

# NBP

National Bank of Poland

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

Economic Institute



## Overview

1. Changes between projection rounds
  - Changes in the projection assumptions
  - July projection compared to March projection
2. Projection 2012-2014
3. Uncertainty
  - Risk factors
  - Fan charts

CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

» Current vs. previous  
projection

PROJECTION 2012-14

UNCERTAINTY

» Risk factors

» Fan charts

## JULY PROJECTION COMPARED TO MARCH PROJECTION

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

## Changes in the projection assumptions

### CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs. previous projection

PROJECTION 2012-14

### UNCERTAINTY

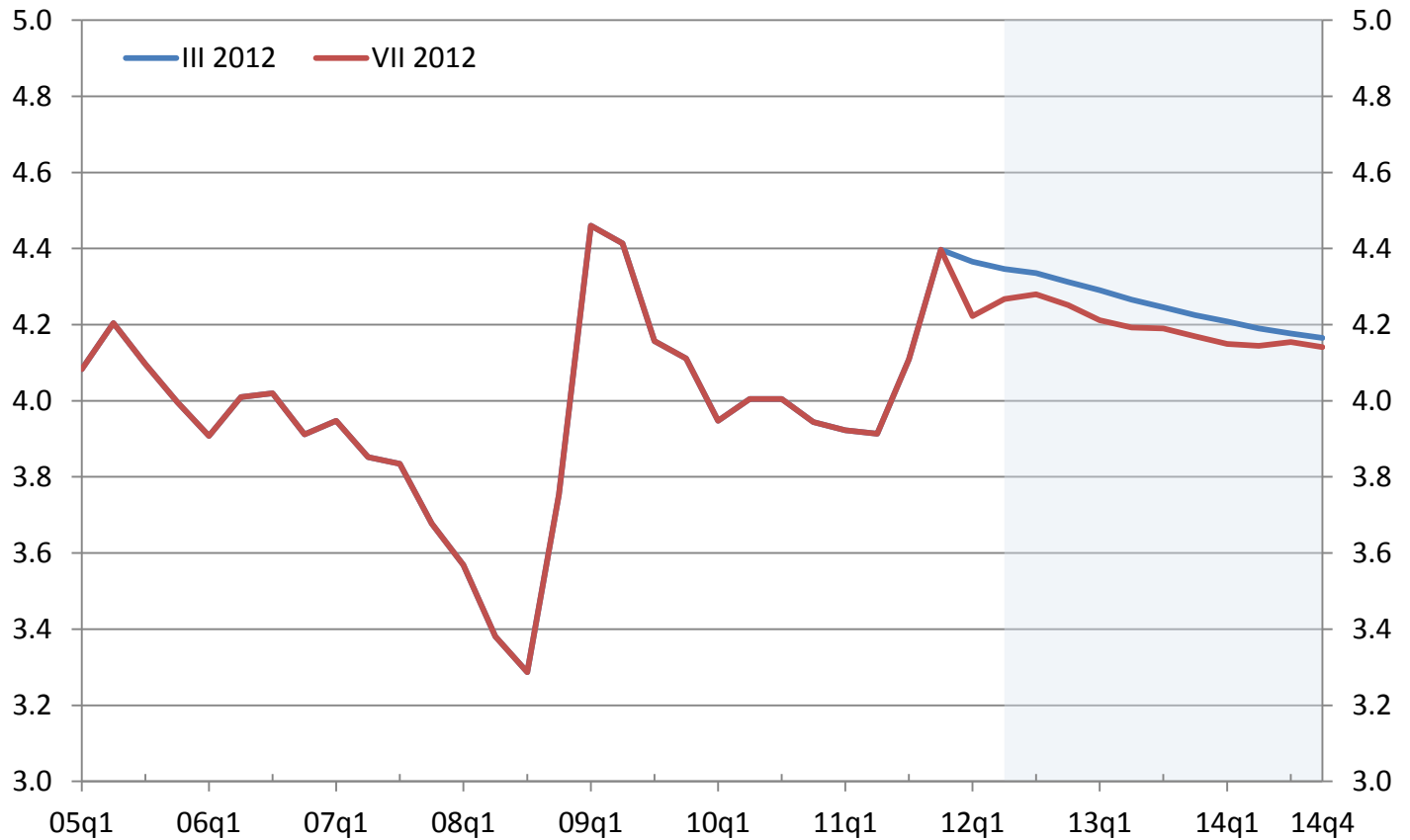
» Risk factors

» Fan charts

- Appreciation of the zloty exchange rate
- Decrease of energy commodity prices [USD]
- Increase of the NBP interest rates by 25 basis points
- Data on CPI inflation for ref. period 2012 Q1
- Re-estimation of the model

# Exchange rate (stronger)

Nominal effective exchange rate (NEER)



CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs. previous projection

PROJECTION 2012-14

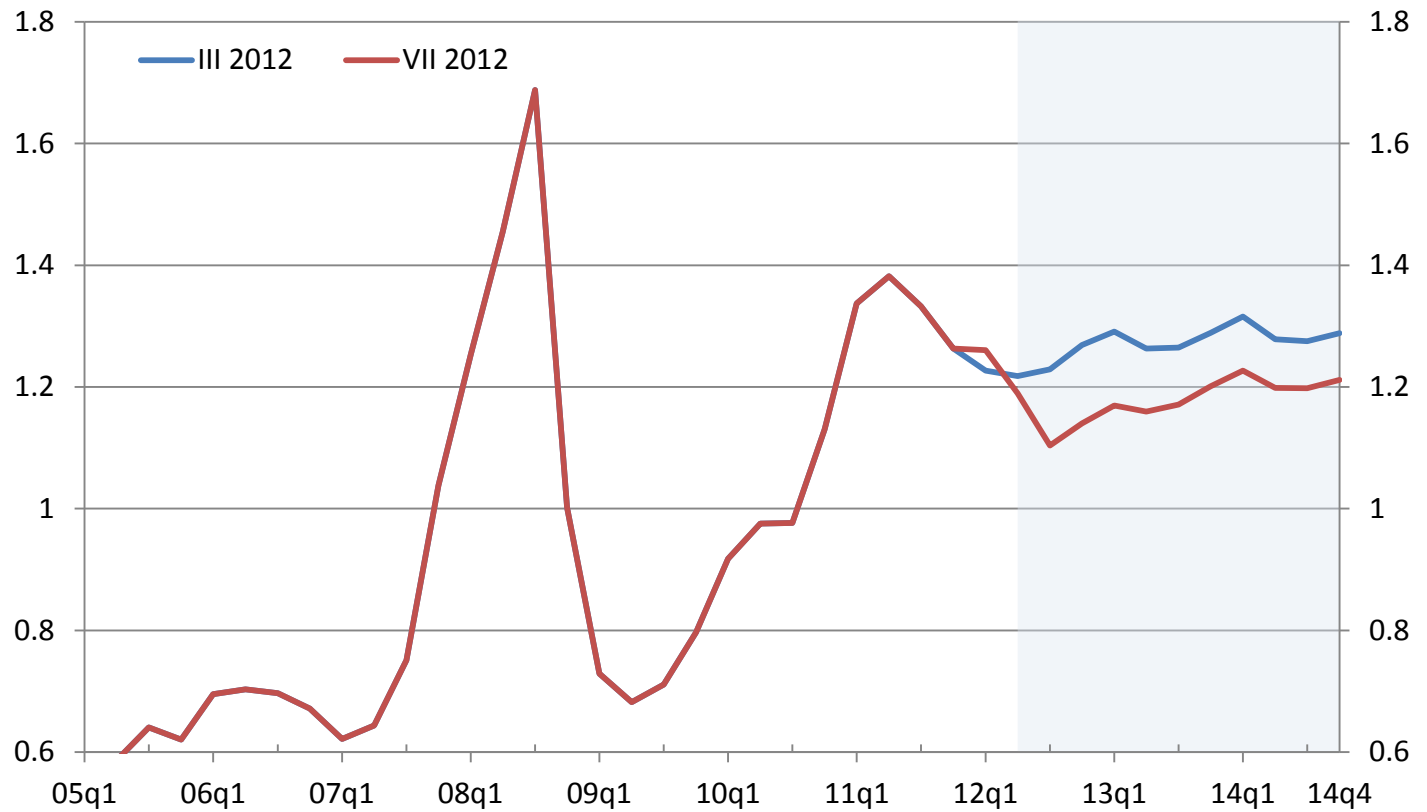
UNCERTAINTY

» Risk factors

» Fan charts

# Energy commodity price index\*

(lower)



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

# 3 month WIBOR (higher)

CHANGES IN THE SCENARIO

» Changes in the assumptions

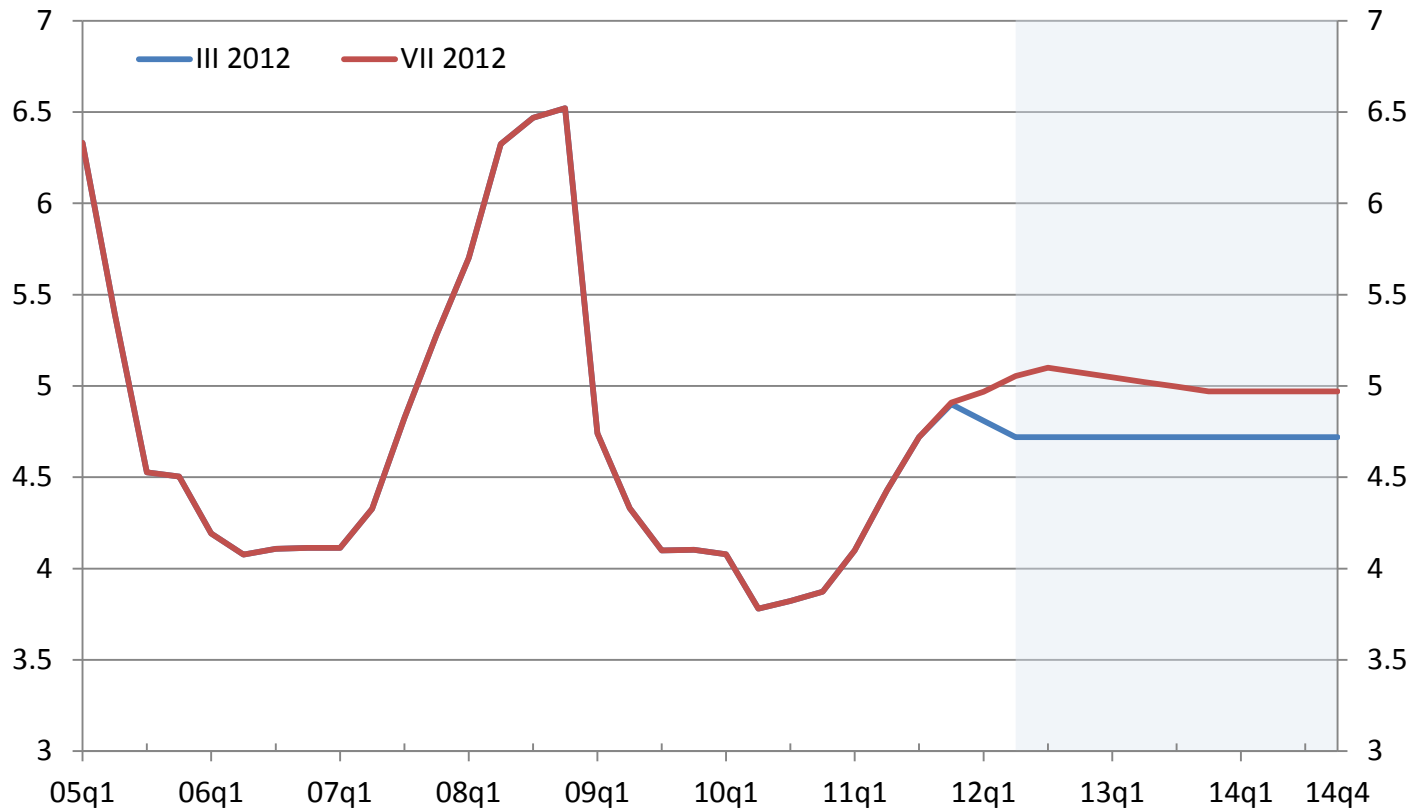
» Current vs. previous projection

PROJECTION 2012-14

UNCERTAINTY

» Risk factors

» Fan charts



## Inflation

CHANGES IN  
THE SCENARIO» Changes  
in the assumptions» Current vs. previous  
projection

## PROJECTION 2012-14

	11Q4	12Q1
CPI inflation (y/y) (%)	4,6 (05)	4,1 (4,3)
Core inflation (y/y) (%)	3,0 (03)	2,5 (3,0)
Food price inflation (y/y) (%)	4,4 (04)	4,2 (3,8)
Energy price inflation (y/y) (%)	10,3 (10)	9,3 (9,4)

## UNCERTAINTY

» Risk factors

» Fan charts

\* Values from the March projection are given in brackets (seasonally adjusted data). Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.



# July projection compared to March projection: CPI inflation

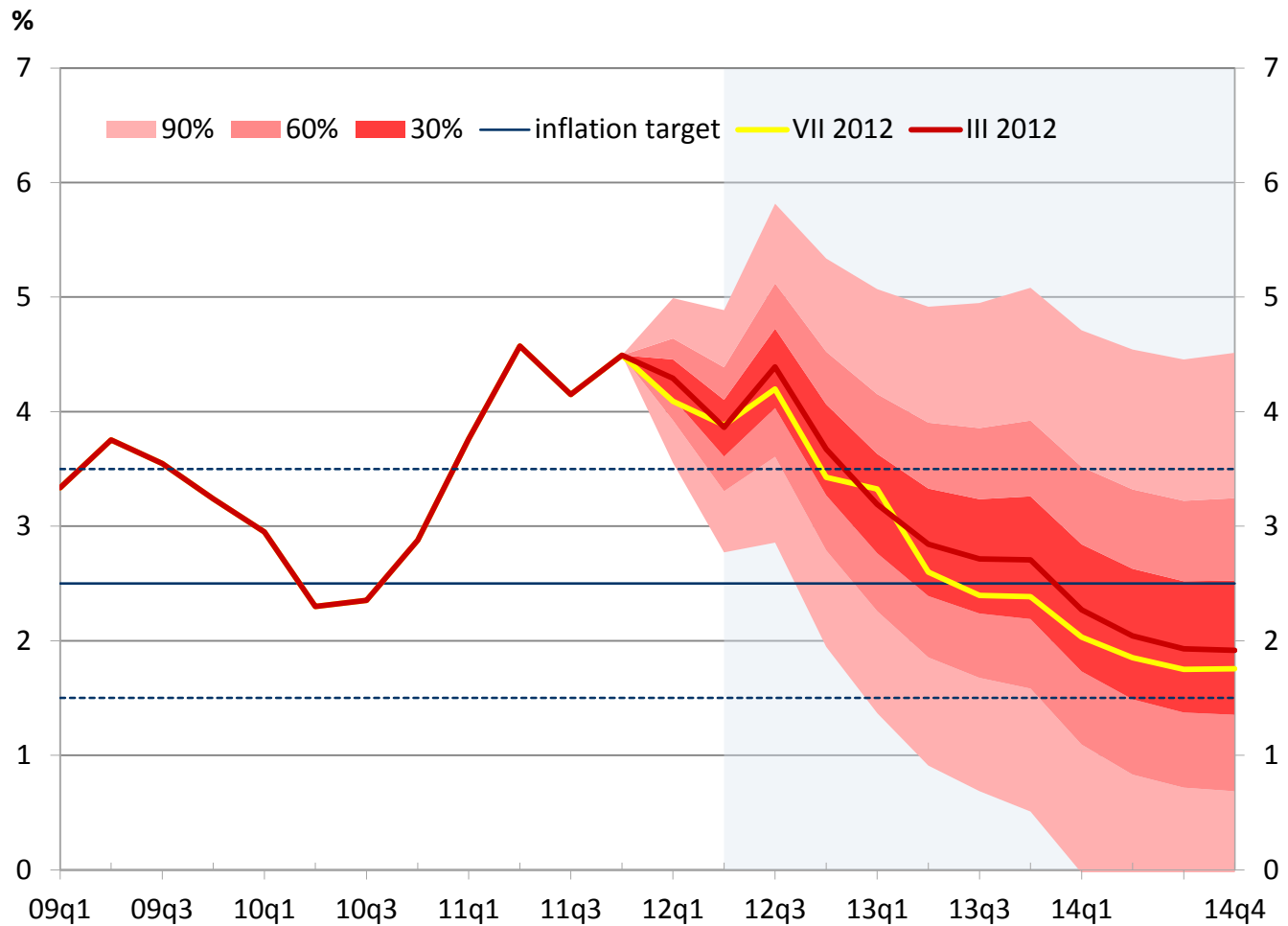
CHANGES IN THE SCENARIO

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

PROJECTION 2012-14

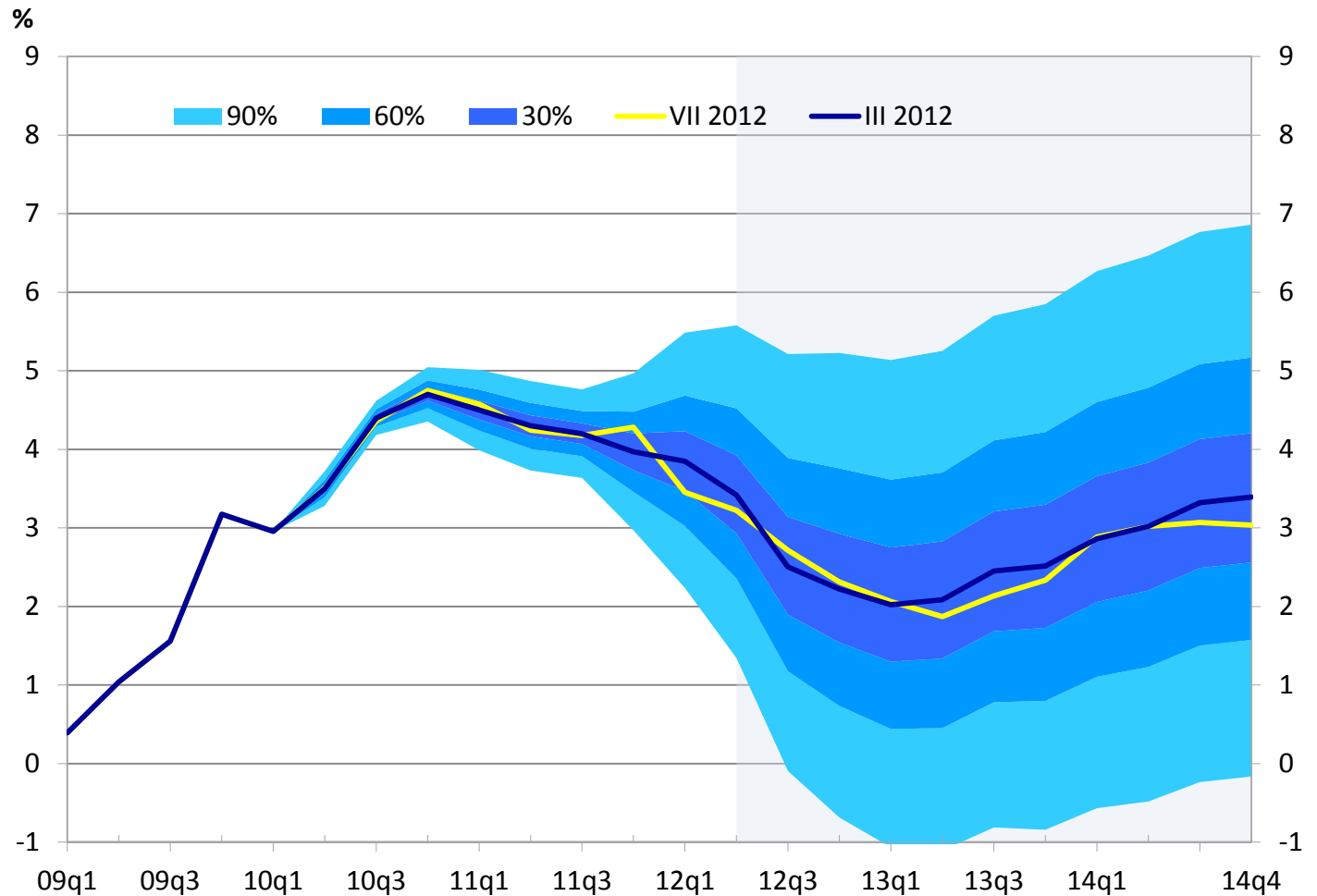
UNCERTAINTY

- » Risk factors
- » Fan charts



# July projection compared to March projection: GDP

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs. previous projection
- PROJECTION 2012-14
- UNCERTAINTY
- » Risk factors
- » Fan charts



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

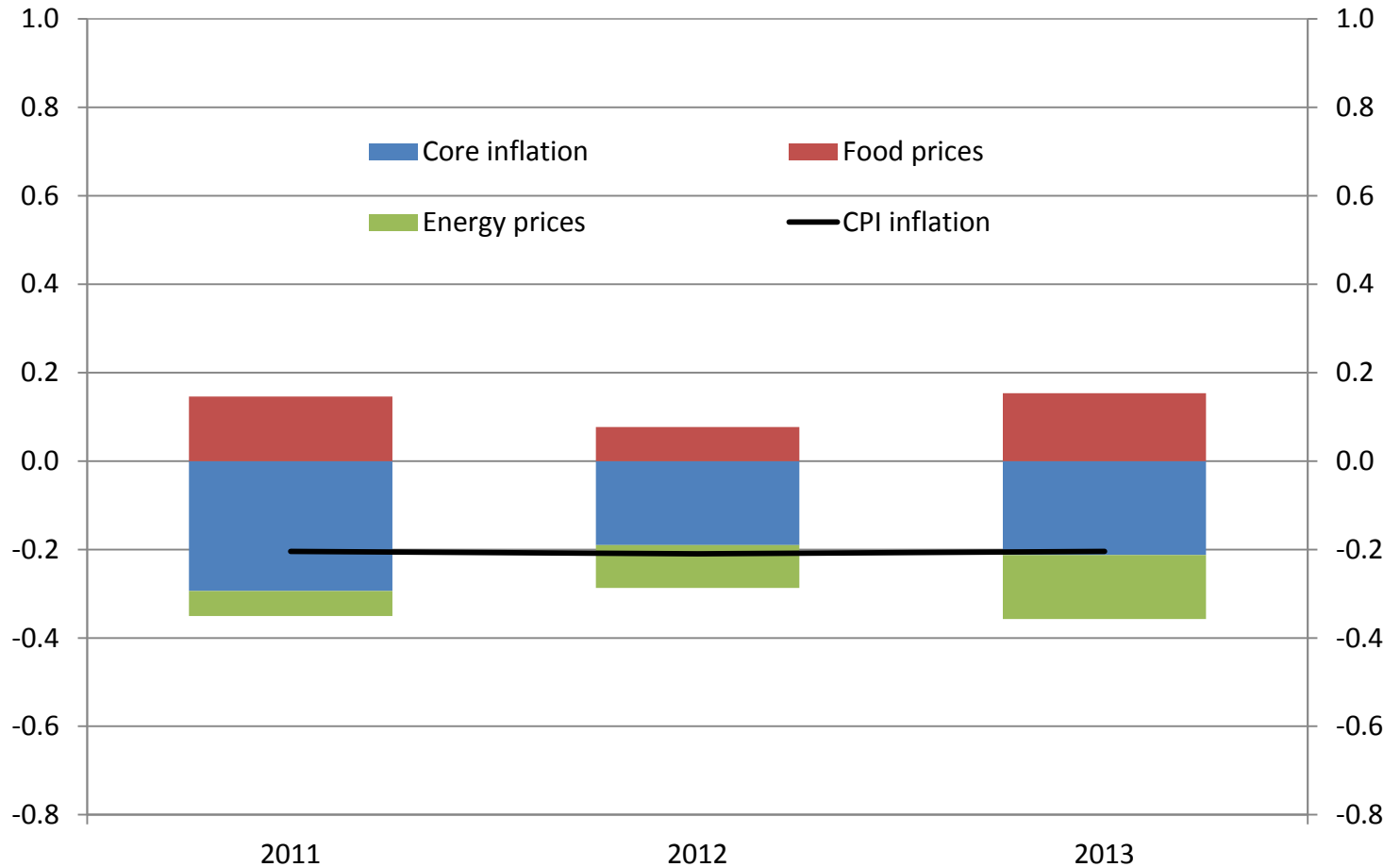
**CHANGES IN THE SCENARIO**

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

**PROJECTION 2012-14**

**UNCERTAINTY**

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- » Fan charts



# Decomposition of deviations between July and March projections: GDP

CHANGES IN THE SCENARIO

» Changes in the assumptions

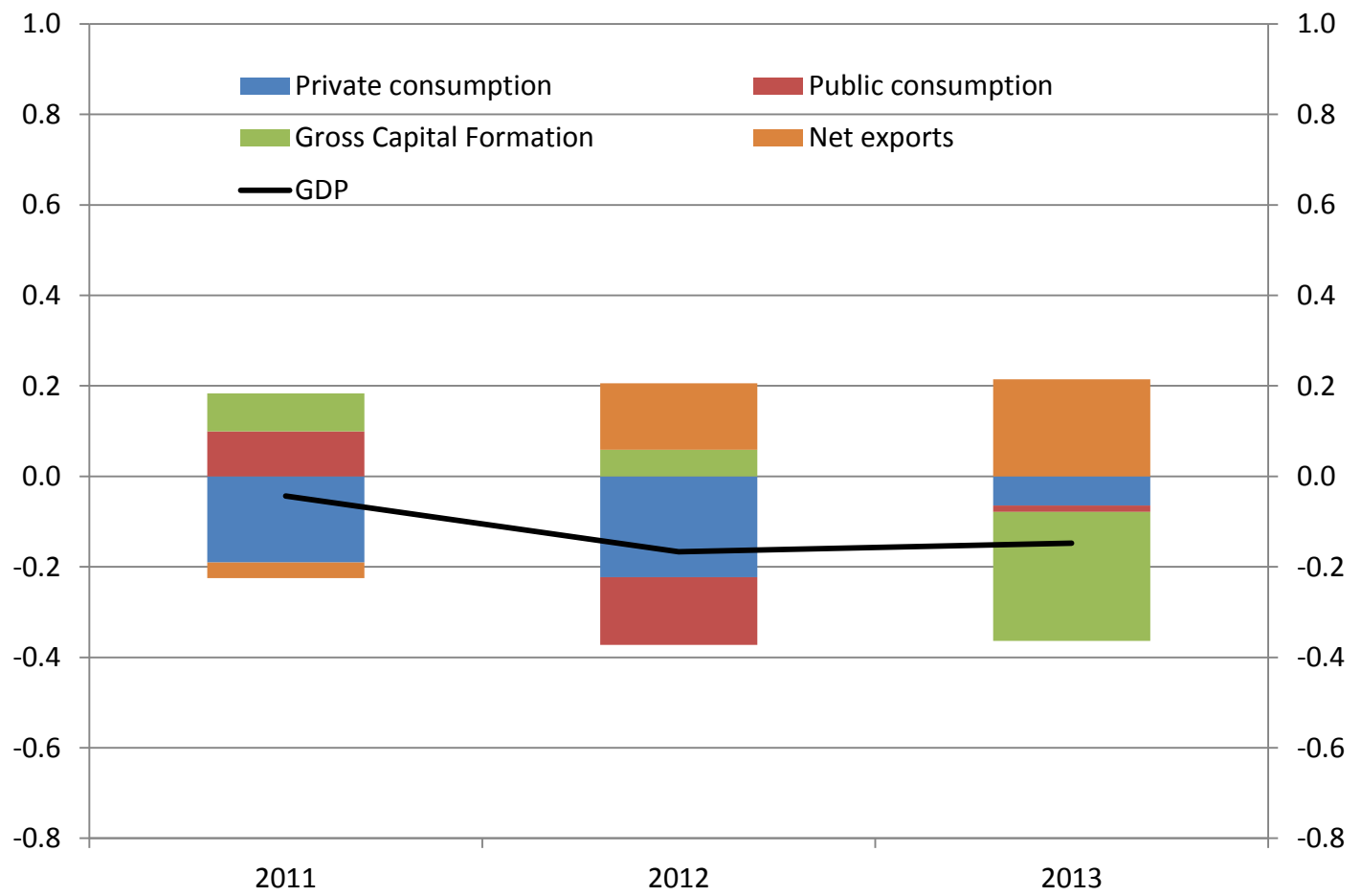
» Current vs. previous projection

PROJECTION 2012-14

UNCERTAINTY

» Risk factors

» Fan charts



CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

» Current vs. previous  
projection

PROJECTION 2012-14

UNCERTAINTY

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# PROJECTION

CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

» Current vs. previous  
projection

PROJECTION 2012-14

UNCERTAINTY

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» Fan charts

## Projection for 2012-2014

- GDP and its components
- Labour market
- Exchange rate
- Inflation

## GDP and its components

CHANGES IN  
THE SCENARIO» Changes  
in the assumptions» Current vs. previous  
projection

## PROJECTION 2012-14

## UNCERTAINTY

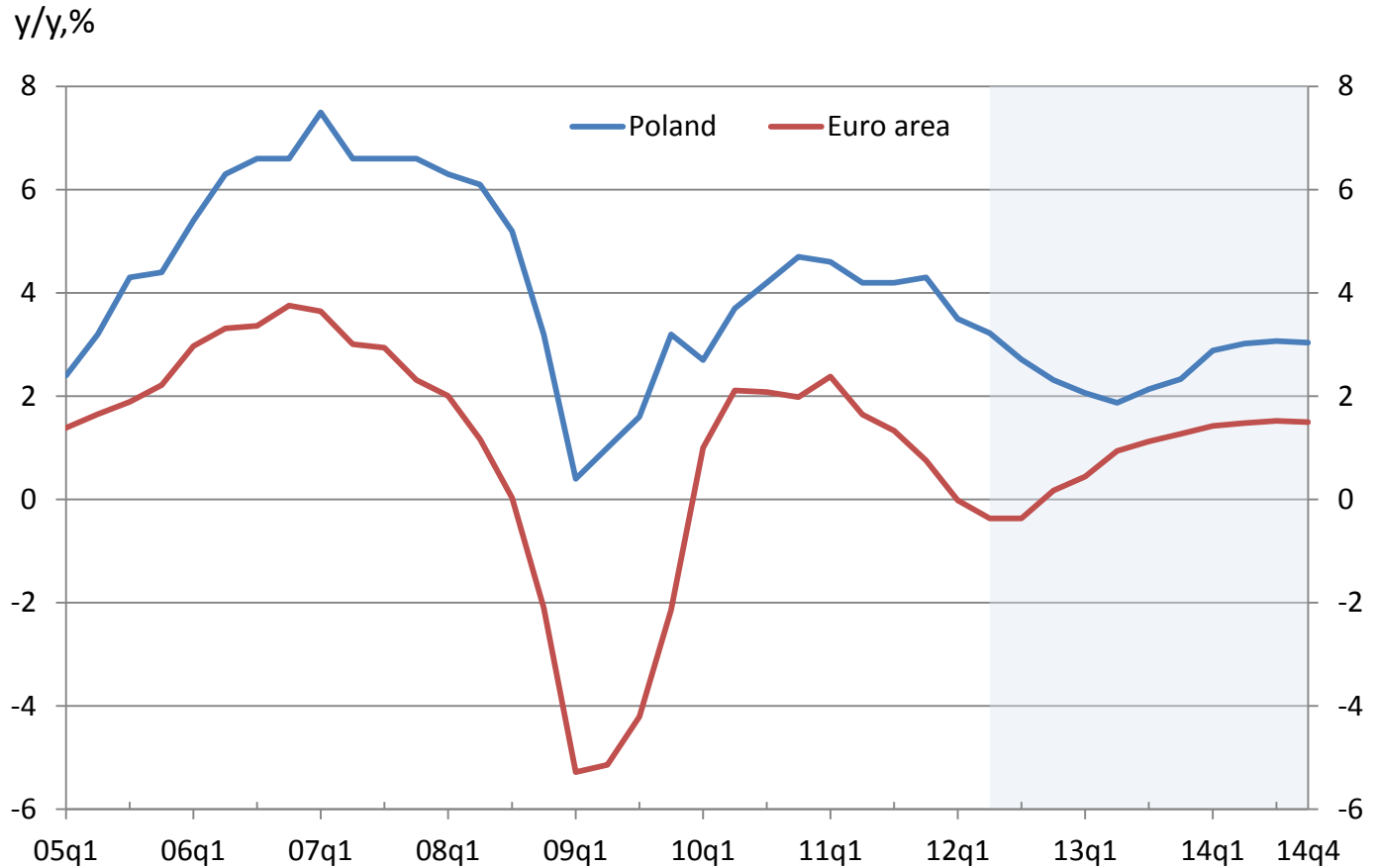
» Risk factors

» Fan charts

	11Q4	12Q1
GDP (y/y) (%)	4,3 (4,0)	3,5 (3,8)
Domestic demand (y/y) (%)	3,2 (2,6)	2,7 (3,3)
Individual consumption (y/y) (%)	2,1 (2,9)	2,1 (2,6)
Public consumption (y/y) (%)	-0,1 (-3,5)	-1,3 (-2,4)
Gross fixed capital formation (y/y) (%)	9,7 (10,0)	6,7 (8,1)
Exports (y/y) (%)	7,9 (7,4)	4,8 (6,2)
Imports (y/y) (%)	5,0 (4,2)	3,2 (5,1)
Net exports contribution (percentage points)	1,0 (1,3)	0,7 (0,5)

\* Values from the March projection are given in brackets (seasonally adjusted data). Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

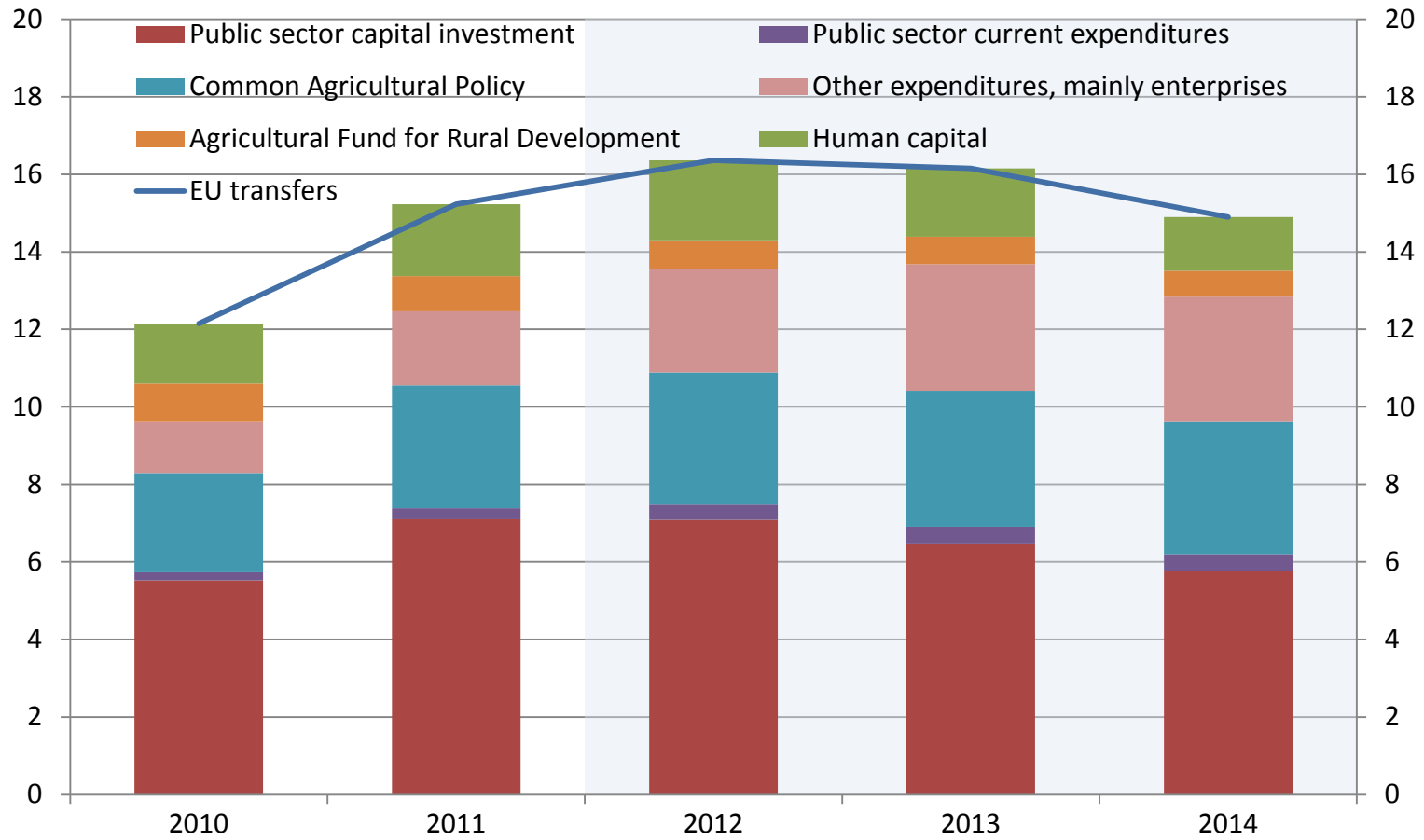
## GDP: Poland vs euro area





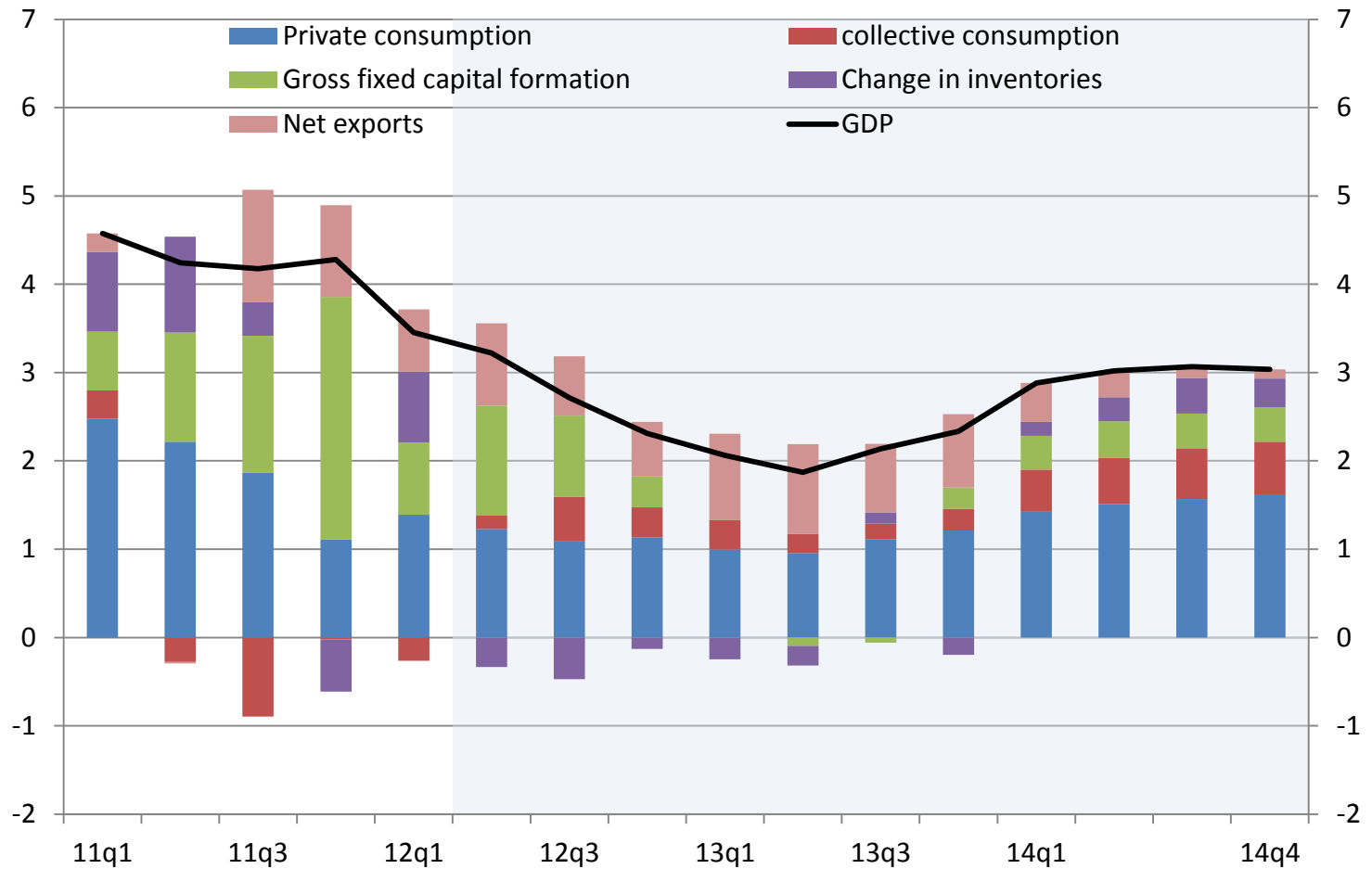
# EU transfers – decomposition (EUR bn.)

- CHANGES IN THE SCENARIO
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- PROJECTION 2012-14**
- UNCERTAINTY
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- » Fan charts



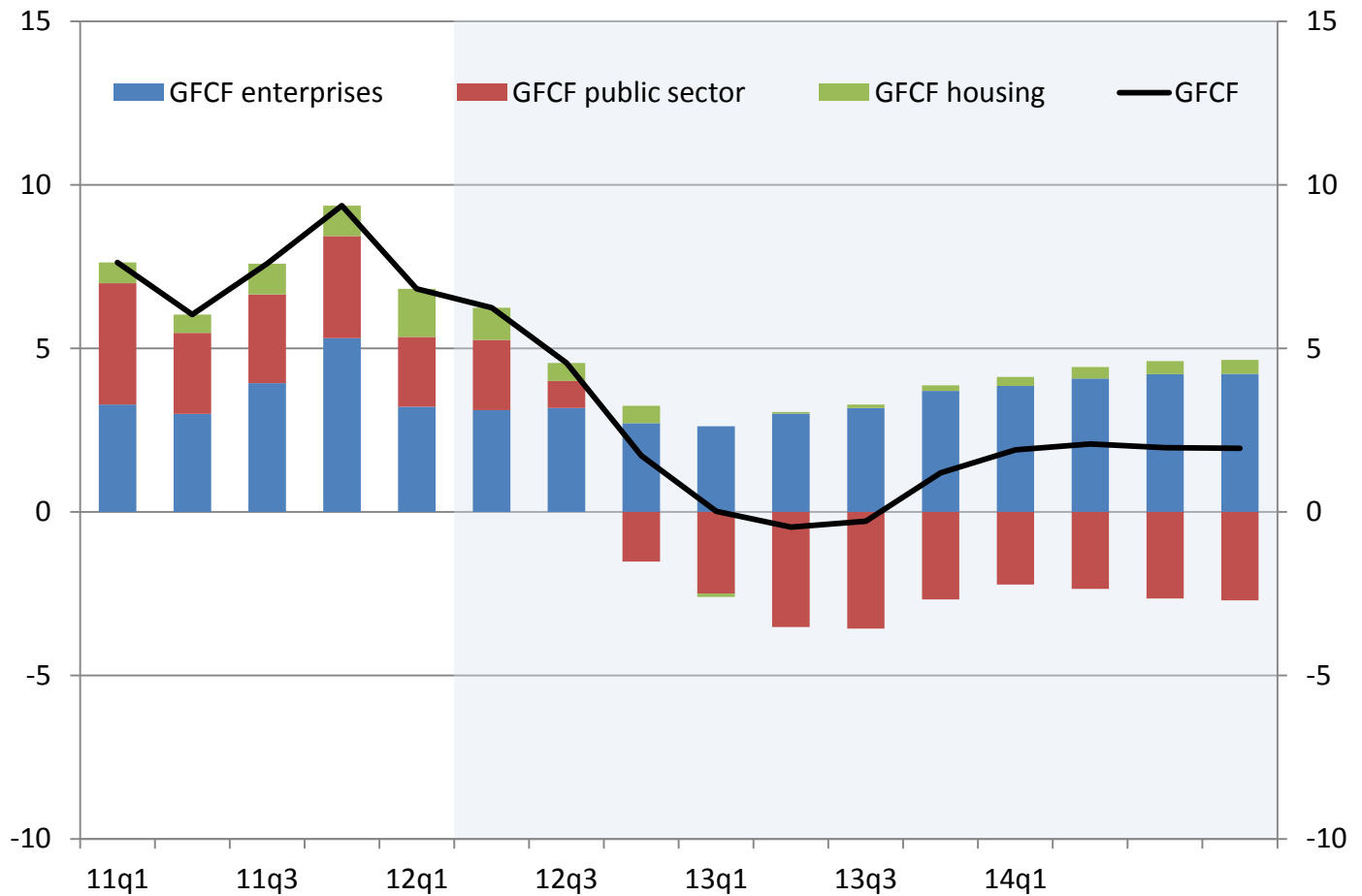
# GDP: decomposition

- CHANGES IN THE SCENARIO
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# Gross fixed capital formation: decomposition

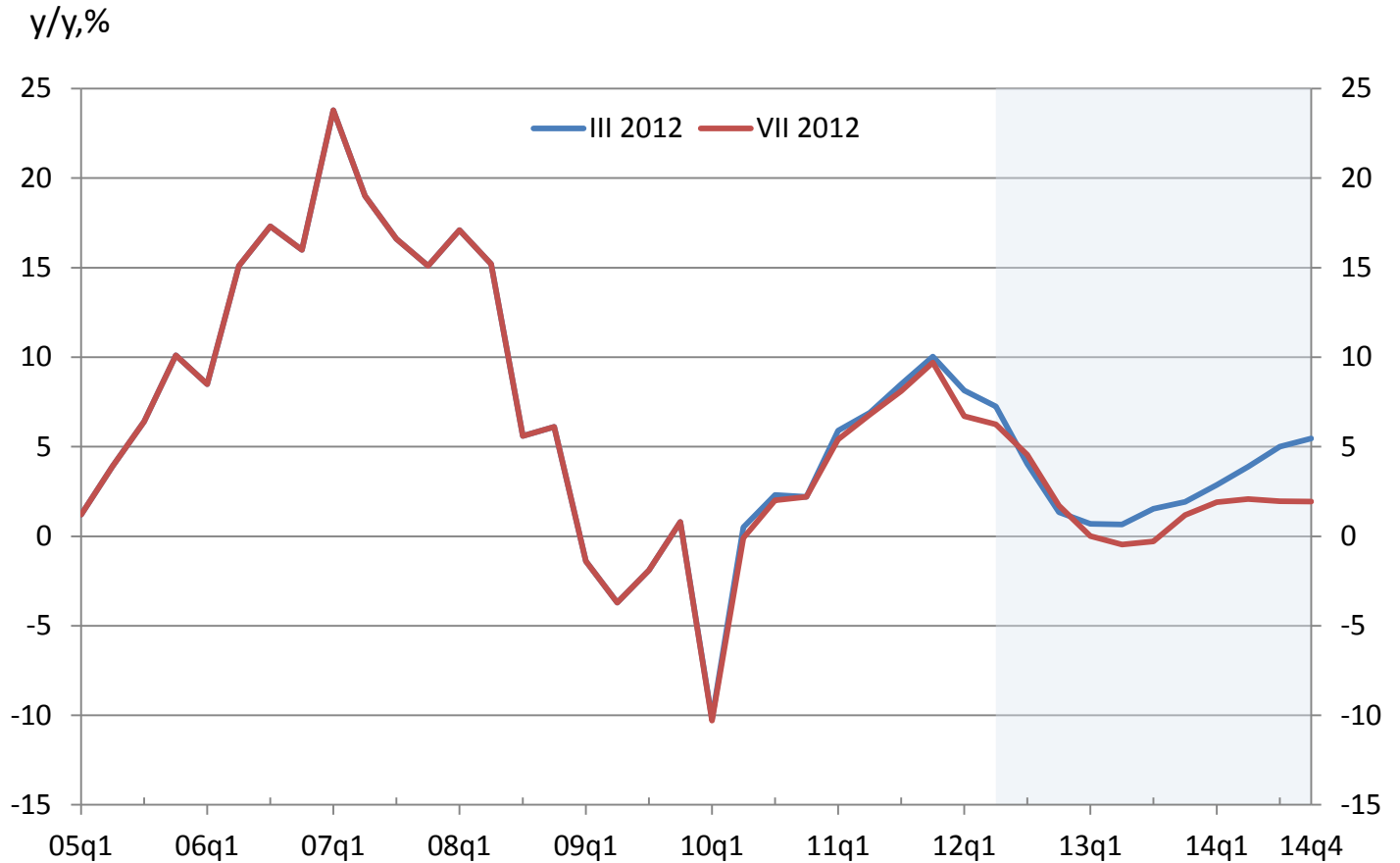
- CHANGES IN THE SCENARIO
- » Changes in the assumptions
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# Gross fixed capital formation

(similar in the short run, lower in the long run)

- CHANGES IN THE SCENARIO
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# Private consumption (lower)

CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

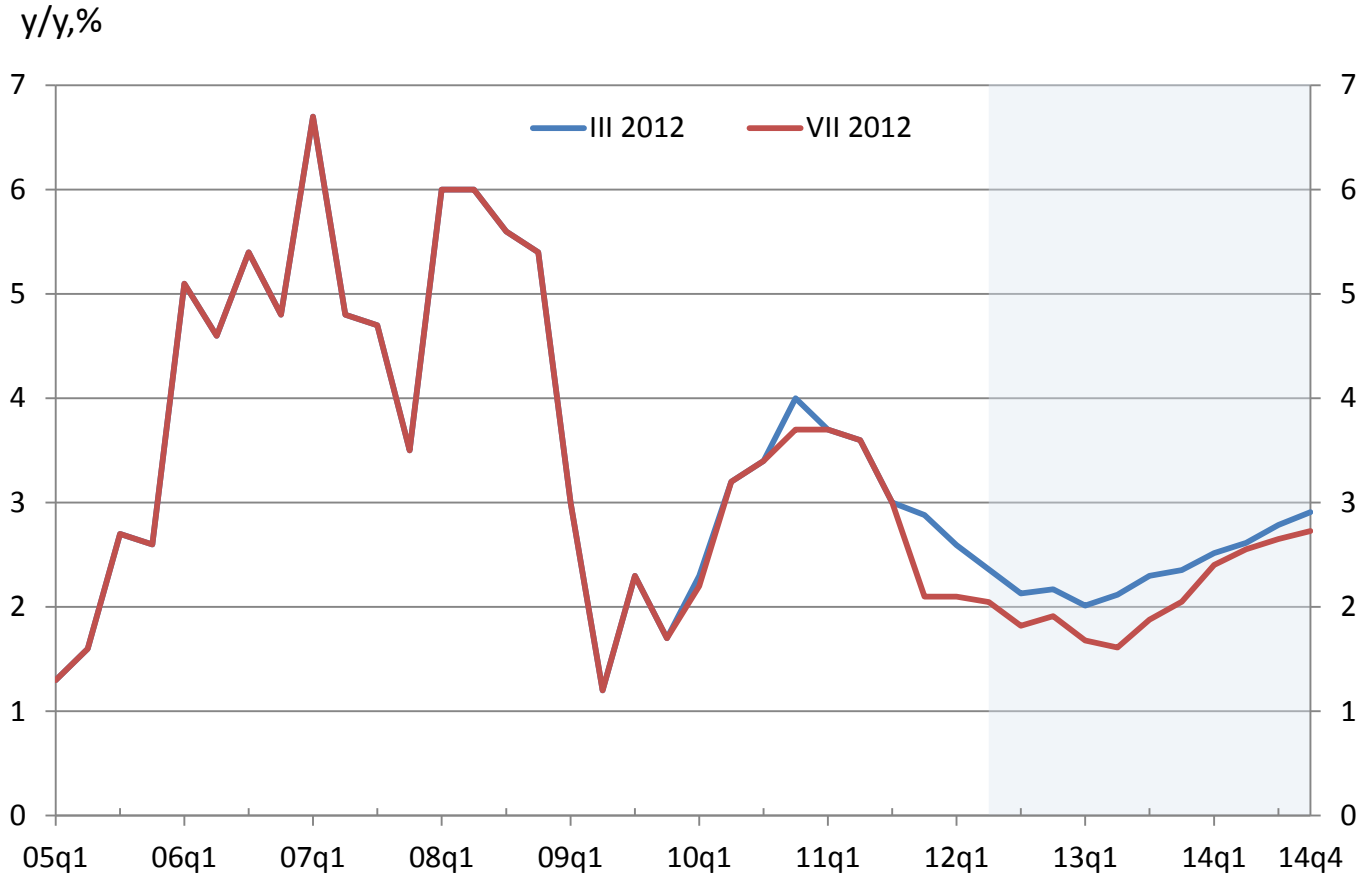
» Current vs. previous  
projection

PROJECTION 2012-14

UNCERTAINTY

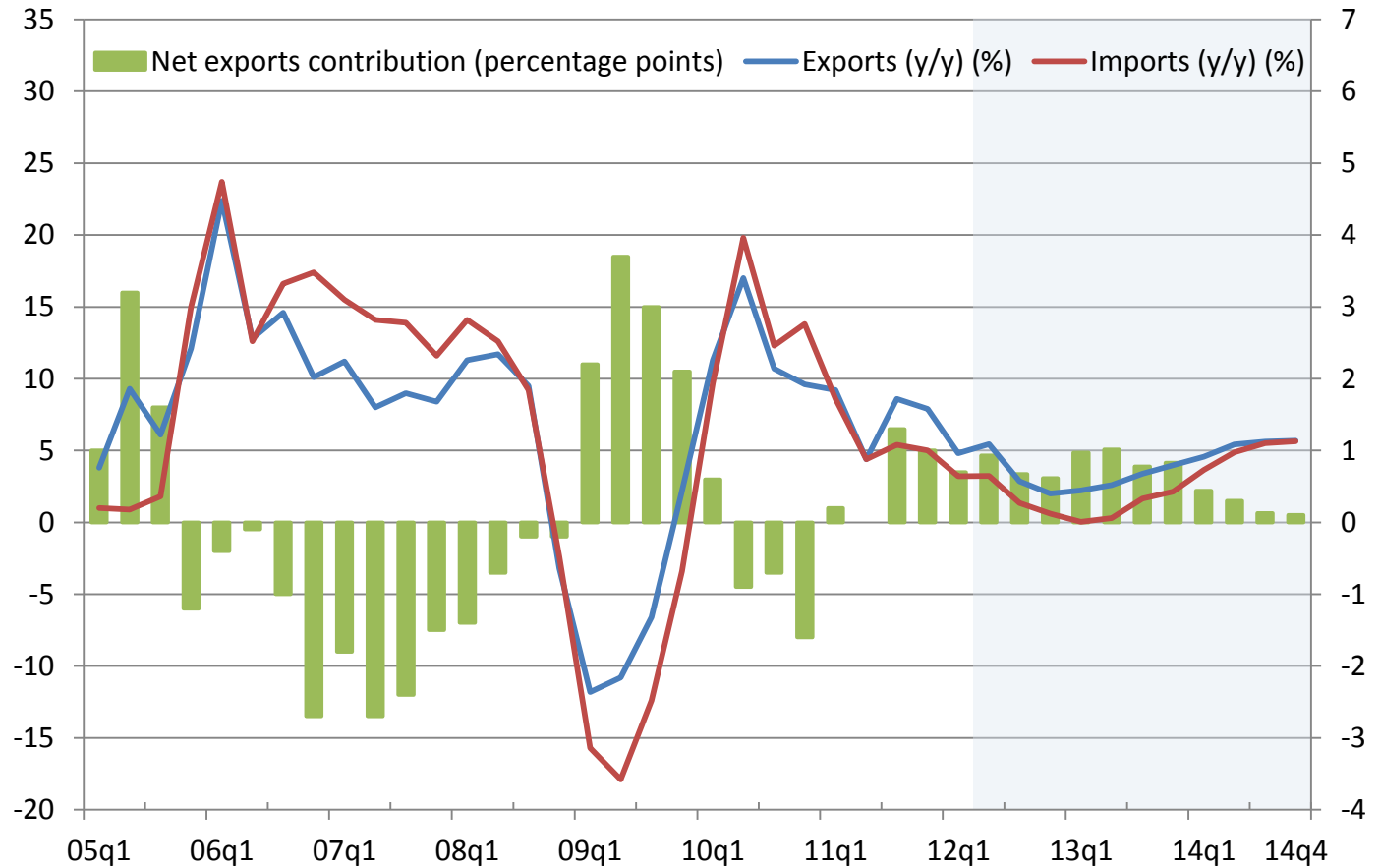
» Risk factors

» Fan charts



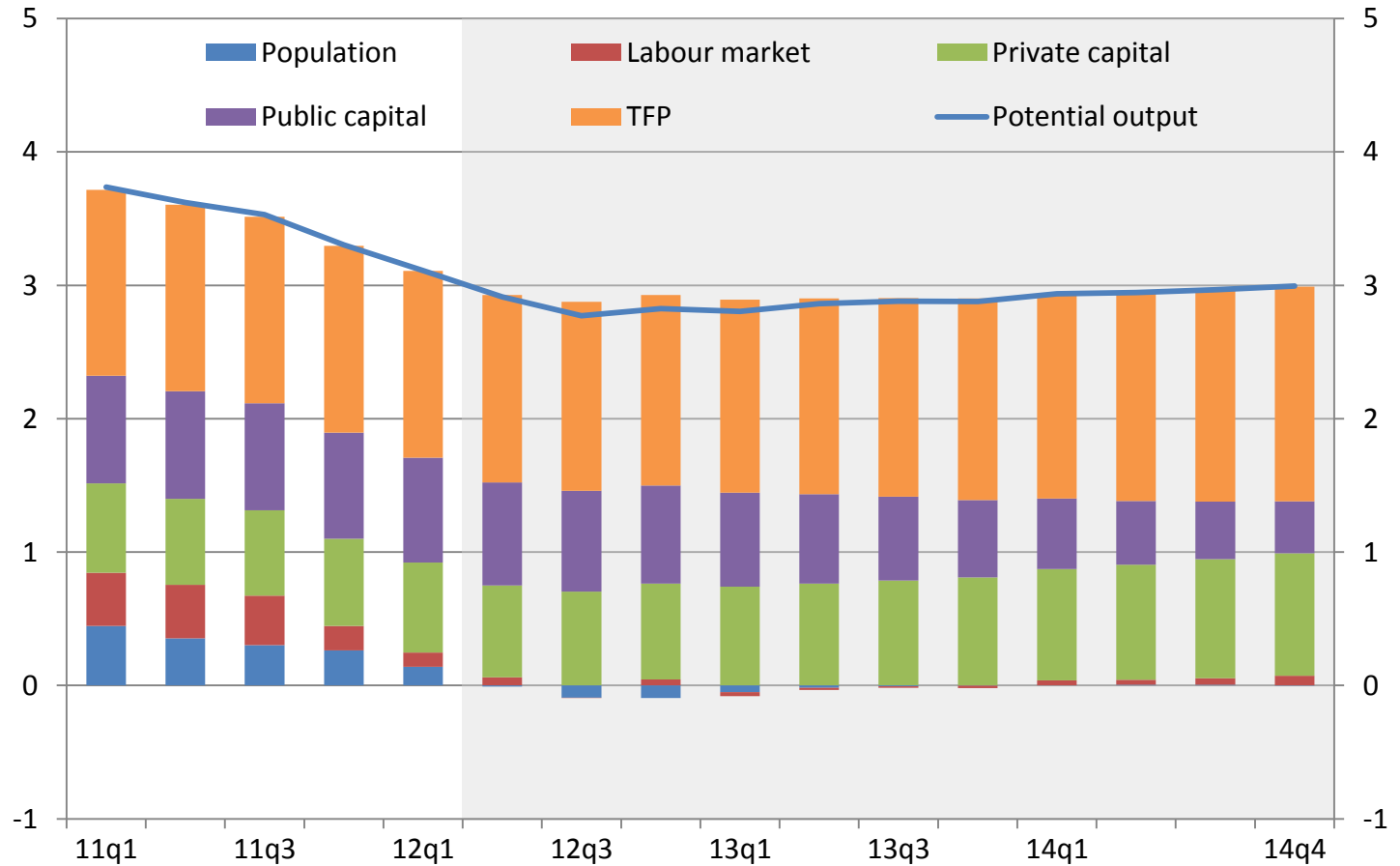
# Trade with other countries

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
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- PROJECTION 2012-14**
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## Potential output

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs. previous projection
- PROJECTION 2012-14**
- UNCERTAINTY
- » Risk factors
- » Fan charts



# Output gap

CHANGES IN THE SCENARIO

» Changes in the assumptions

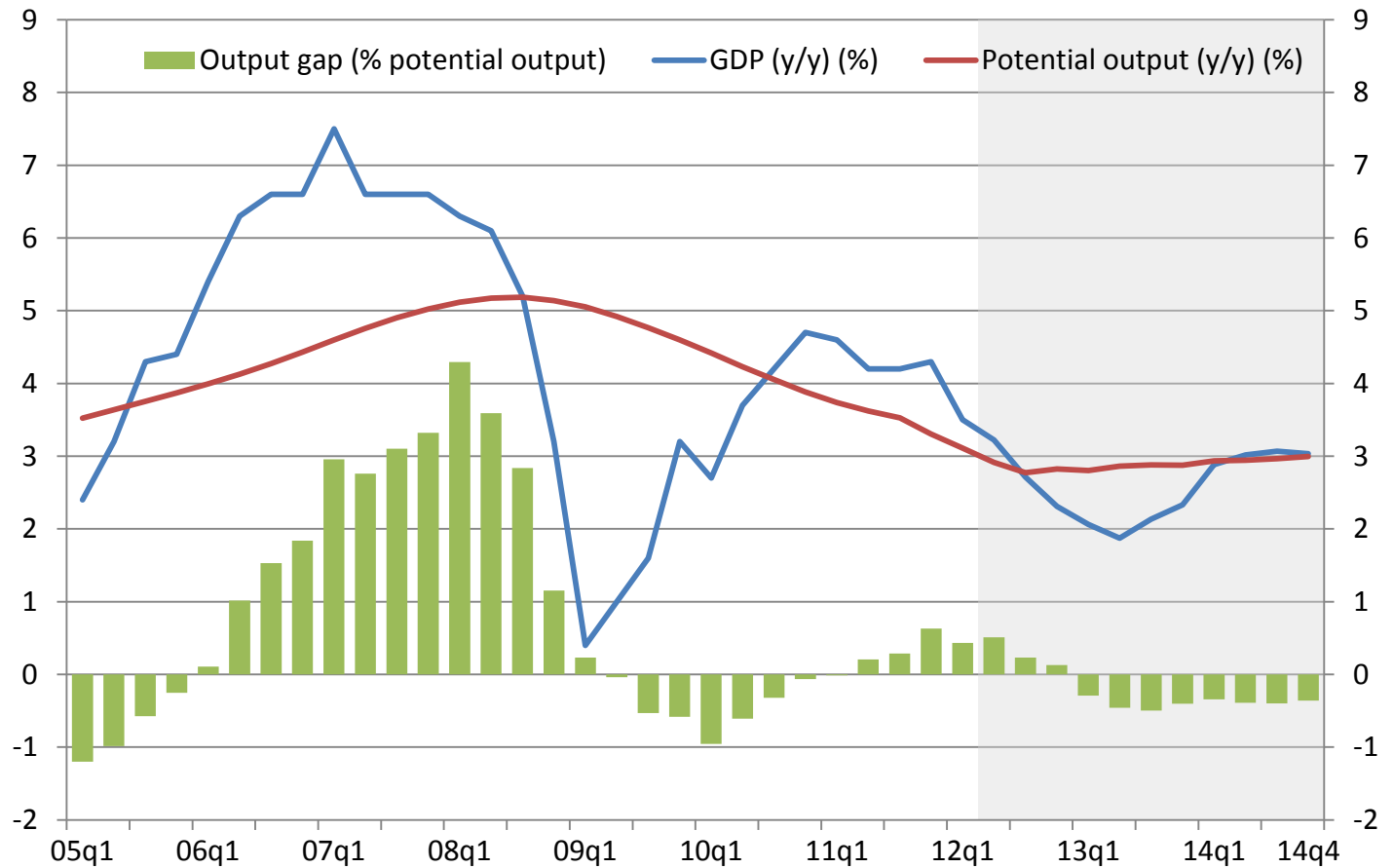
» Current vs. previous projection

PROJECTION 2012-14

UNCERTAINTY

» Risk factors

» Fan charts





## Labour market

CHANGES IN  
THE SCENARIO» Changes  
in the assumptions» Current vs. previous  
projection

## PROJECTION 2012-14

## UNCERTAINTY

» Risk factors

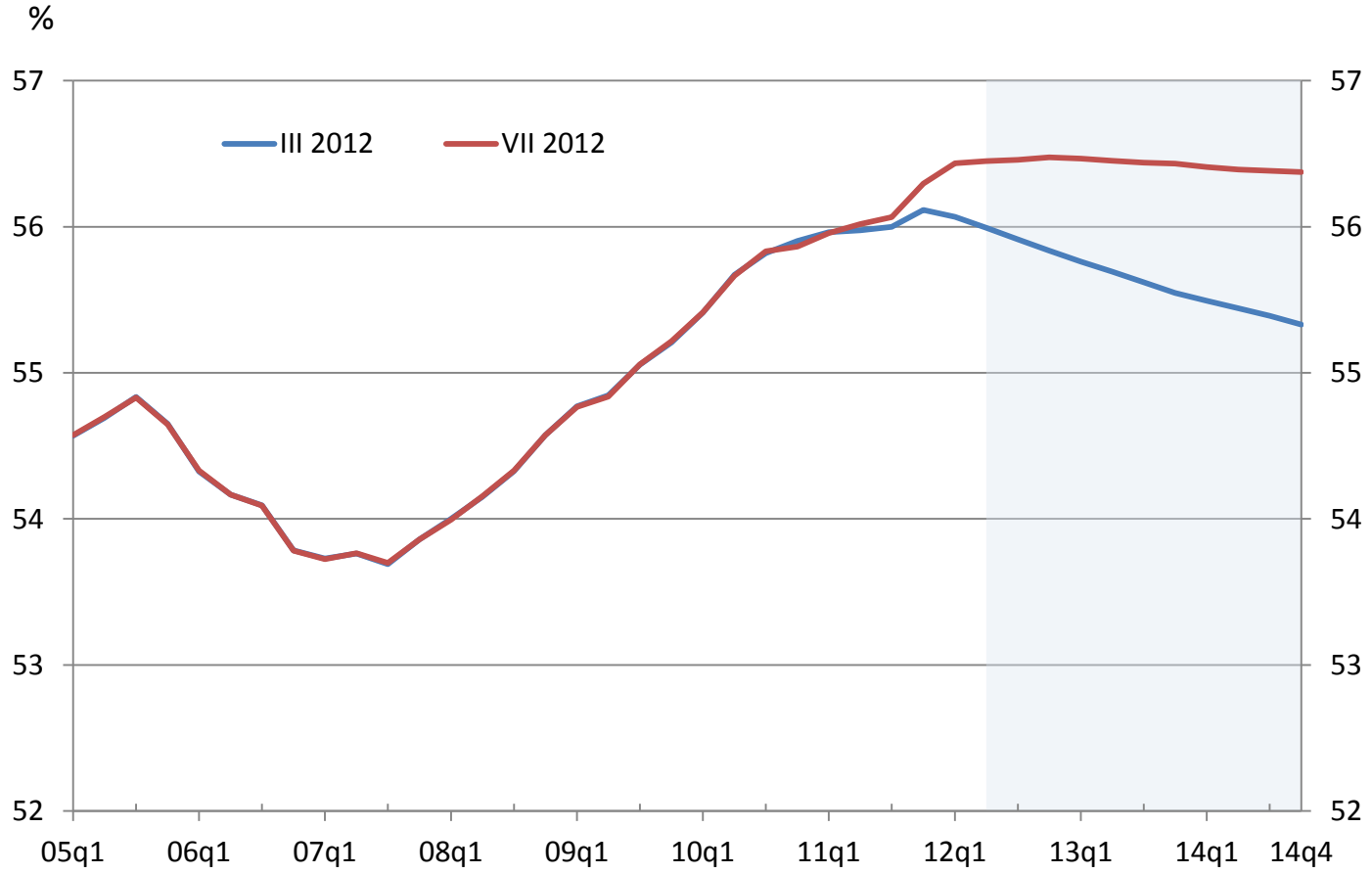
» Fan charts

	11Q4	12Q1
ULC (r/r) (%)	2,1 (1,8)	2,6 (2,0)
Labour productivity (y/y) (%)	3,5 (3,3)	2,8 (3,5)
Gross wages (y/y) (%)	4,3 (4,8)	5,2 (5,4)
Total employment LFS (y/y) (%)	0,8 (0,7)	0,7 (0,3)
Unemployment LFS (%)	9,9 (9,6)	9,9 (9,5)
Participation rate (%)	56,3 (56,1)	56,4 (56,1)

\* Values from the March projection are given in brackets (seasonally adjusted data). Indicators with values higher than in the March projection are marked green, whereas indicators with lower values are marked red.

# Participation rate (higher)

- CHANGES IN THE SCENARIO
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# Employment (higher)



CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs. previous projection

PROJECTION 2012-14

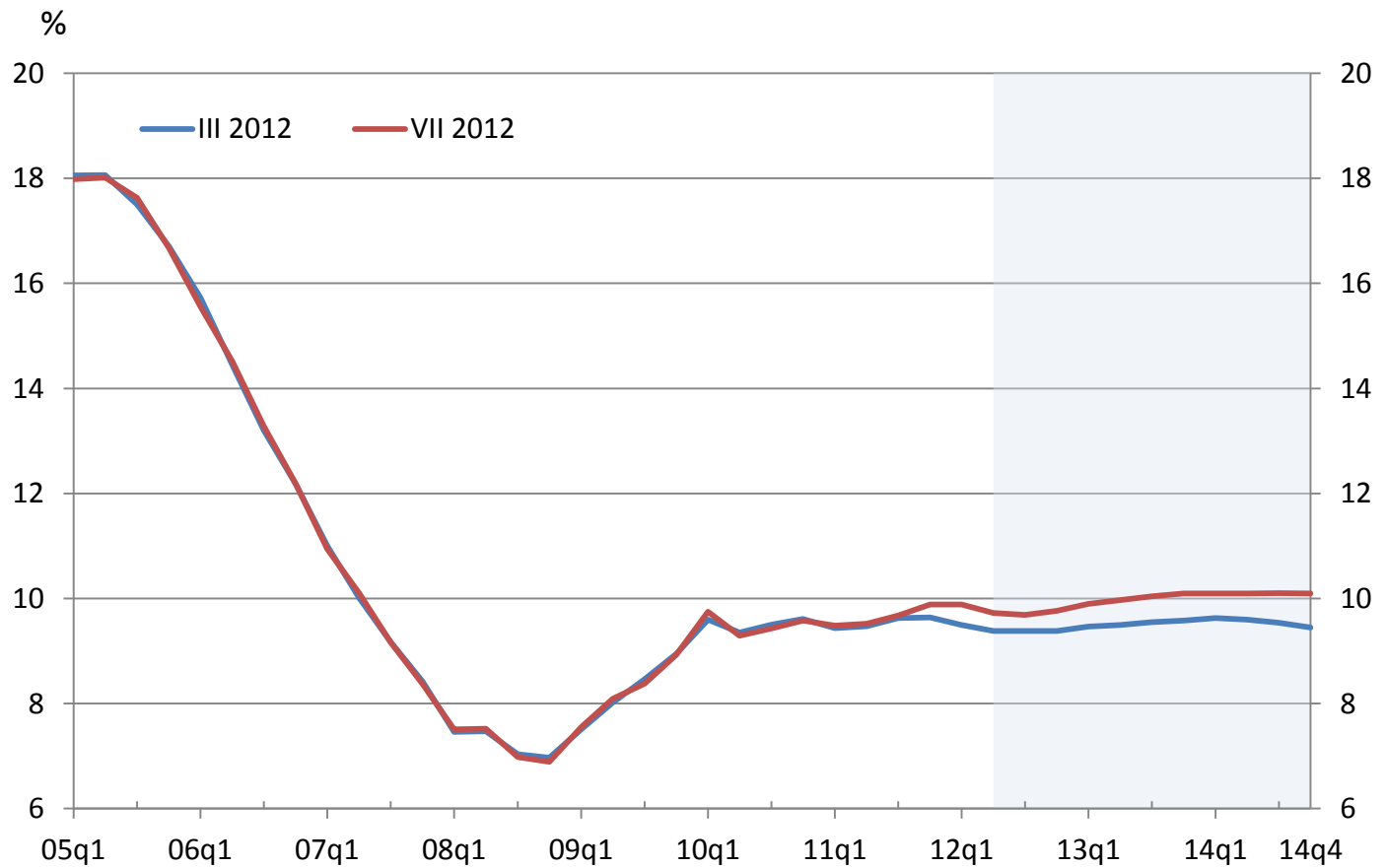
UNCERTAINTY

» Risk factors

» Fan charts

# Unemployment (higher)

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs. previous projection
- PROJECTION 2012-14**
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# Gross wages (lower)

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
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- PROJECTION 2012-14**
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- » Fan charts



# Unit labour costs

(similar)

## CHANGES IN THE SCENARIO

» Changes in the assumptions

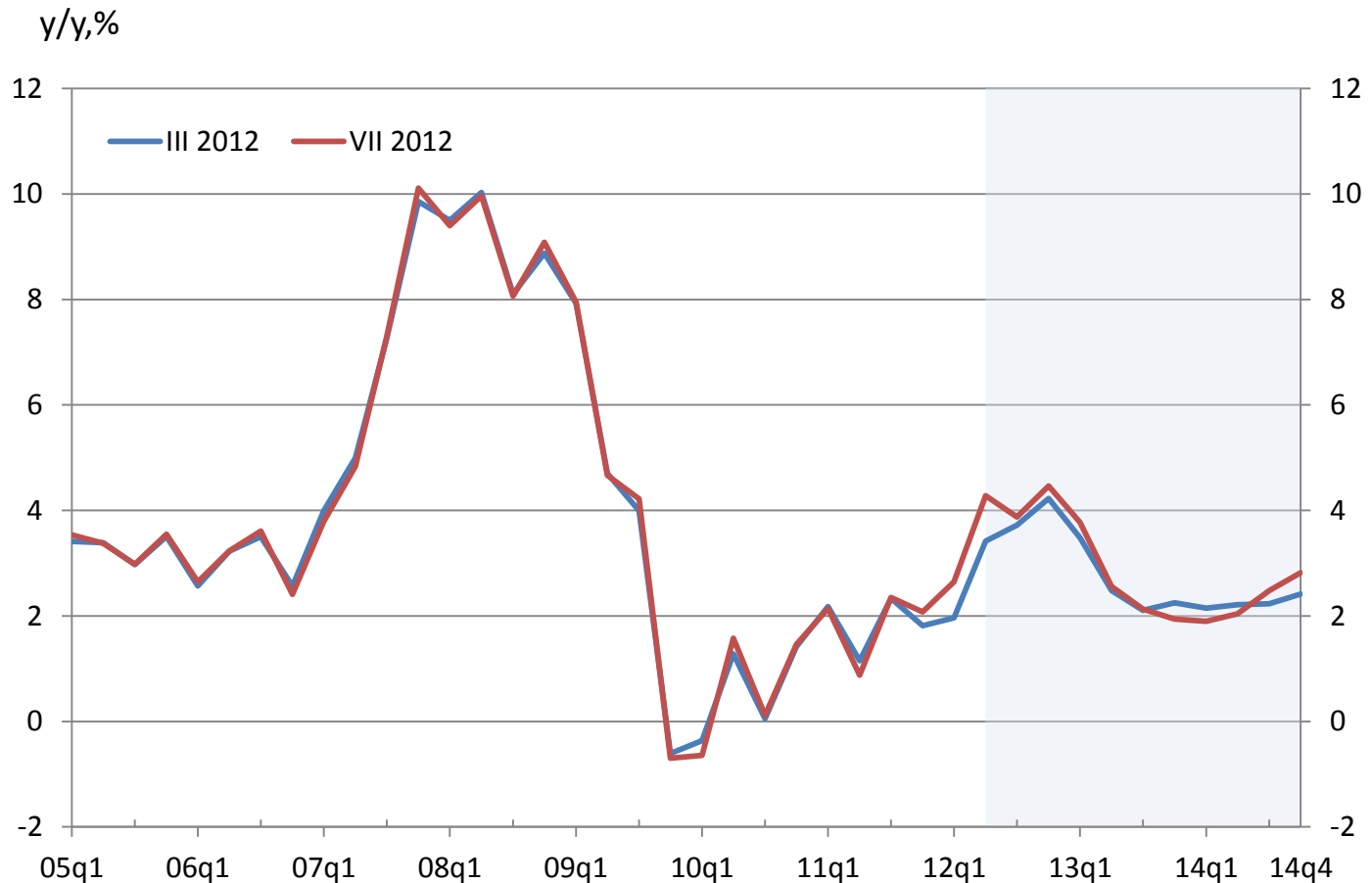
» Current vs. previous projection

## PROJECTION 2012-14

## UNCERTAINTY

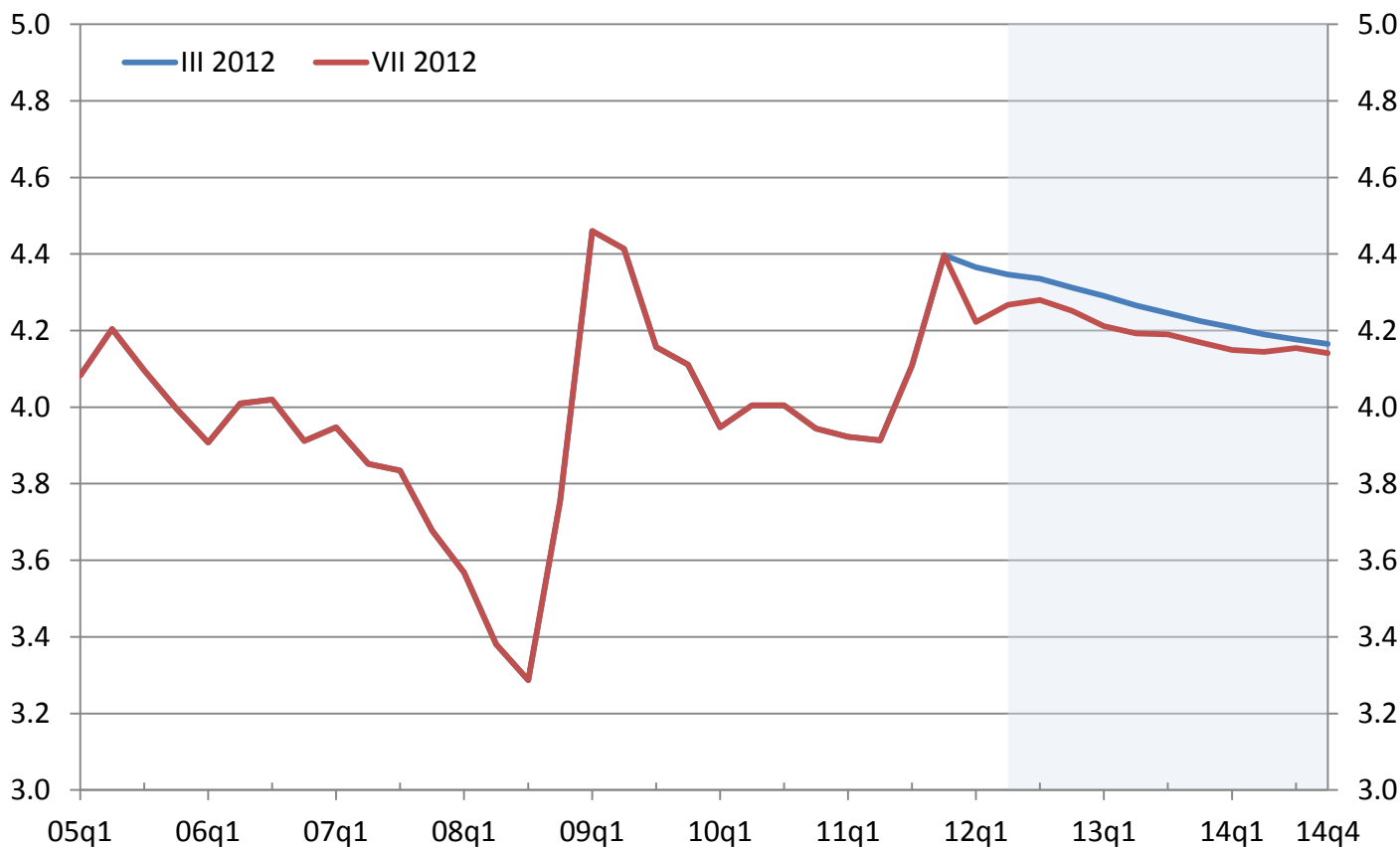
» Risk factors

» Fan charts



# Exchange rate (stronger)

Nominal effective exchange rate (NEER)



CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

» Current vs. previous  
projection

PROJECTION 2012-14

UNCERTAINTY

» Risk factors

» Fan charts

# Import prices (excluding oil and natural gas)

## CHANGES IN THE SCENARIO

» Changes  
in the assumptions

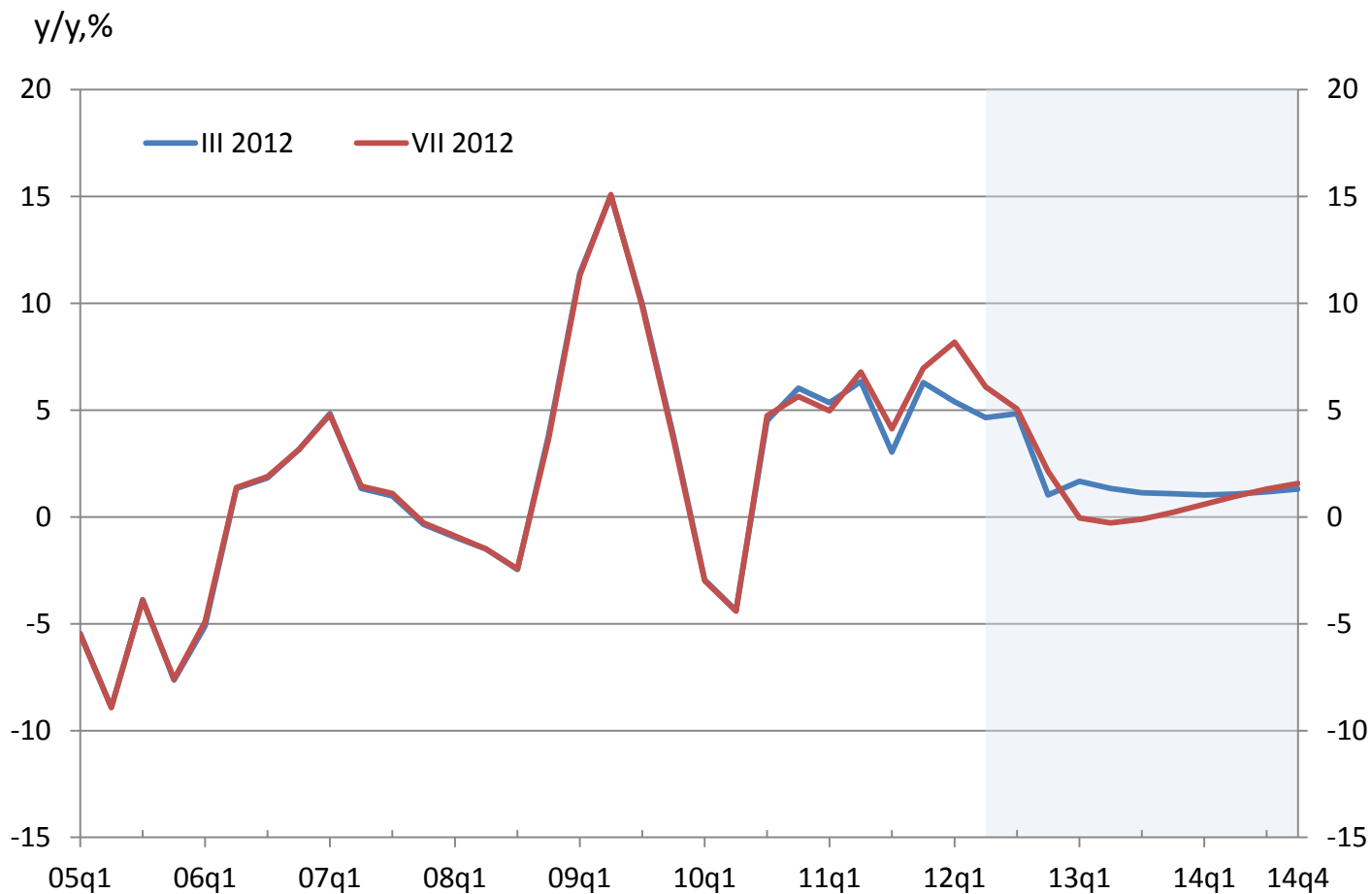
» Current vs. previous  
projection

## PROJECTION 2012-14

## UNCERTAINTY

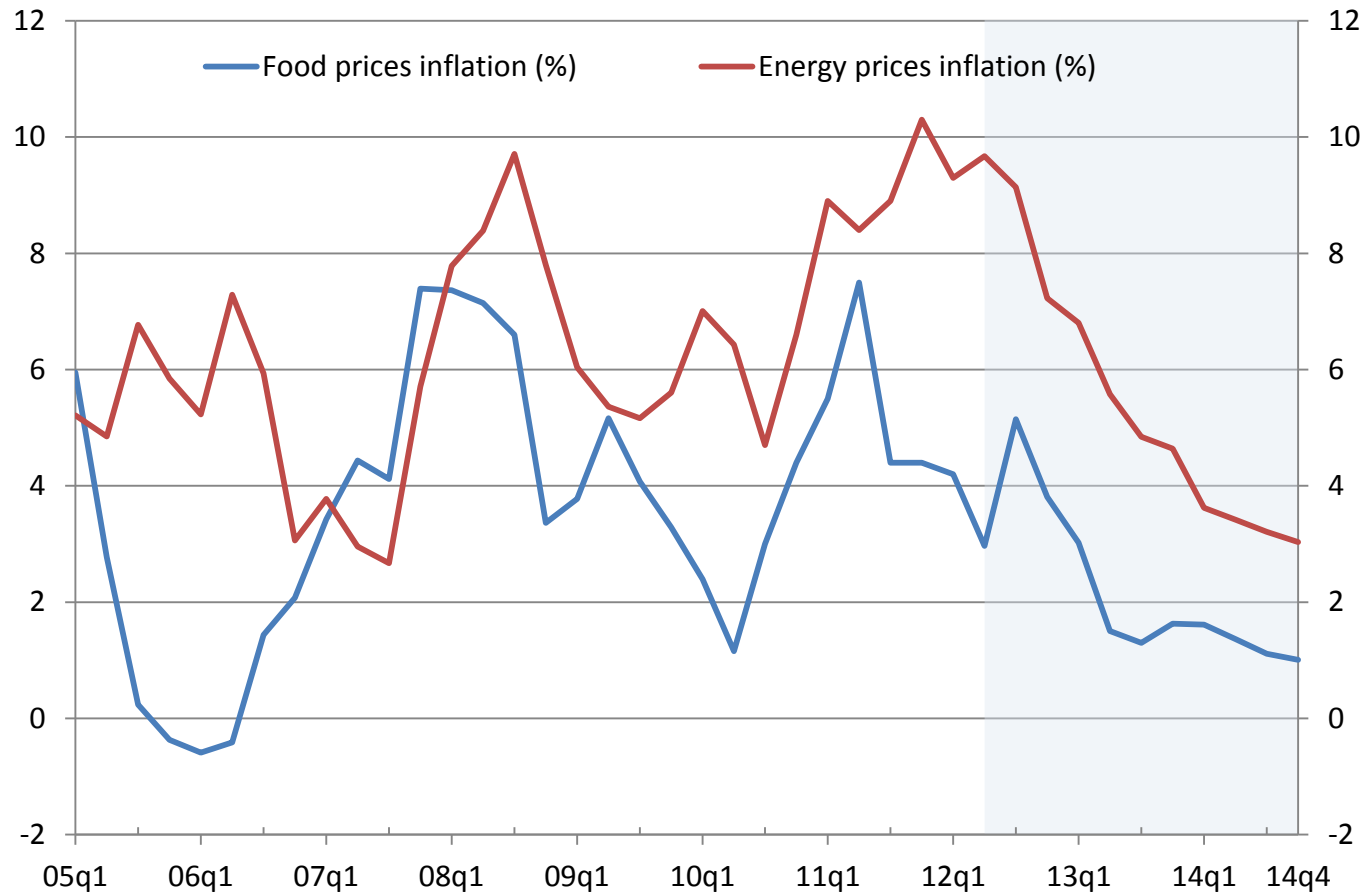
» Risk factors

» Fan charts





## Food and energy prices inflation

CHANGES IN  
THE SCENARIO» Changes  
in the assumptions» Current vs. previous  
projection

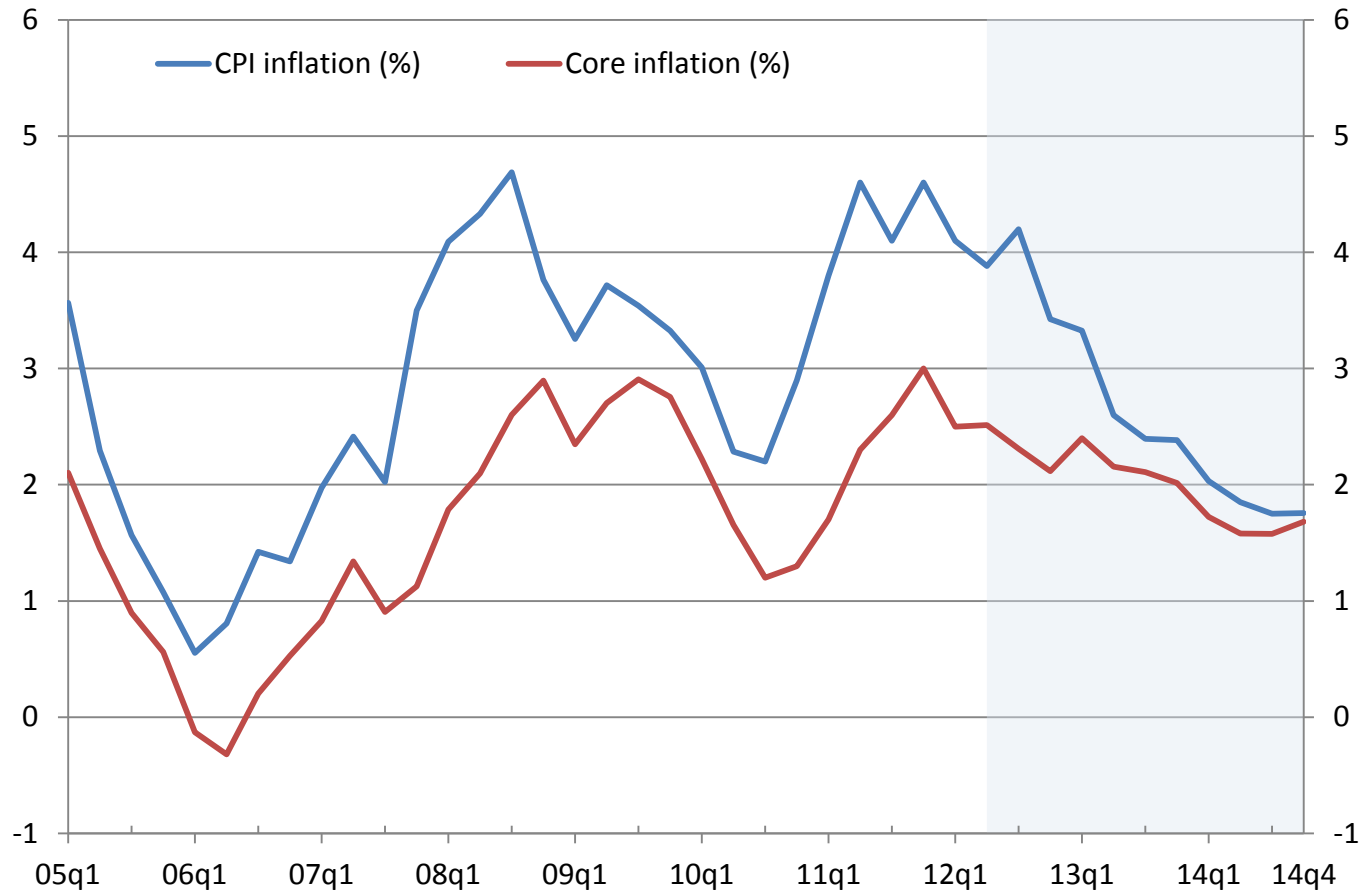
## PROJECTION 2012-14

## UNCERTAINTY

» Risk factors

» Fan charts

## Core inflation and CPI inflation\*



\* Core inflation does not include food, beverages and energy prices.

CHANGES IN THE SCENARIO

» Changes in the assumptions

» Current vs. previous projection

PROJECTION 2012-14

UNCERTAINTY

» Risk factors

» Fan charts

CHANGES IN  
THE SCENARIO

» Changes  
in the assumptions

» Current vs. previous  
projection

PROJECTION 2012-14

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 2012-14

UNCERTAINTY

» Risk factors

» Fan charts

# Risk factors

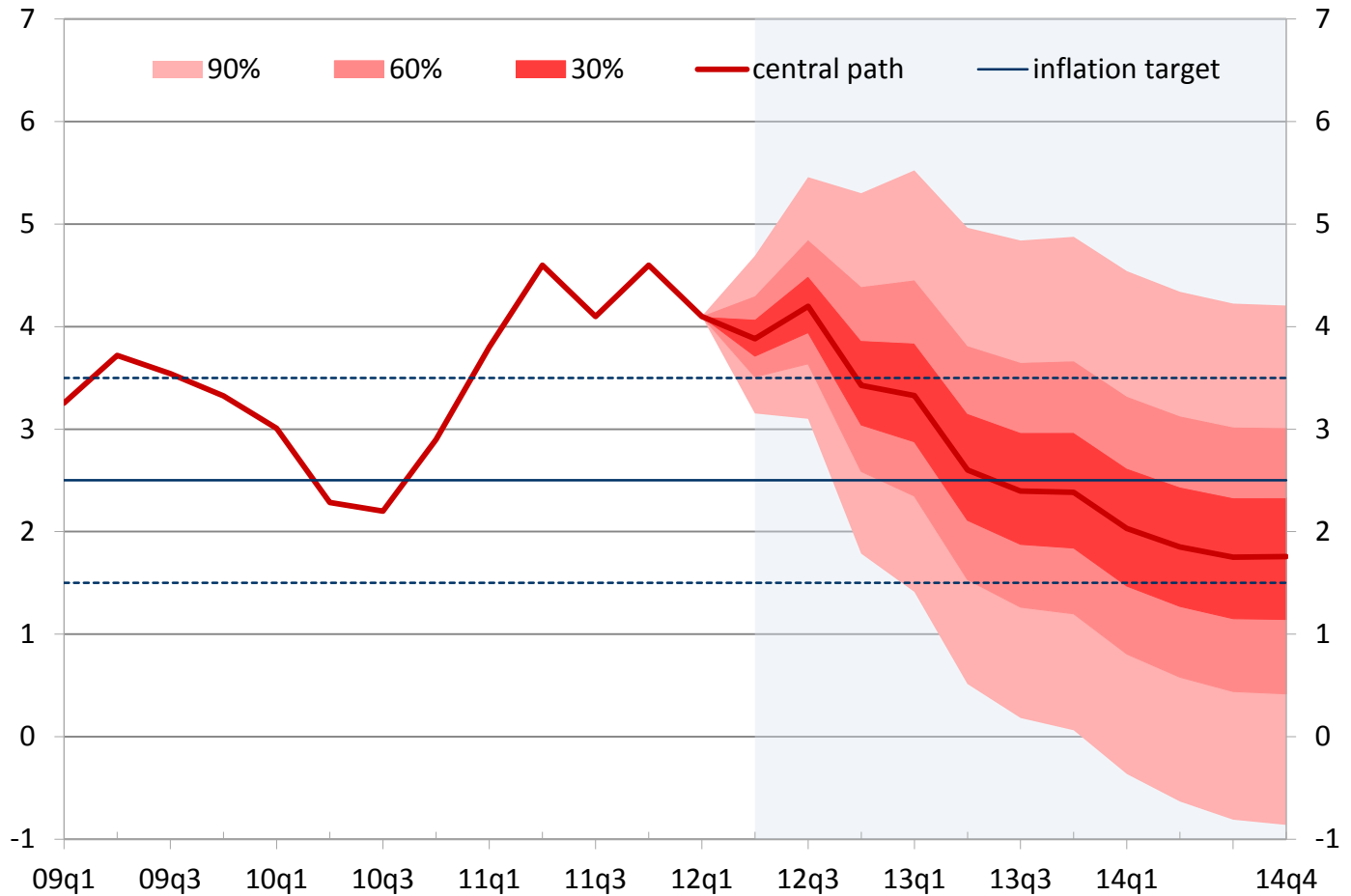
The scale of impact: \*\*\* high  
\*\* medium  
\* low

CHANGES IN THE SCENARIO	Risk area	Description	Impact	Scale of impact
<ul style="list-style-type: none"> <li>» Changes in the assumptions</li> <li>» Current vs. previous projection</li> </ul>	<p>External environment and exchange rate</p>	<ul style="list-style-type: none"> <li>▪ An increase in uncertainty due to worsening growth prospects in developed countries, especially in EU members.</li> <li>▪ The situation on the global financial markets – including impact of rising sovereign debt of some euro area countries and liquidity constraints of a few European banks.</li> <li>▪ The zloty exchange rate path, highly dependent on the future situation in the euro area.</li> <li>▪ The reaction of governments and central banks of developed countries (i.e. the scale of a possible resumption of fiscal and monetary stimulus), including uncertainty about the implementation by the Federal Reserve of the next round of quantitative easing (the so-called QE3 program).</li> <li>▪ The agricultural and energy commodities' prices on the global markets.</li> </ul>	<p>inflacja ↔ PKB ↔</p>	<p>***</p>
<p>PROJECTION 2012-14</p>				
<p>UNCERTAINTY</p>				
<ul style="list-style-type: none"> <li>» Risk factors</li> <li>» Fan charts</li> </ul>				

	Risk area	Description	Impact	Scale of impact
CHANGES IN THE SCENARIO				
» Changes in the assumptions	Domestic demand	<ul style="list-style-type: none"> <li>▪ The situation abroad and fiscal tightening - improved assessment of Poland's creditworthiness. Consequently, higher inflow of capital, including inflow of foreign direct investments.</li> <li>▪ High financial liquidity of enterprises and rising capacity utilization – possible higher private investment and consumption.</li> </ul>	inflation ↔ PKB ↔	**
» Current vs. previous projection				
PROJECTION 2012-14				
UNCERTAINTY				
» Risk factors	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, lack of decision regarding derogation of the Polish energy sector).</li> <li>▪ Future tariff policy of the Energy Regulatory Office</li> <li>▪ Regulatory activities on the food market</li> </ul>	inflation ↔ GDP ↔	**
» Fan charts				
	Conclusions		inflation ↔ GDP ↔	

# Inflation projection – July 2012

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
- » Current vs. previous projection
- PROJECTION 2012-14
- UNCERTAINTY**
- » Risk factors
- » Fan charts



## Probability distribution for inflation

CHANGES IN THE SCENARIO						
» Changes in the assumptions	%	below 1,5%	below 2,5%	below 3,5%	below the central path	in the range (1,5% ;3,5%)
» Current vs. previous projection						
	12q2	0,00	0,00	0,18	0,47	0,18
	12q3	0,00	0,01	0,14	0,47	0,14
PROJECTION 2012-14						
	12q4	0,02	0,16	0,49	0,47	0,47
	13q1	0,05	0,22	0,52	0,47	0,47
UNCERTAINTY						
	13q2	0,18	0,44	0,72	0,47	0,54
» Risk factors						
	13q3	0,24	0,50	0,76	0,48	0,52
» Fan charts						
	13q4	0,26	0,51	0,76	0,48	0,51
	14q1	0,35	0,61	0,83	0,49	0,48
	14q2	0,41	0,67	0,86	0,50	0,45
	14q3	0,44	0,70	0,88	0,51	0,44
	14q4	0,45	0,70	0,88	0,52	0,43



# GDP projection – July 2012

- CHANGES IN THE SCENARIO
- » Changes in the assumptions
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