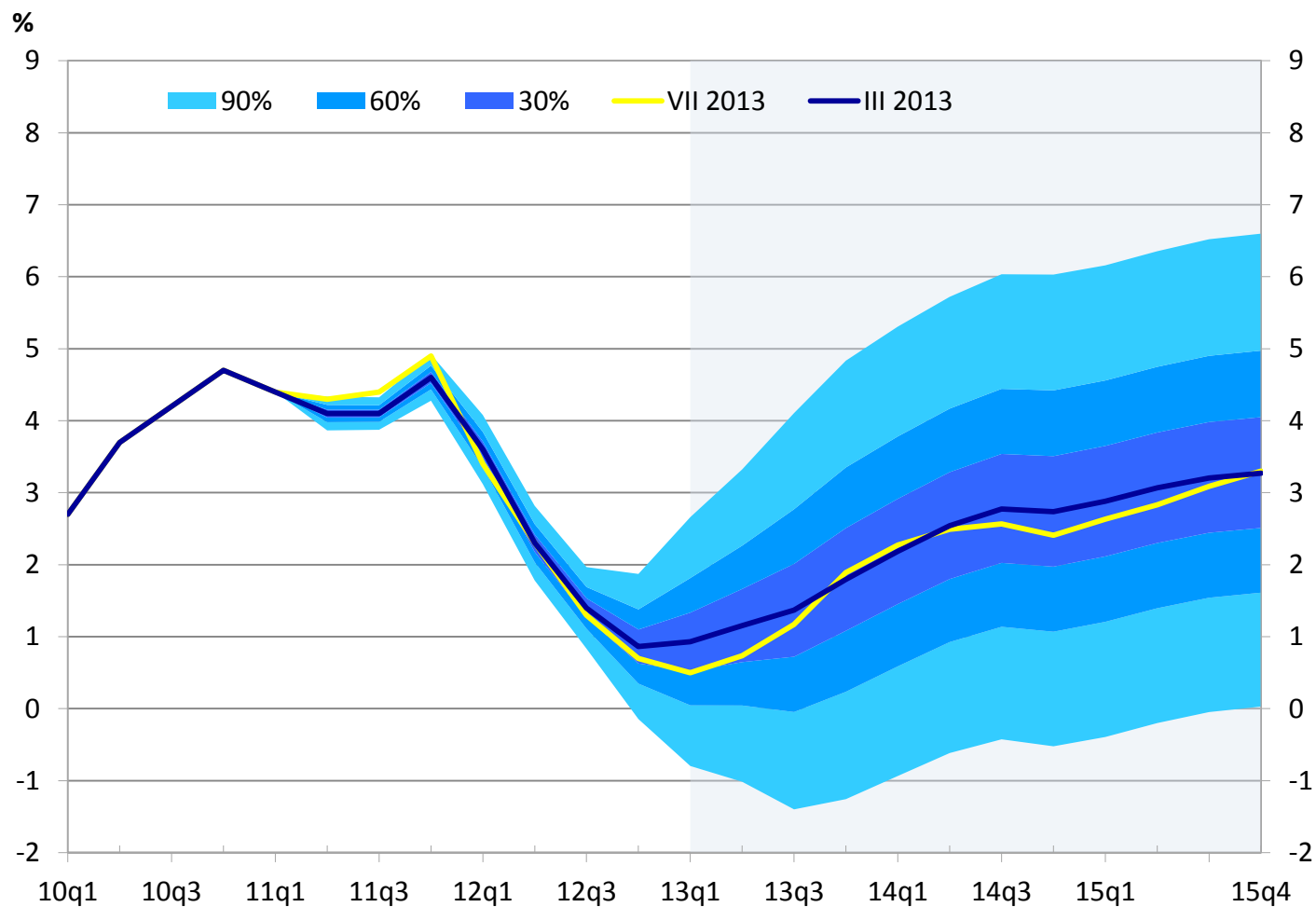
UNCERTAINTY

- » Risk factors
- » Fan charts

## JULY PROJECTION COMPARED TO MARCH PROJECTION

- Changes in the projection assumptions
- July projection compared to March projection

## July projection compared to March projection: GDP



- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## July projection compared to March projection: CPI inflation

**CHANGES IN THE SCENARIO**

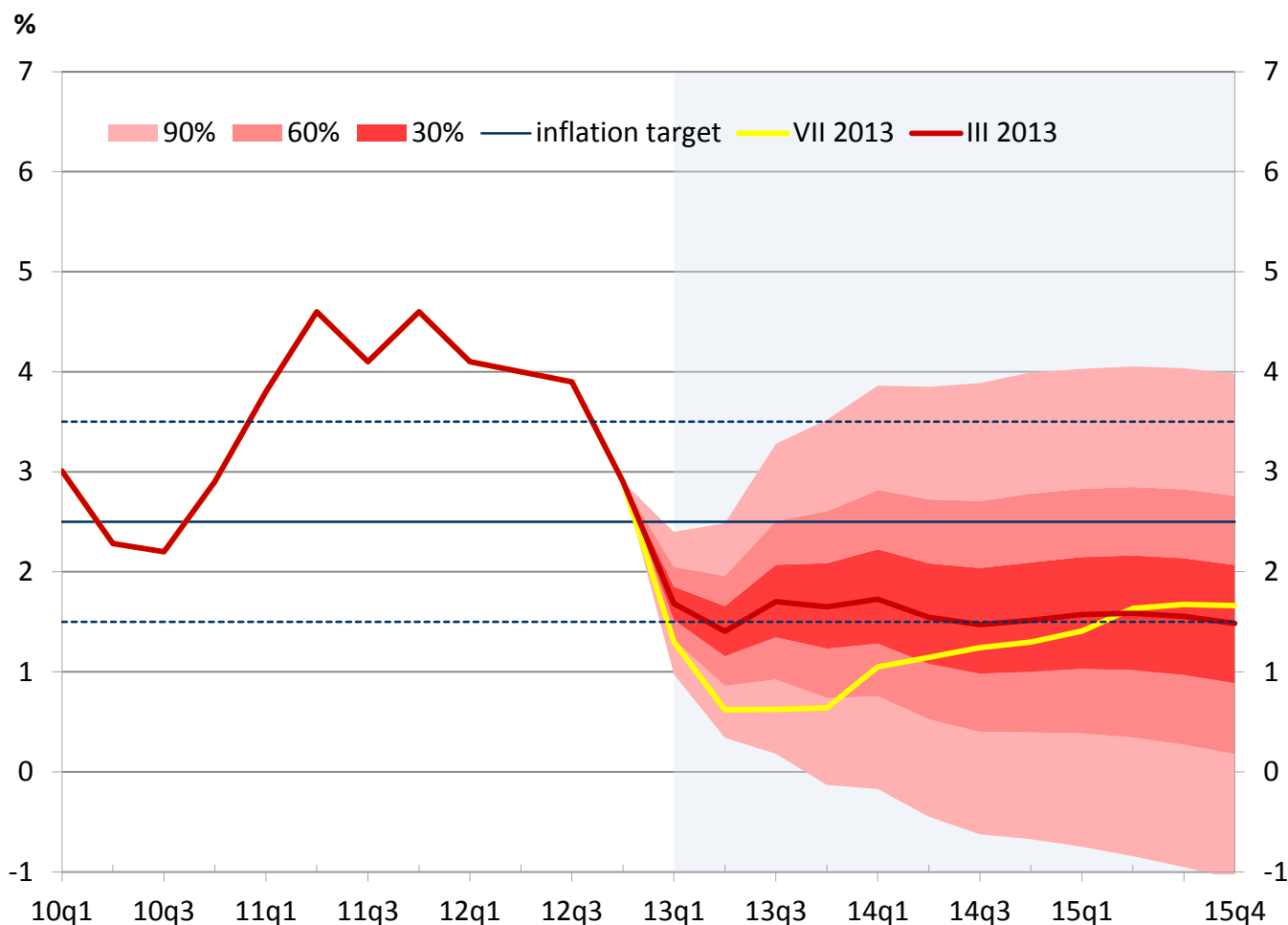
- » Changes in the assumptions
- » Current vs previous projection

**PROJECTION**

- » Projection 2013-15

**UNCERTAINTY**

- » Risk factors
- » Fan charts



## Changes in the projection assumptions

### CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

### PROJECTION

» Projection 2013-15

### UNCERTAINTY

» Risk factors

» Fan charts

- NBP reference rate lower by 100 basis points
- Stronger Zloty exchange rate
- Change in external environment assumptions (lower forecast of GDP growth abroad and energy commodity prices)
- Stronger fiscal policy tightening (VAT, public consumption)
- Lower forecast of energy prices (regulatory changes) and food prices (improvement in supply conditions)

## 3 month WIBOR (lower by 100 bp)

CHANGES IN THE SCENARIO

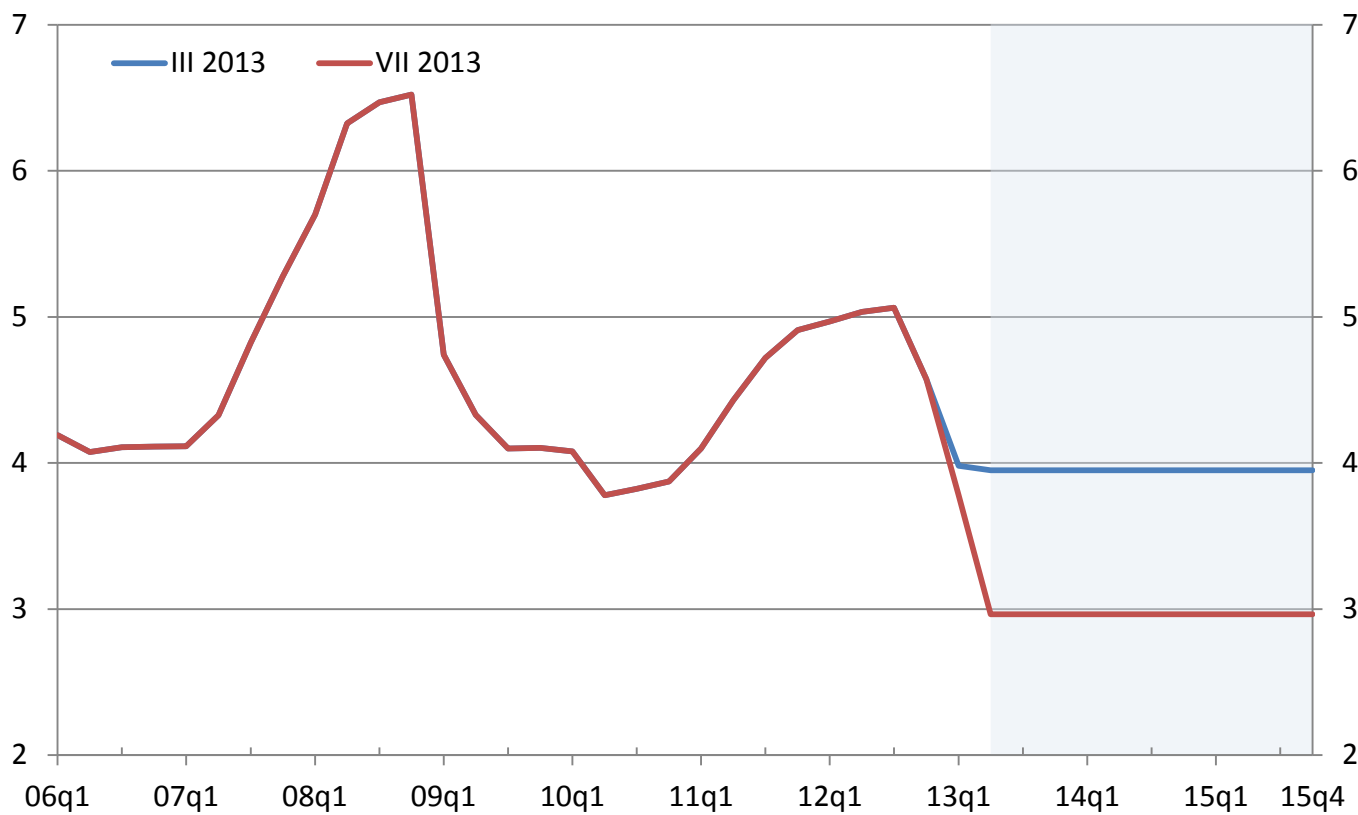
- » Changes in the assumptions
- » Current vs previous projection

PROJECTION

- » Projection 2013-15

UNCERTAINTY

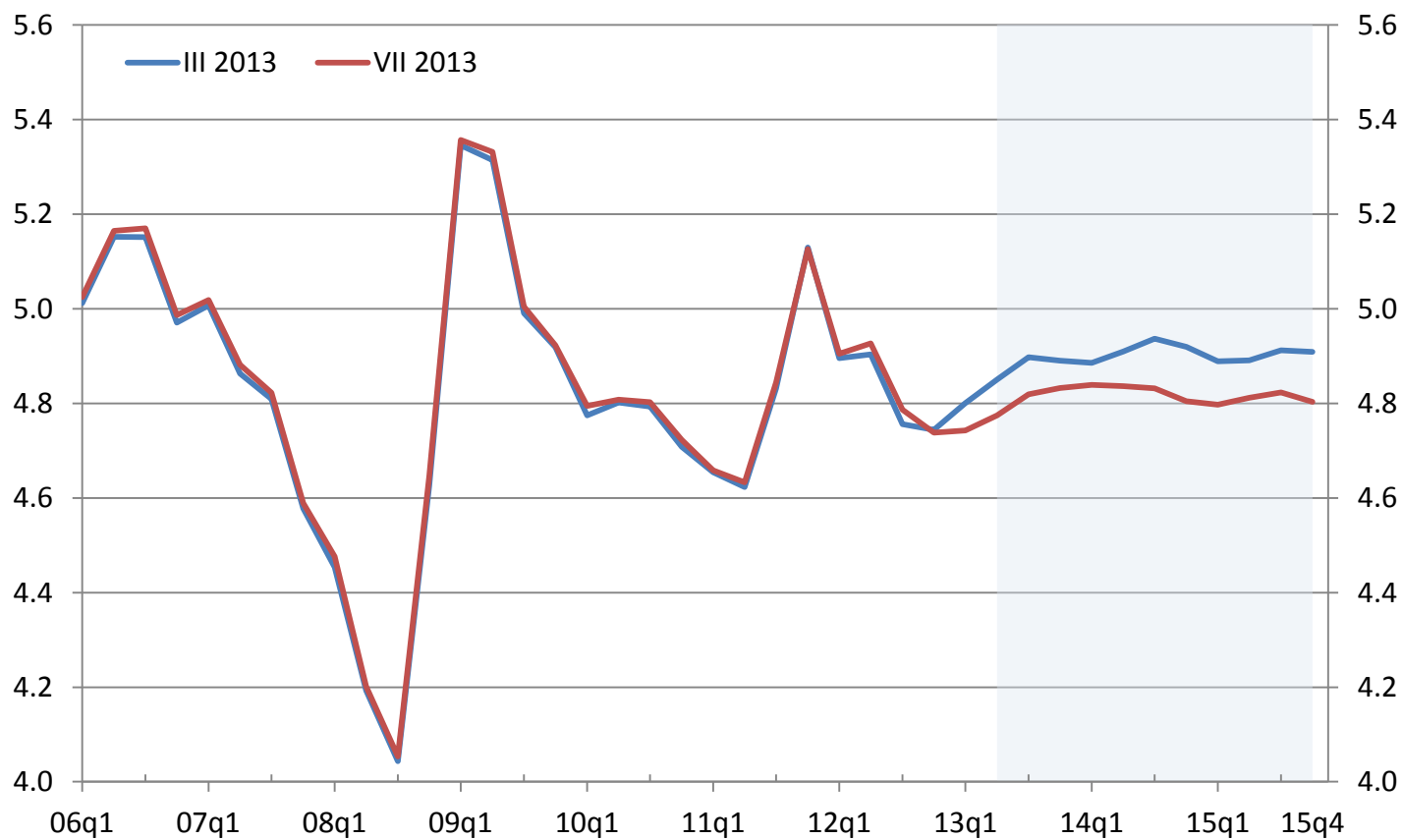
- » Risk factors
- » Fan charts





## Exchange rate (stronger)

Real effective exchange rate (REER)



### CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

### PROJECTION

» Projection 2013-15

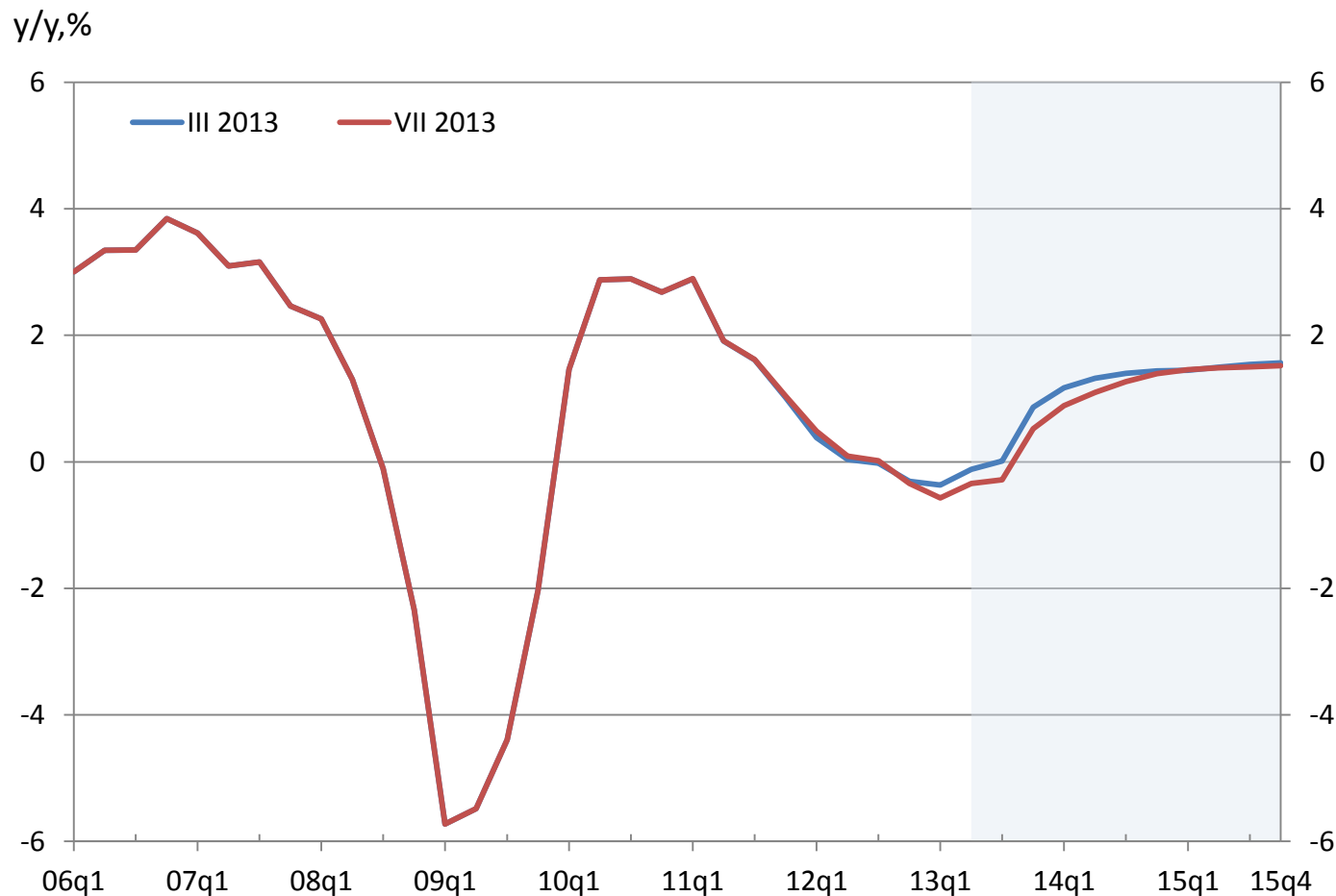
### UNCERTAINTY

» Risk factors

» Fan charts

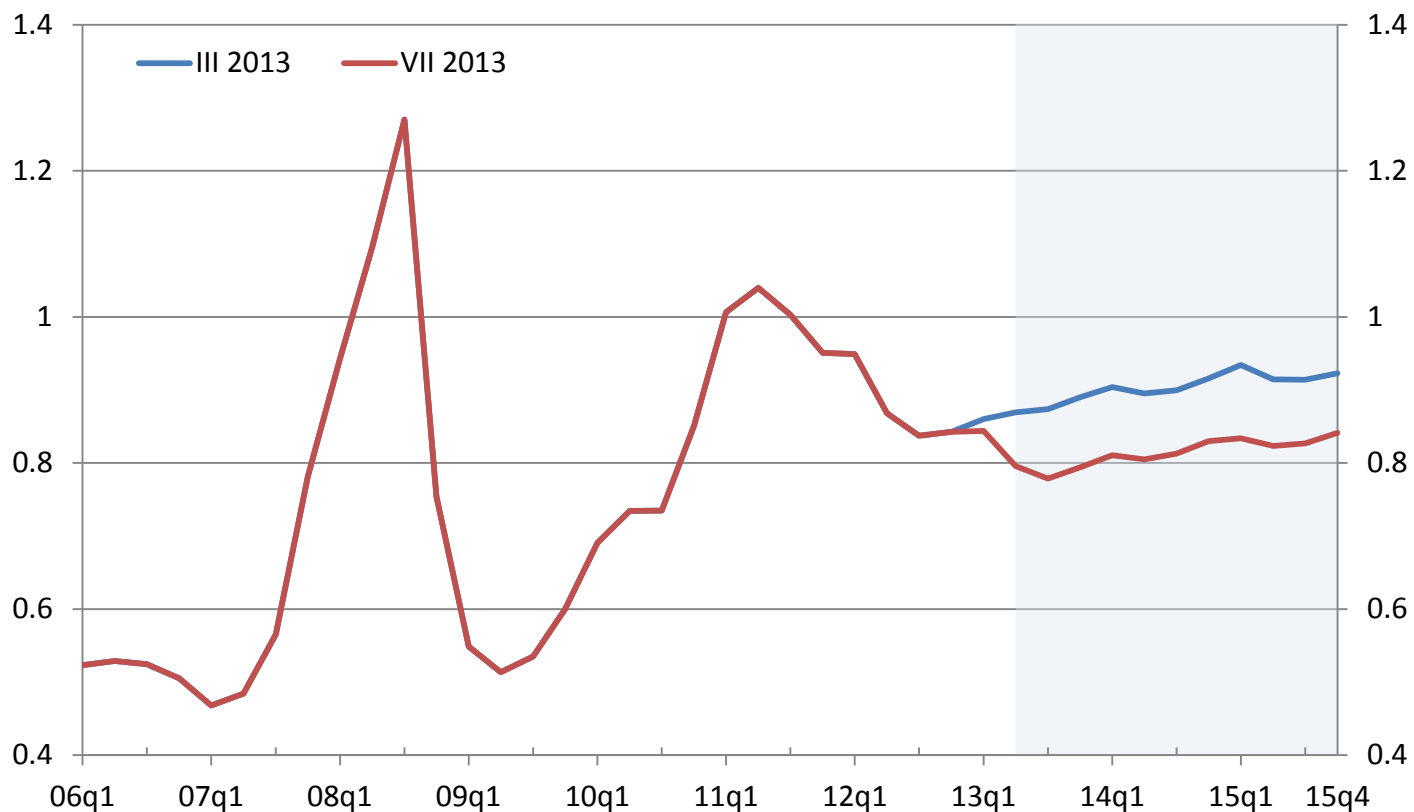


## GDP growth abroad (lower in 2013 - 2014)



- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## Energy commodity price index\* (lower)

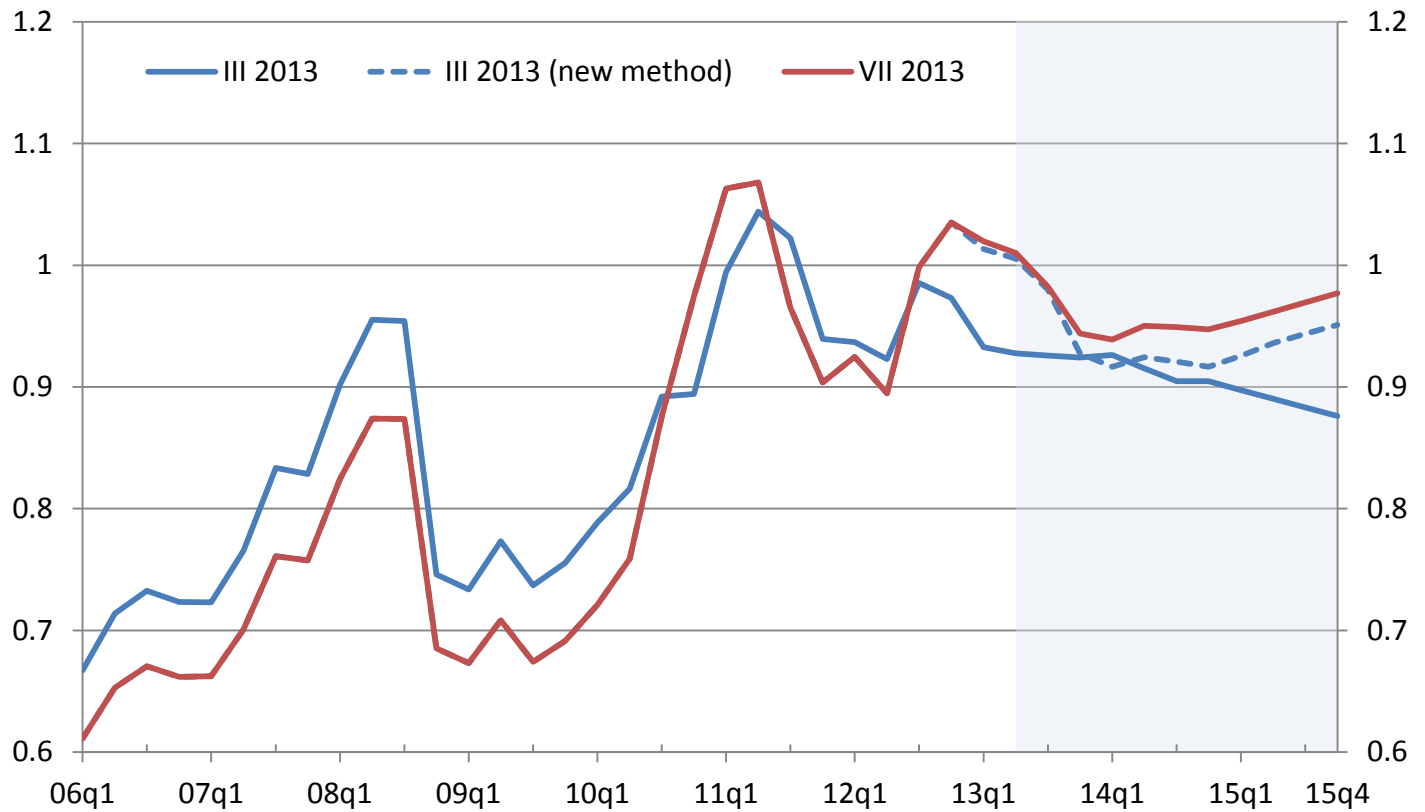


\*Global index of energy commodity prices consists of: hard coal, crude oil, natural gas.

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## Index of agricultural commodity prices\* (higher in longer-term horizon)

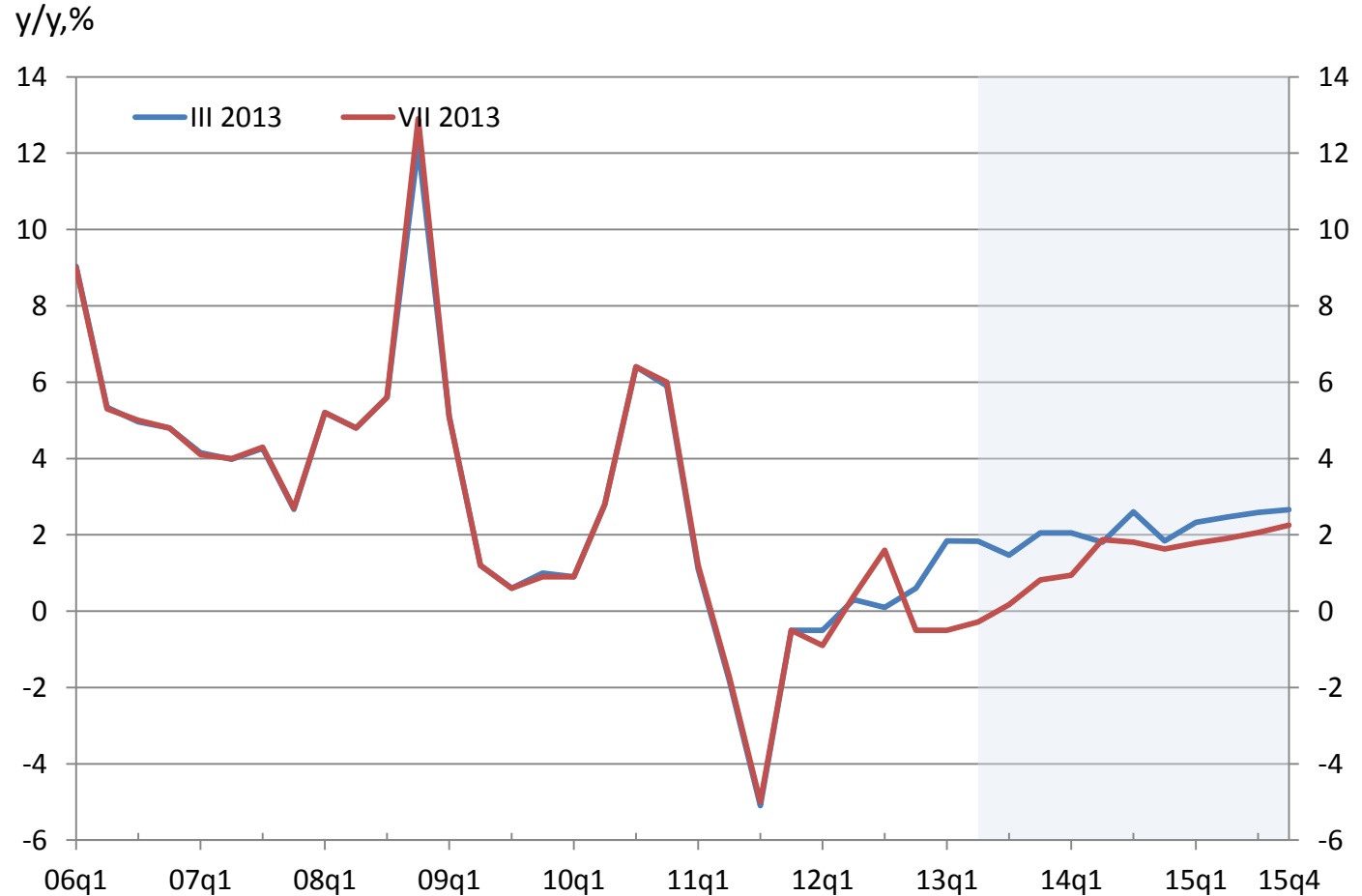
USD, 2011=1



\* From the July projection index of agricultural commodity prices is based on futures quoted mainly on European exchanges. Index includes prices of : wheat, oilseed, pork, potatoes, sugar, cocoa, coffee, skimmed milk powder, butter and frozen concentrated orange juice

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## Public consumption (lower)



- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## GDP and its components

	12Q4	13Q1
GDP (y/y) (%)	0,7 (0,8)	0,5 (0,9)
Domestic demand (y/y) (%)	-1,6 (-0,7)	-0,9 (-0,7)
Individual consumption (y/y) (%)	-0,2 (-0,9)	0,0 (-0,3)
Public consumption (y/y) (%)	-0,5 (0,3)	-0,5 (1,8)
Gross fixed capital formation (y/y) (%)	-4,1 (-0,5)	-2,0 (-4,2)
Exports (y/y) (%)	3,2 (1,6)	1,3 (1,6)
Imports (y/y) (%)	-2,4 (-1,8)	-1,7 (-2,2)
Net exports contribution (pp)	2,3 (1,5)	1,4 (1,7)

Values from the March projection are given in brackets (seasonally adjusted data in 13Q1).

Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

## Inflation

### CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

### PROJECTION

» Projection 2013-15

	13Q1	13Q2
CPI inflation (y/y) (%)	1,3 (1,7)	0,6 (1,4)
Core inflation (y/y) (%)	1,2 (1,5)	1,0 (1,5)
Food price inflation (y/y) (%)	2,5 (3,0)	1,6 (2,3)
Energy price inflation (y/y) (%)	0,1 (0,7)	-2,0 (0,0)

### UNCERTAINTY

» Risk factors

» Fan charts

Values from the March projection are given in brackets (seasonally adjusted data in 13Q1).

Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

## Absorption of EU transfers (higher in short-term and mid-term horizon)

**CHANGES IN THE SCENARIO**

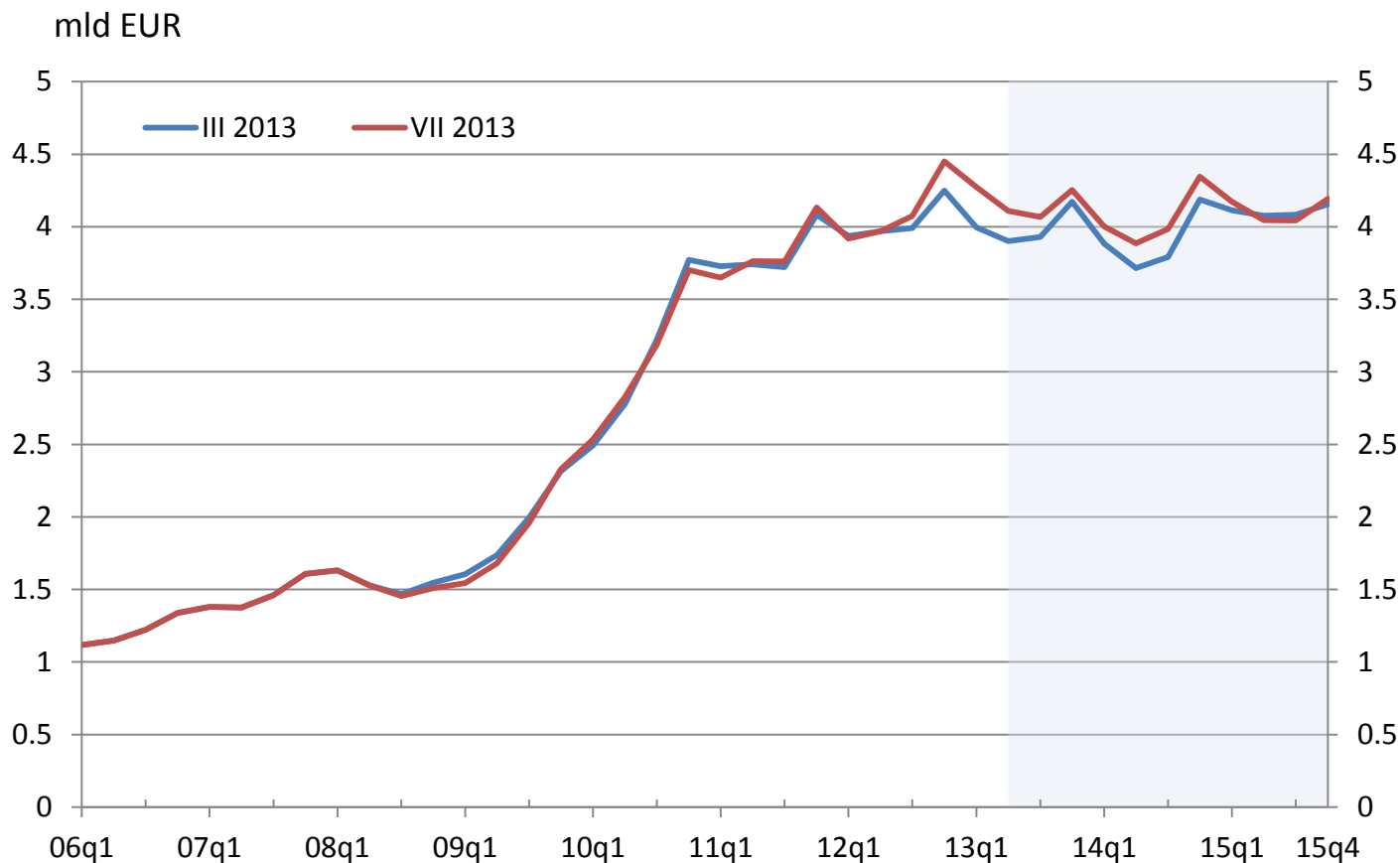
- » Changes in the assumptions
- » Current vs previous projection

**PROJECTION**

- » Projection 2013-15

**UNCERTAINTY**

- » Risk factors
- » Fan charts





## Decomposition of deviations between July and March projections: GDP

**CHANGES IN THE SCENARIO**

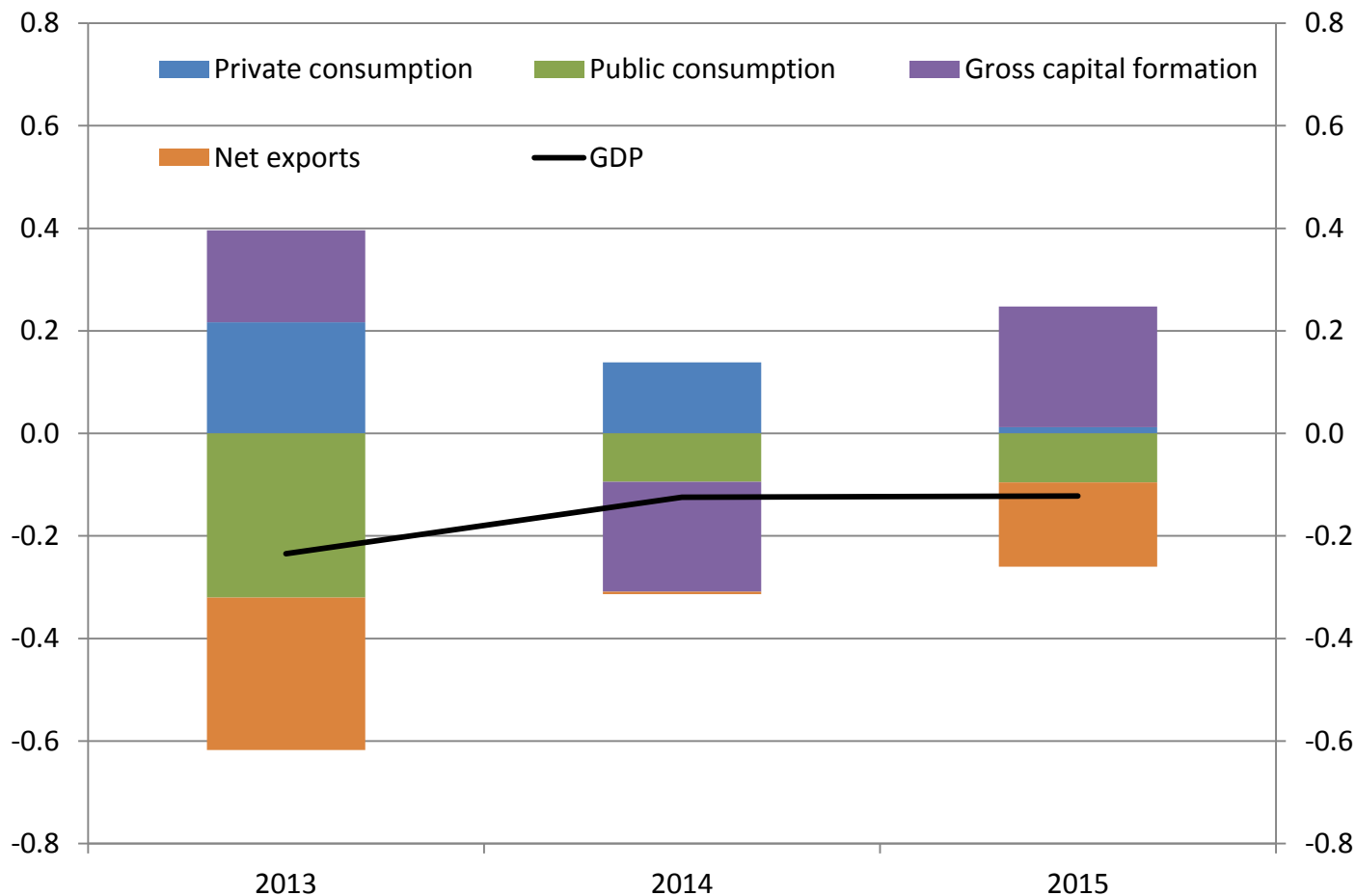
- » Changes in the assumptions
- » Current vs previous projection

**PROJECTION**

- » Projection 2013-15

**UNCERTAINTY**

- » Risk factors
- » Fan charts



## Decomposition of deviations between July and March projections: CPI inflation

**CHANGES IN THE SCENARIO**

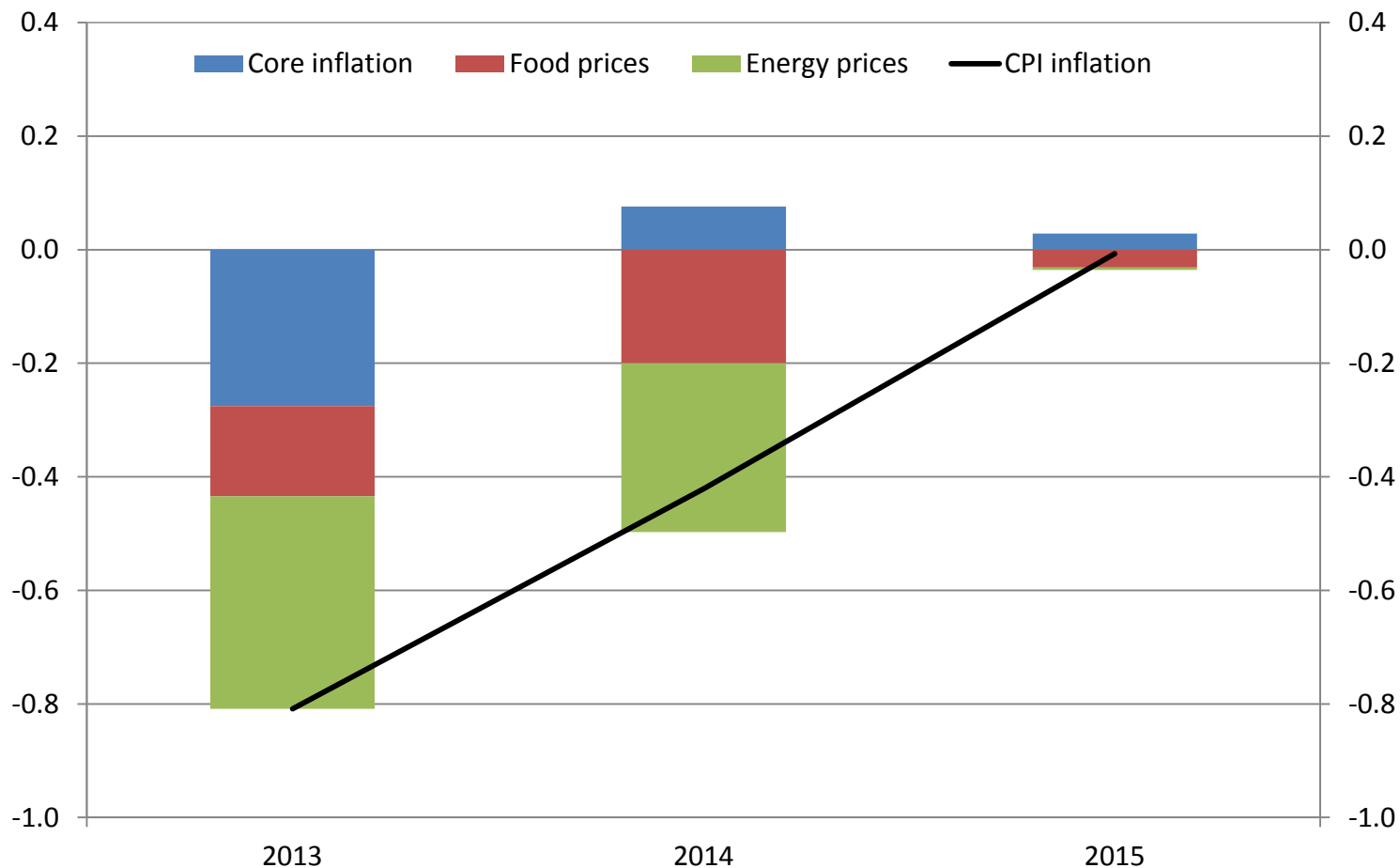
- » Changes in the assumptions
- » Current vs previous projection

**PROJECTION**

- » Projection 2013-15

**UNCERTAINTY**

- » Risk factors
- » Fan charts



CHANGES IN  
THE SCENARIO

- » Changes in the assumptions
- » Current vs previous projection

PROJECTION

- » Projection 2013-15

UNCERTAINTY

- » Risk factors
- » Fan charts

# PROJECTION

## Projection scenario – assumptions

### CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

### PROJECTION

» Projection 2013-15

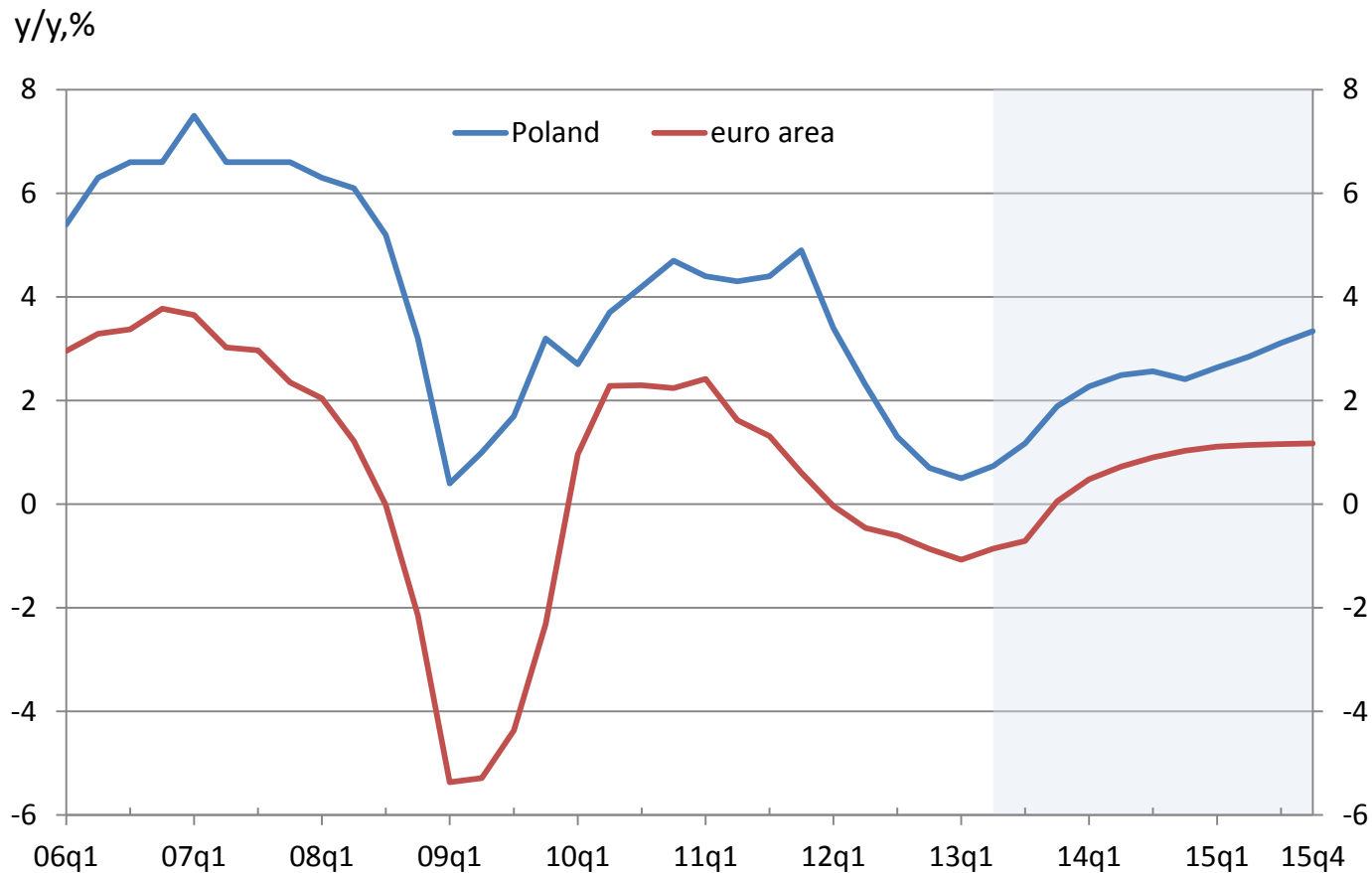
### UNCERTAINTY

» Risk factors

» Fan charts

- Moderate recovery in economic conditions abroad
- Relatively stable commodity prices
- Fiscal policy tightening
- Transition from the old to the new EU financial perspective (2014-2020)
- Stable Zloty exchange rate
- GDP growth and inflation accelerate, yet they will remain low

## GDP: Poland vs euro area



CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

PROJECTION

» Projection 2013-15

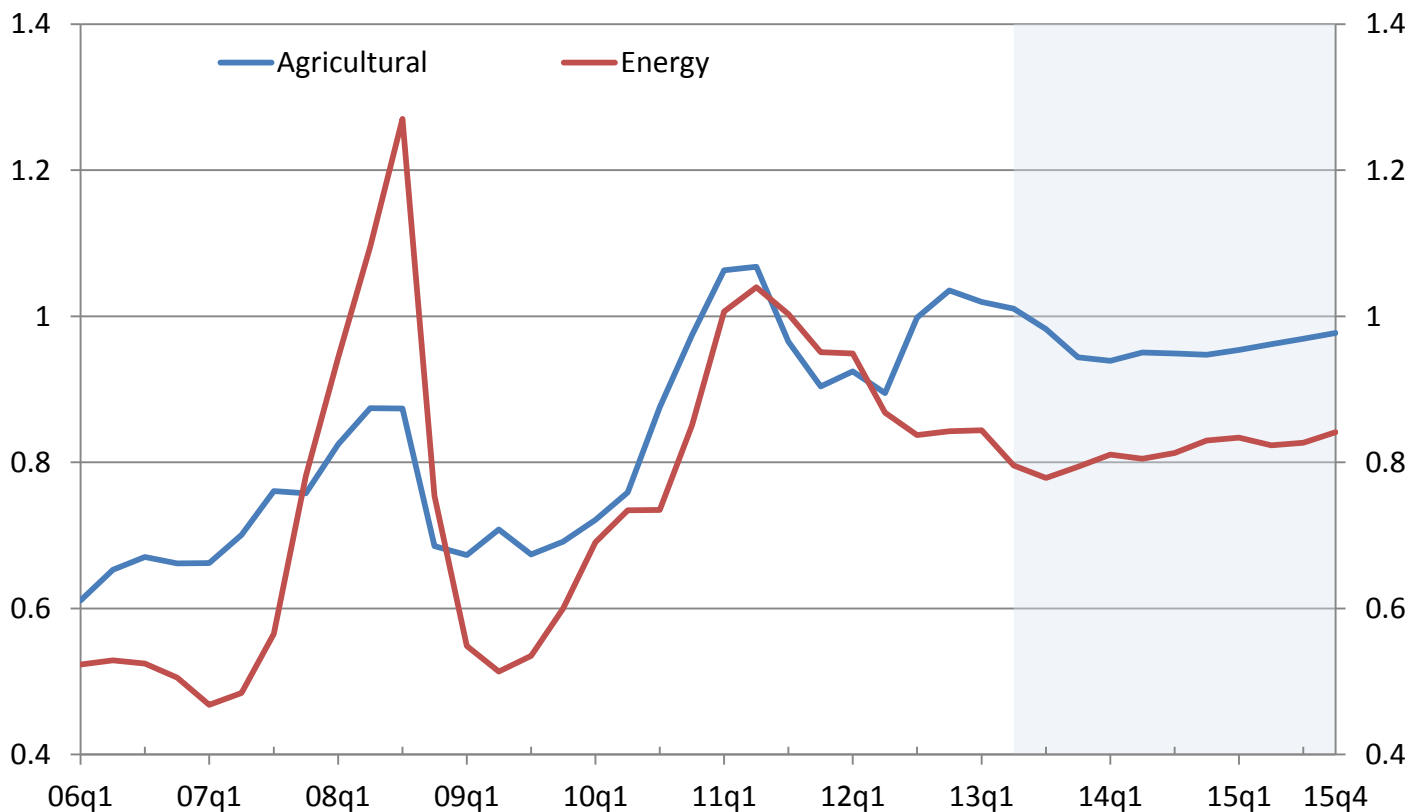
UNCERTAINTY

» Risk factors

» Fan charts

## Index of commodity prices in the global markets

USD, 2011=1



### CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

### PROJECTION

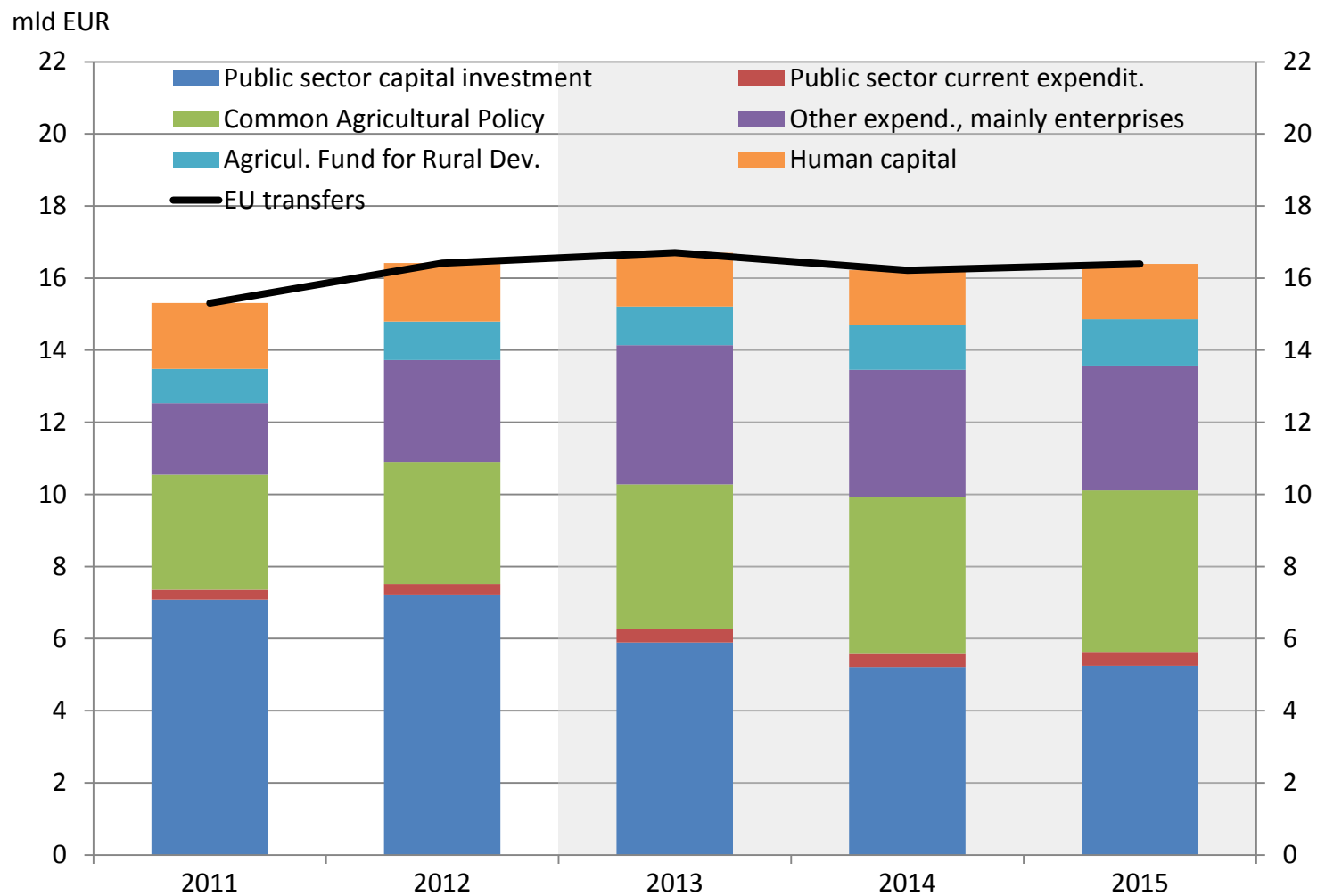
» Projection 2013-15

### UNCERTAINTY

» Risk factors

» Fan charts

## EU transfers – breakdown



CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

PROJECTION

» Projection 2013-15

UNCERTAINTY

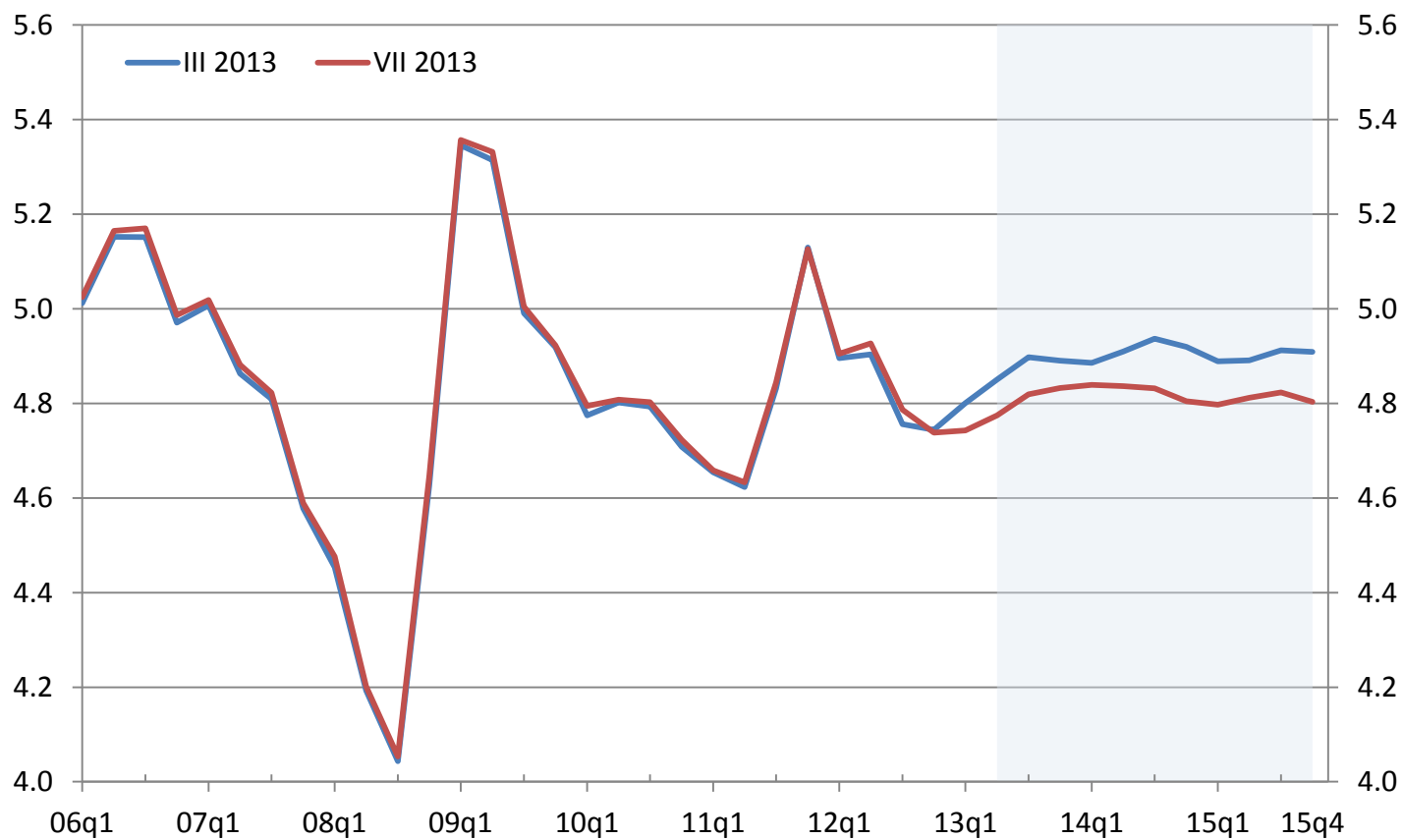
» Risk factors

» Fan charts



## Exchange rate (stronger)

Real effective exchange rate (REER)



CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

PROJECTION

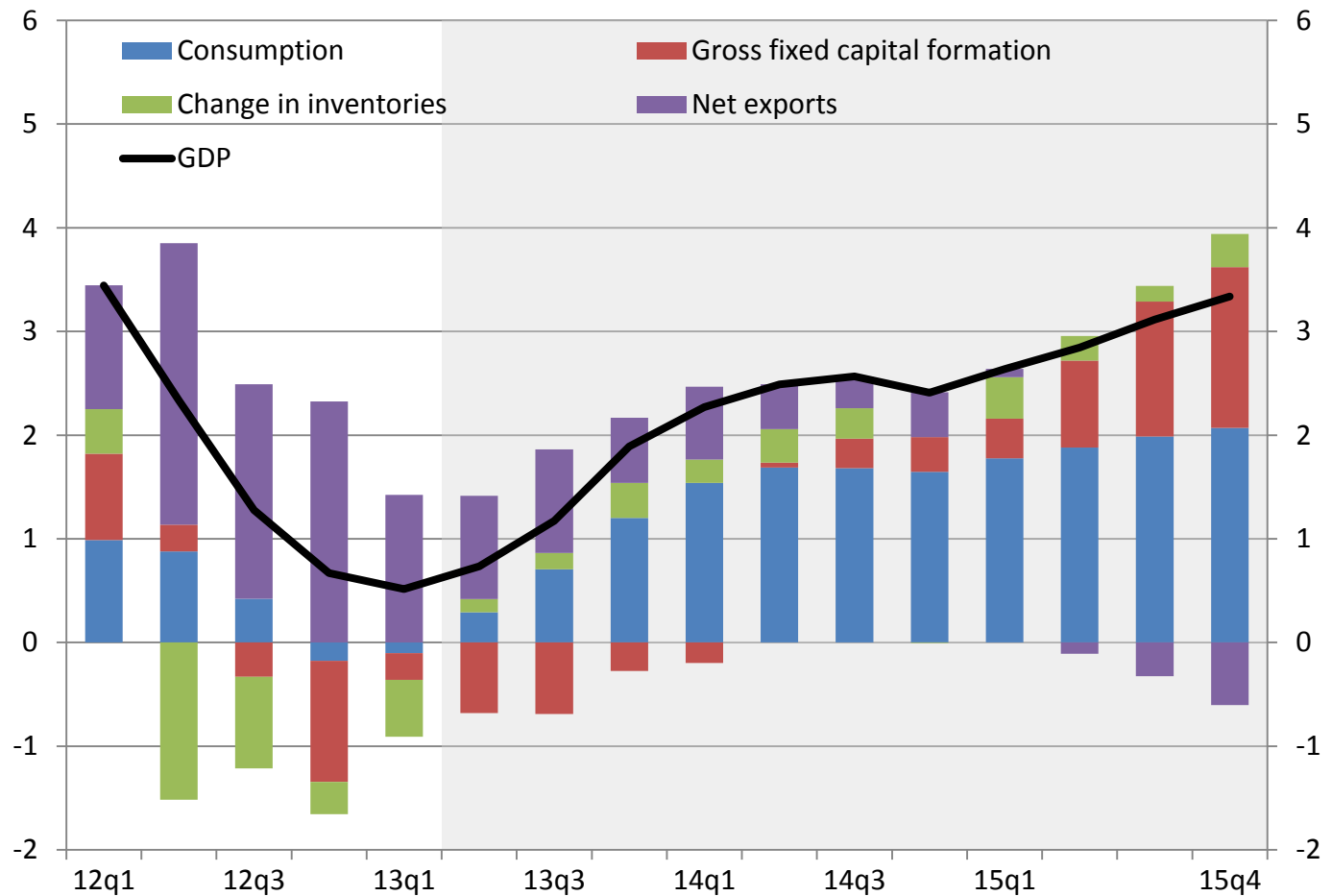
» Projection 2013-15

UNCERTAINTY

» Risk factors

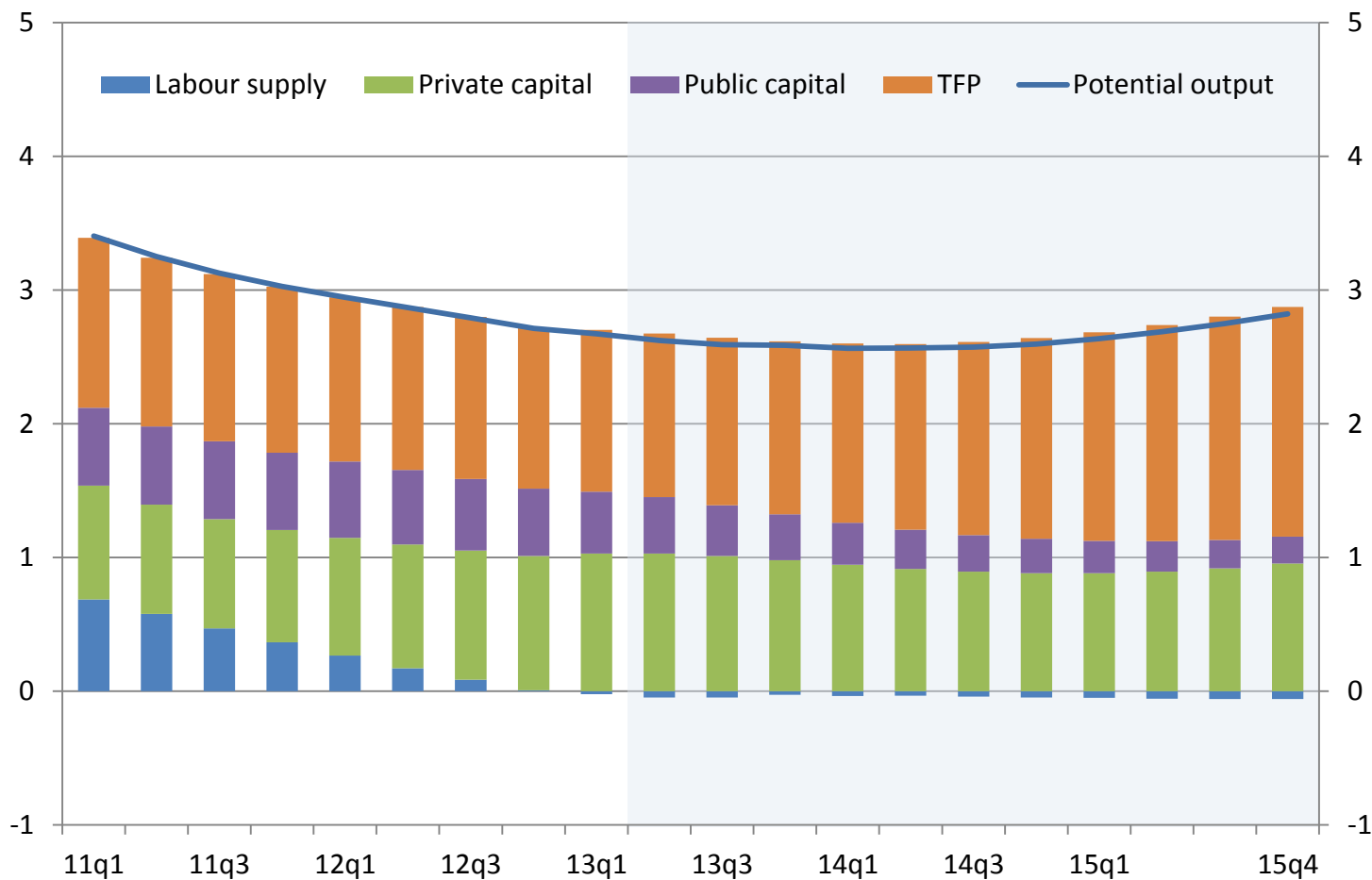
» Fan charts

## GDP: decomposition



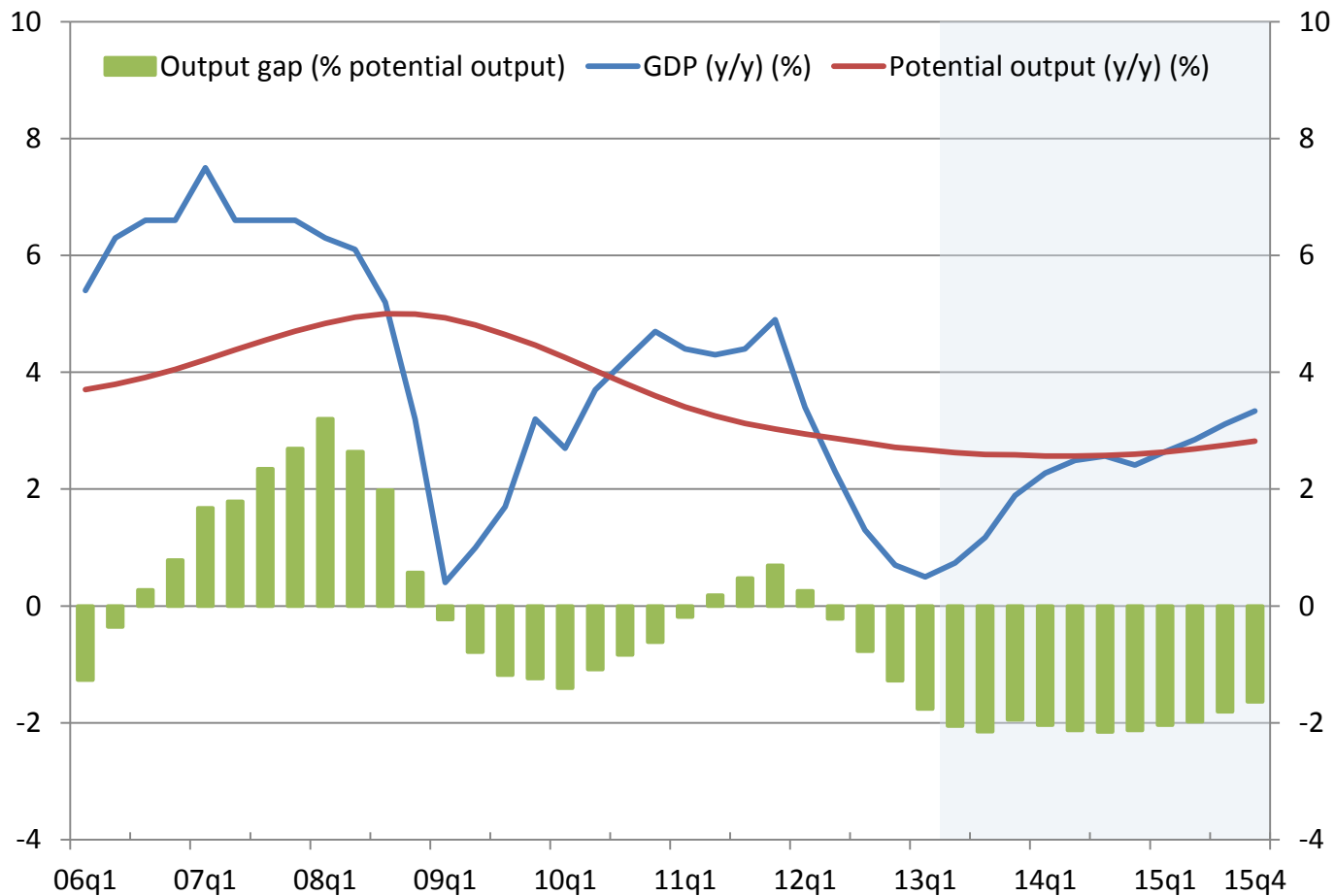
- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION**
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

# Potential output



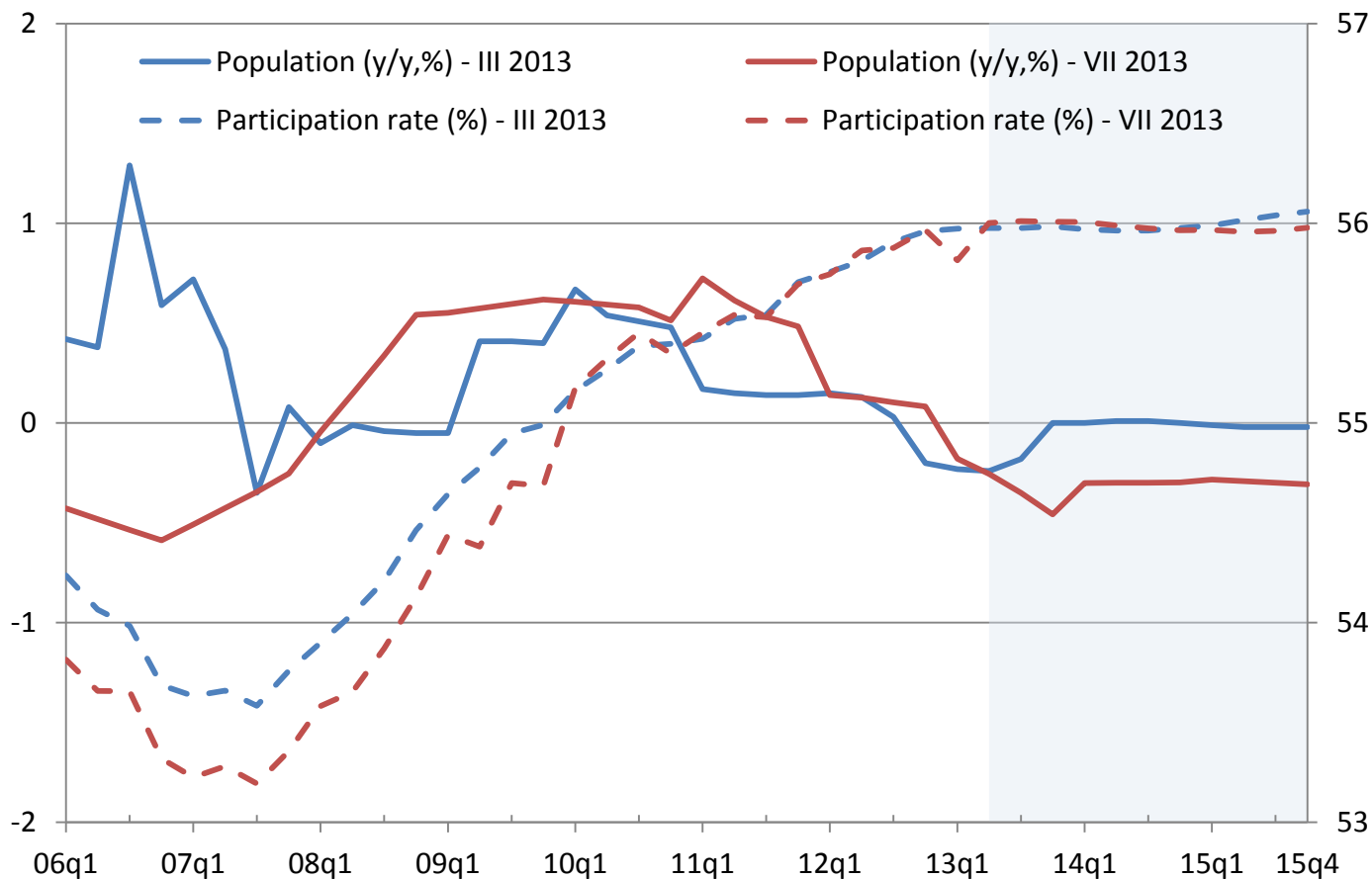
- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION**
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

# Output gap



- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION**
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## Population (lower) and participation rate (similar)\*



\* Differences in historical data are caused by LFS data revision.

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

## Labour market

CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

» Current vs previous  
projection

PROJECTION

» Projection 2013-15

UNCERTAINTY

» Risk factors

» Fan charts

	12Q4	13Q1
ULC (y/y) (%)	2,8 (2,8)	1,4 (1,9)
Labour productivity (y/y) (%)	0,5 (1,2)	1,2 (1,6)
Gross wages (y/y) (%)	2,9 (3,2)	2,6 (2,7)
Total employment LFS (y/y) (%)	0,1 (-0,3)	-0,7 (-0,7)
Unemployment LFS (%)	10,2 (10,4)	10,4 (10,6)
Participation rate (%)	56,0 (56,0)	55,8 (56,0)

Values from the March projection are given in brackets (seasonally adjusted data in 13Q1).

Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

# Labour market

CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

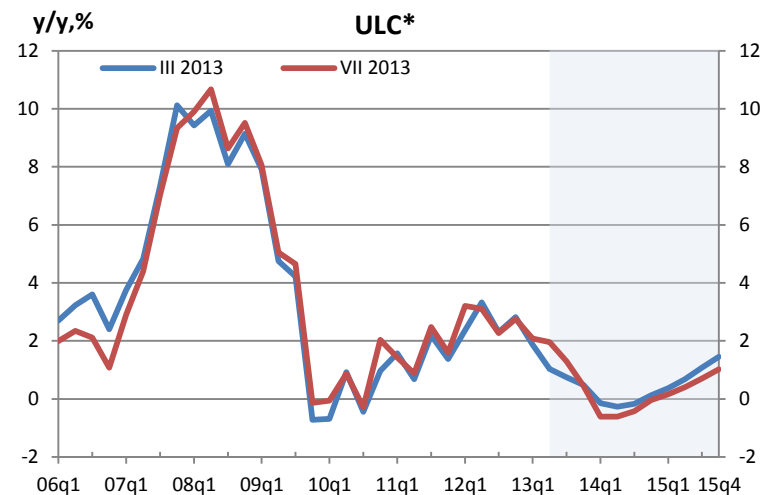
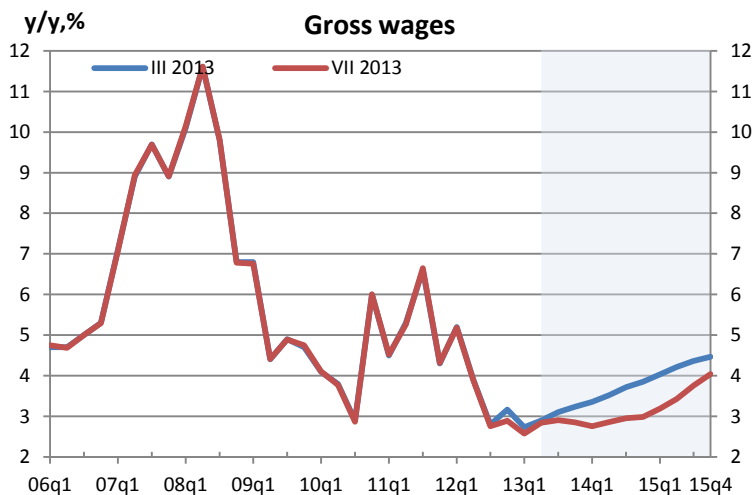
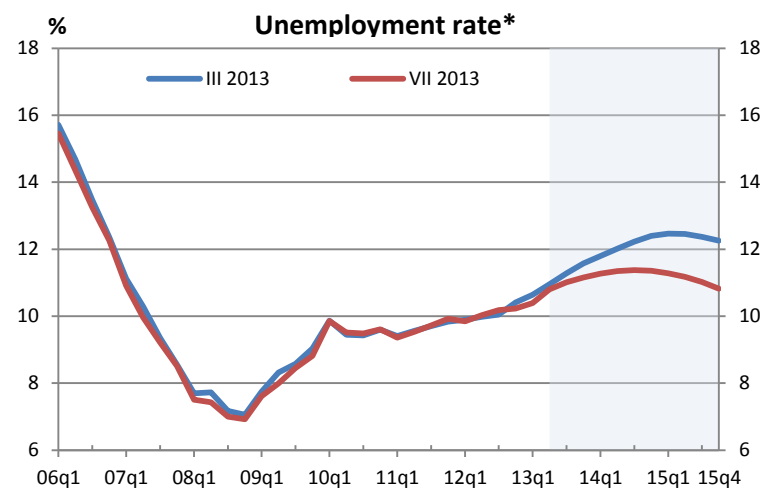
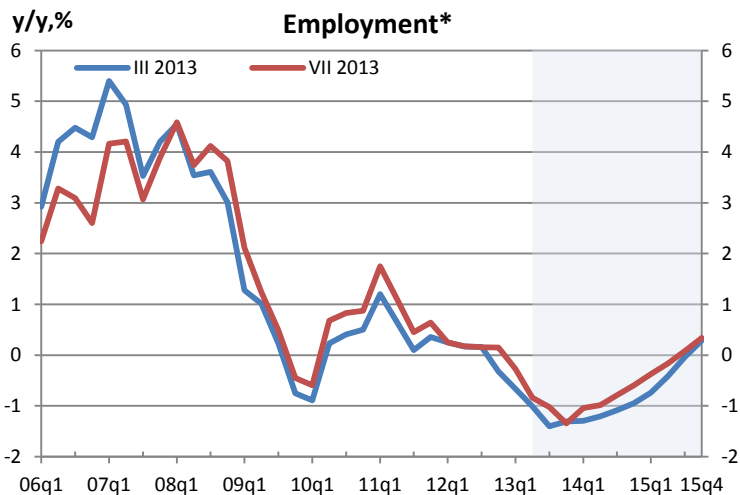
PROJECTION

» Projection 2013-15

UNCERTAINTY

» Risk factors

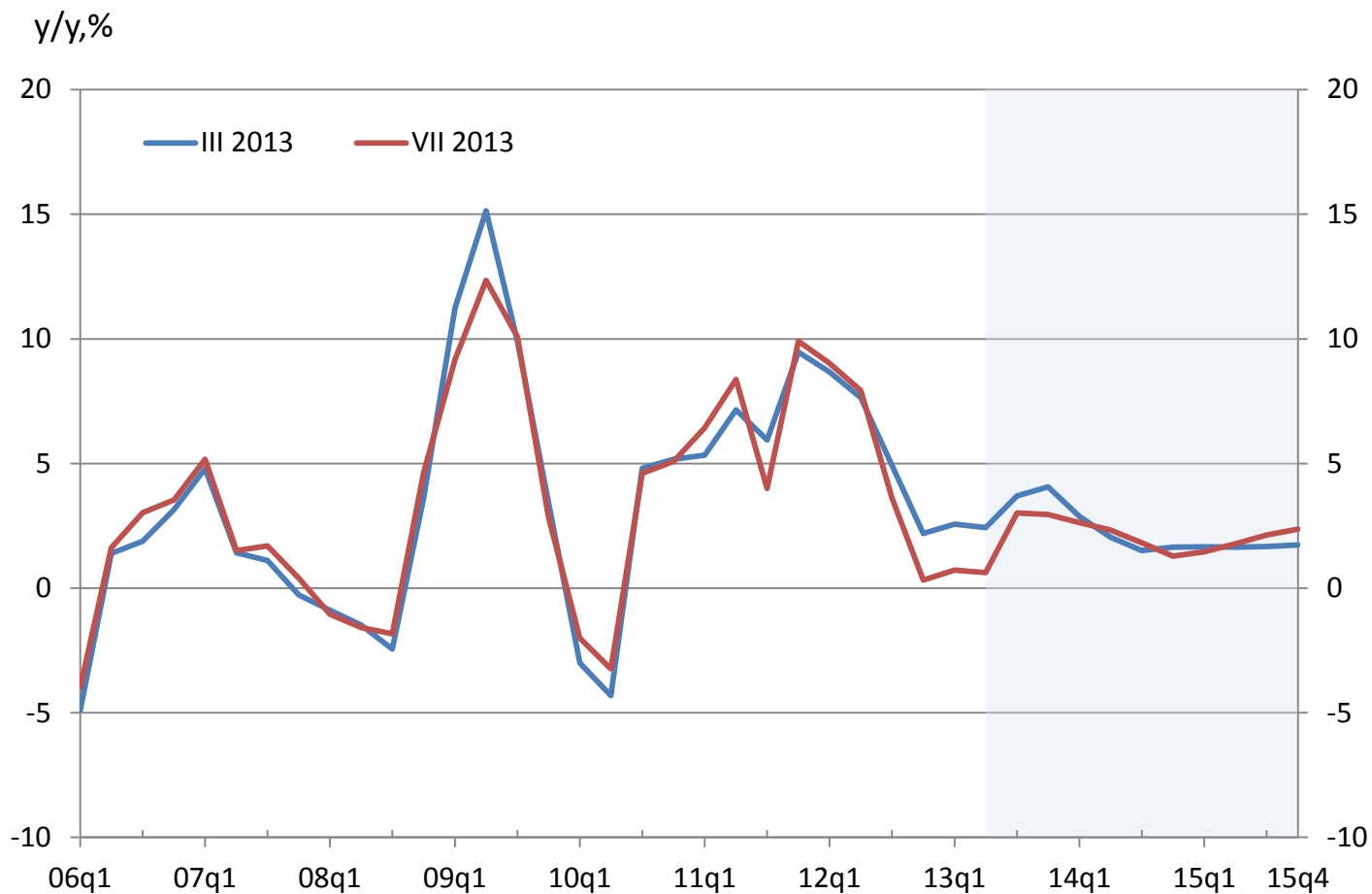
» Fan charts



\* Differences in historical data are caused by LFS data revision.



## Import prices (excluding oil and natural gas)



CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs previous projection

PROJECTION

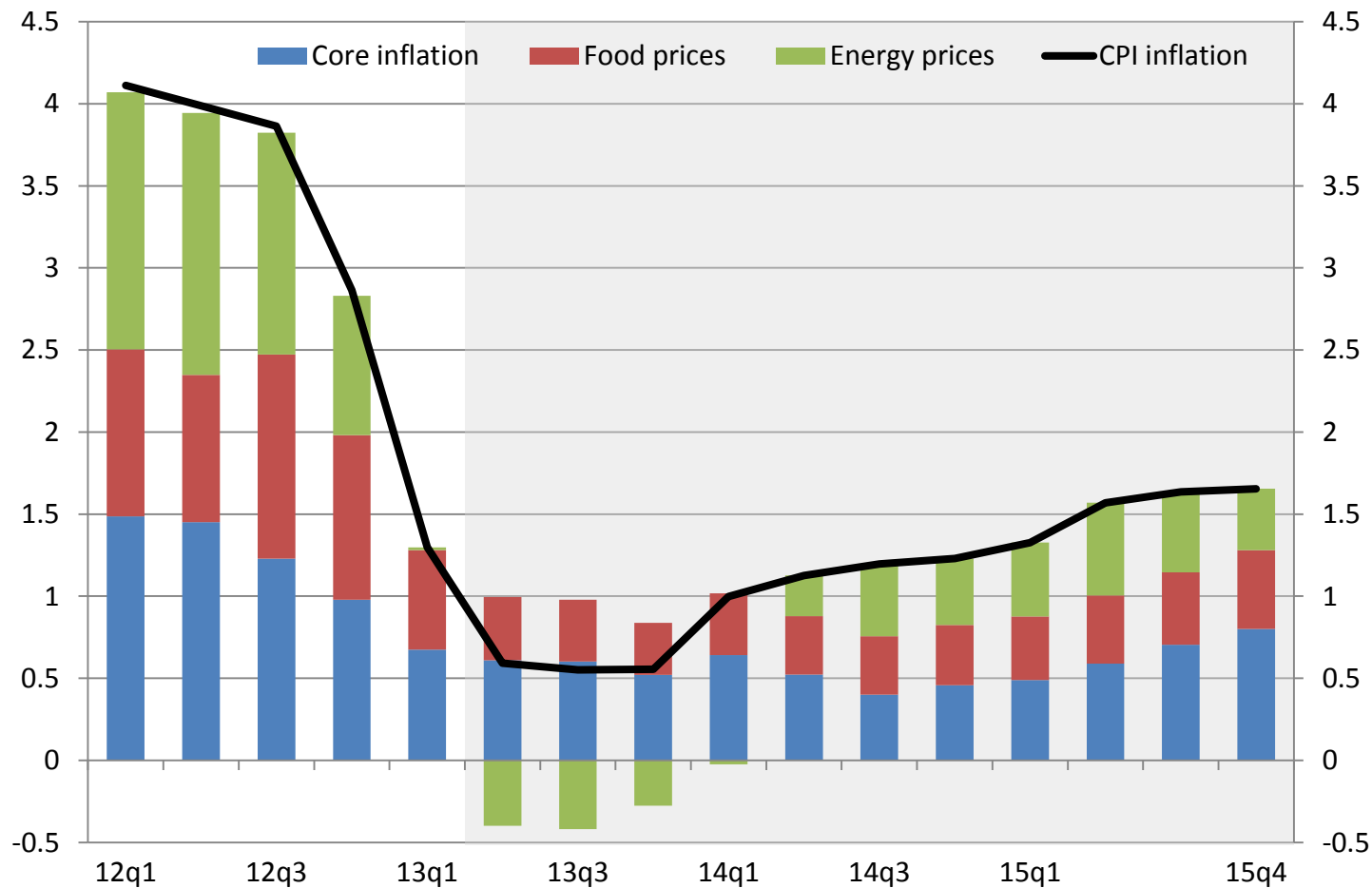
» Projection 2013-15

UNCERTAINTY

» Risk factors

» Fan charts

## CPI inflation (y/y, %) – decomposition



- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts

CHANGES IN  
THE SCENARIO

- » Changes in the assumptions
- » Current vs previous projection

PROJECTION

- » Projection 2013-15

UNCERTAINTY

- » Risk factors
- » Fan charts

# UNCERTAINTY OF THE PROJECTION

- Risk factors
- Fan charts

CHANGES IN  
THE SCENARIO

- » Changes in the assumptions
- » Current vs previous projection

PROJECTION

- » Projection 2013-15

UNCERTAINTY

- » Risk factors
- » Fan charts

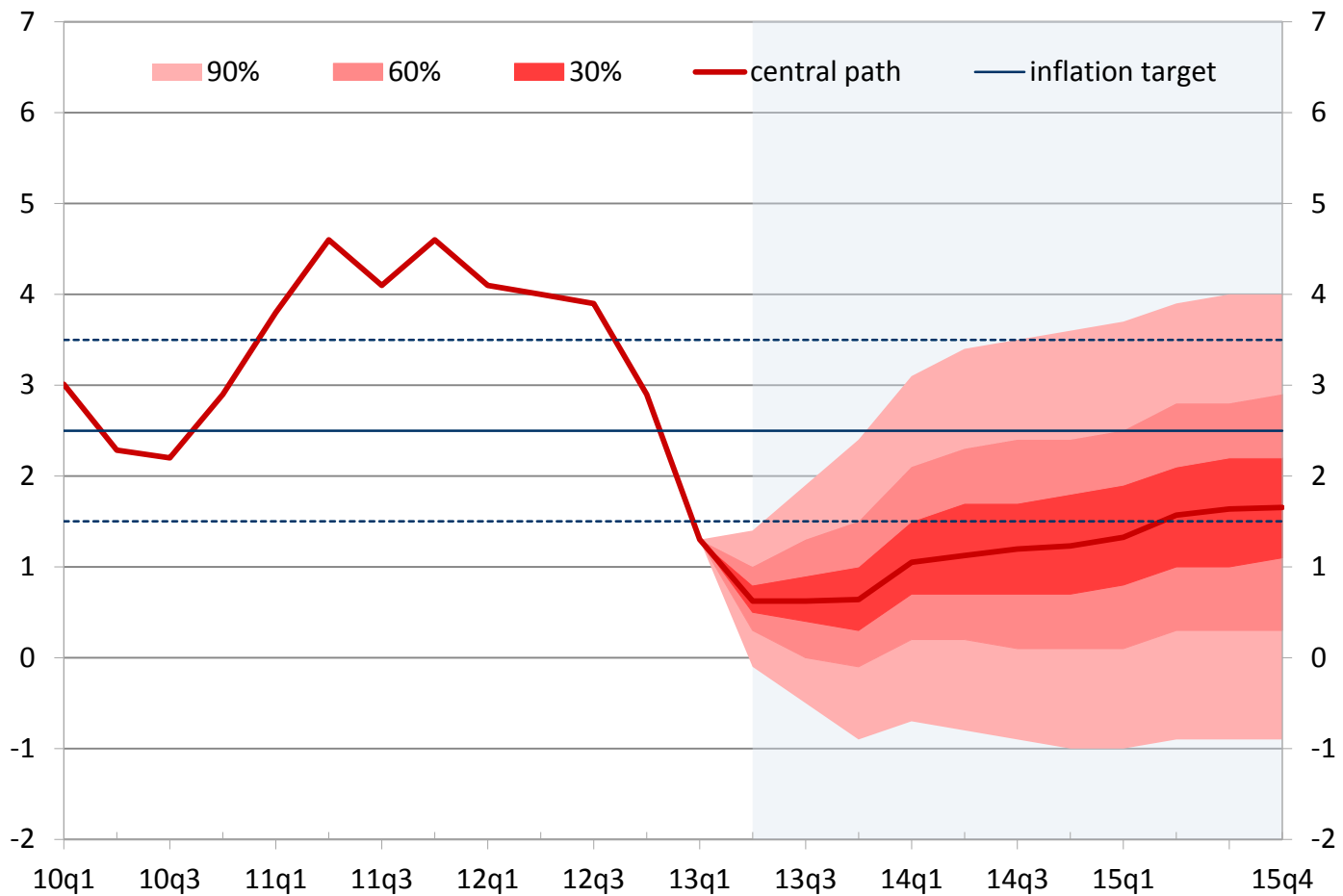
Risk factors

	Risk area	Description	Impact	Scale of impact
<b>CHANGES IN THE SCENARIO</b> » Changes in the assumptions » Current vs previous projection	External environment and exchange rate	<ul style="list-style-type: none"> <li>▪ The length of the recession in the euro area and the limits of the future expansion.</li> <li>▪ The zloty exchange rate path, highly dependent on the future situation in the euro area.</li> <li>▪ Monetary policy in developed countries, including the effects of limiting quantitative easing in the United States.</li> </ul>	inflation ↔ GDP ↓	***
<b>PROJECTION</b> » Projection 2013-15				
<b>UNCERTAINTY</b> » Risk factors » Fan charts	Fiscal and regulation policy	<ul style="list-style-type: none"> <li>▪ Potential additional actions aiming at keeping the public finance deficit at a level which ensures compliance with national and European fiscal rules in the period of economic downturn.</li> <li>▪ Level of EU funds absorption in the next years.</li> </ul>	inflation ↔ GDP ↓	**

	Risk area	Description	Impact	Scale of impact
<p>CHANGES IN THE SCENARIO</p> <p>» Changes in the assumptions</p> <p>» Current vs previous projection</p>	Domestic demand	<ul style="list-style-type: none"> <li>▪ The reaction of households and enterprises to situation abroad and to fiscal tightening amidst low savings rate and limited credit access.</li> <li>▪ The impact of fiscal tightening on the assessment of Poland's creditworthiness and inflow of foreign direct investment.</li> </ul>	inflation ↔ GDP ↔	**
<p>PROJECTION</p> <p>» Projection 2013-15</p>	Food and energy prices in Poland	<ul style="list-style-type: none"> <li>▪ Uncertain impact of European regulations on prices in Poland, particularly those concerning Energy and Climate Package (unknown amount and price of carbon emission allowances for the Polish economy).</li> <li>▪ Future tariff policy of the Energy Regulatory Office.</li> <li>▪ Regulatory activities on the food market.</li> <li>▪ Agrometeorological conditions.</li> <li>▪ The agricultural and energy commodities' prices on the global markets.</li> </ul>	inflation ↔ GDP ↔	**
<p>UNCERTAINTY</p> <p>» Risk factors</p> <p>» Fan charts</p>	Conclusions		inflation ↔ GDP ↓	

## Inflation projection – July 2013

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs previous projection
- PROJECTION
- » Projection 2013-15
- UNCERTAINTY
- » Risk factors
- » Fan charts



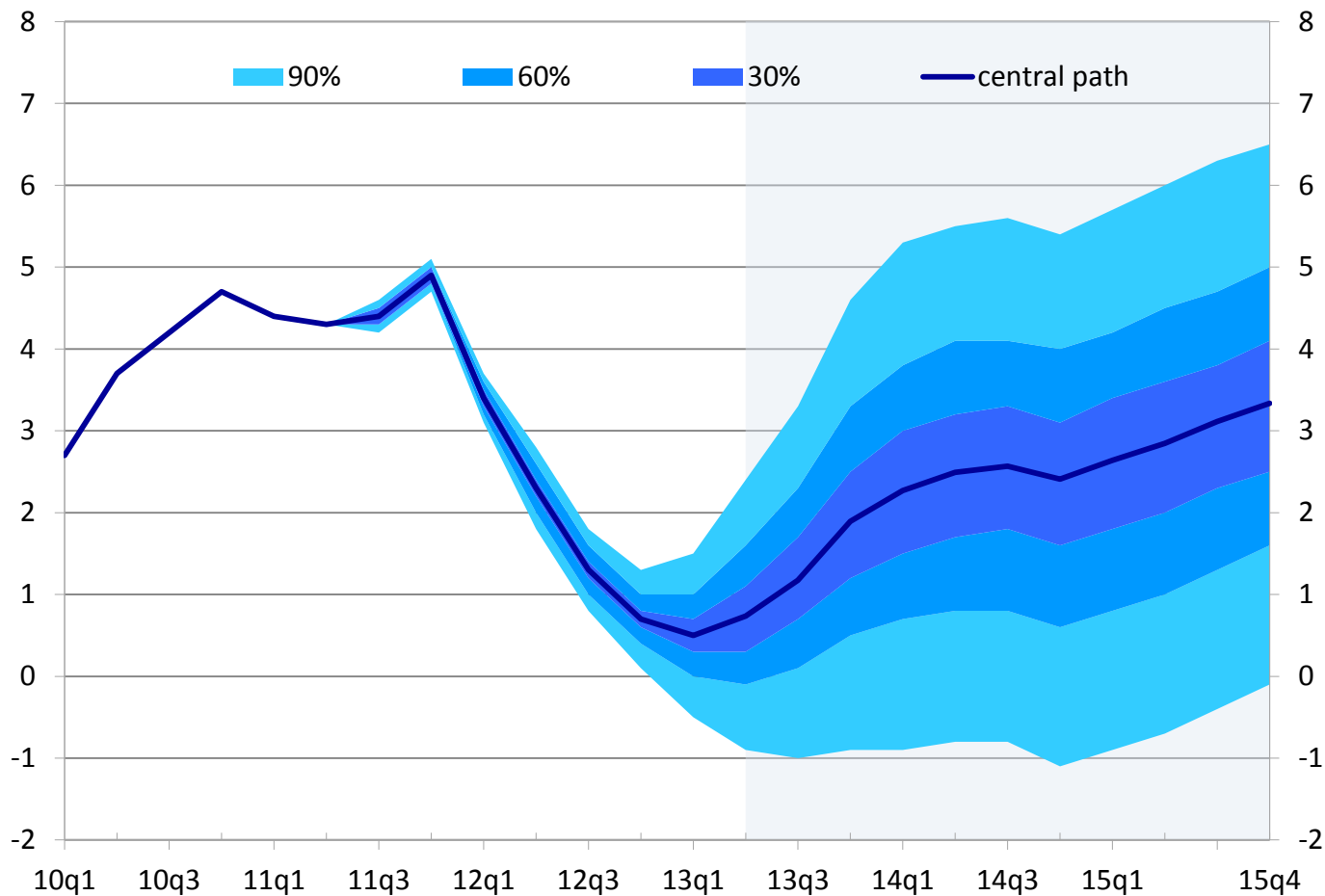


## Probability distribution for inflation

CHANGES IN THE SCENARIO	%	below 1,5%	below 2,5%	below 3,5%	below the central path	in the range (1,5% ; 3,5%)
» Changes in the assumptions	13q2	0,97	1,00	1,00	0,48	0,03
» Current vs previous projection	13q3	0,87	0,99	1,00	0,47	0,13
	13q4	0,78	0,96	1,00	0,47	0,21
PROJECTION	14q1	0,61	0,87	0,97	0,46	0,36
	14q2	0,58	0,83	0,96	0,46	0,38
» Projection 2013-15	14q3	0,56	0,81	0,94	0,47	0,38
	14q4	0,56	0,80	0,94	0,48	0,38
UNCERTAINTY	15q1	0,55	0,80	0,94	0,50	0,39
» Risk factors	15q2	0,49	0,75	0,91	0,51	0,42
» Fan charts	15q3	0,48	0,74	0,91	0,52	0,42
	15q4	0,48	0,73	0,90	0,52	0,42

## GDP projection – July 2013

- CHANGES IN THE SCENARIO
  - » Changes in the assumptions
  - » Current vs previous projection
- PROJECTION
  - » Projection 2013-15
- UNCERTAINTY
  - » Risk factors
  - » Fan charts



CHANGES IN  
THE SCENARIO

- » Changes in the assumptions
- » Current vs previous projection

PROJECTION

- » Projection 2013-15

UNCERTAINTY

- » Risk factors
- » Fan charts

Thank you for your attention