

# NBP

National Bank of Poland

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

Economic Institute



## Overview

1. March projection compared to October projection
  - Changes in the projection
  - External environment
  - Polish economy in 2010 Q4
  
2. Projection
  - GDP and components
  - Labour market
  - Exchange rate
  - Inflation
  
3. Uncertainty

CHANGES IN  
THE SCENARIO

» Changes  
in the projection

» External  
environment

» Polish economy  
in 2010 Q4

PROJECTION

» GDP and its  
components

» Labour market

» Exchange rate

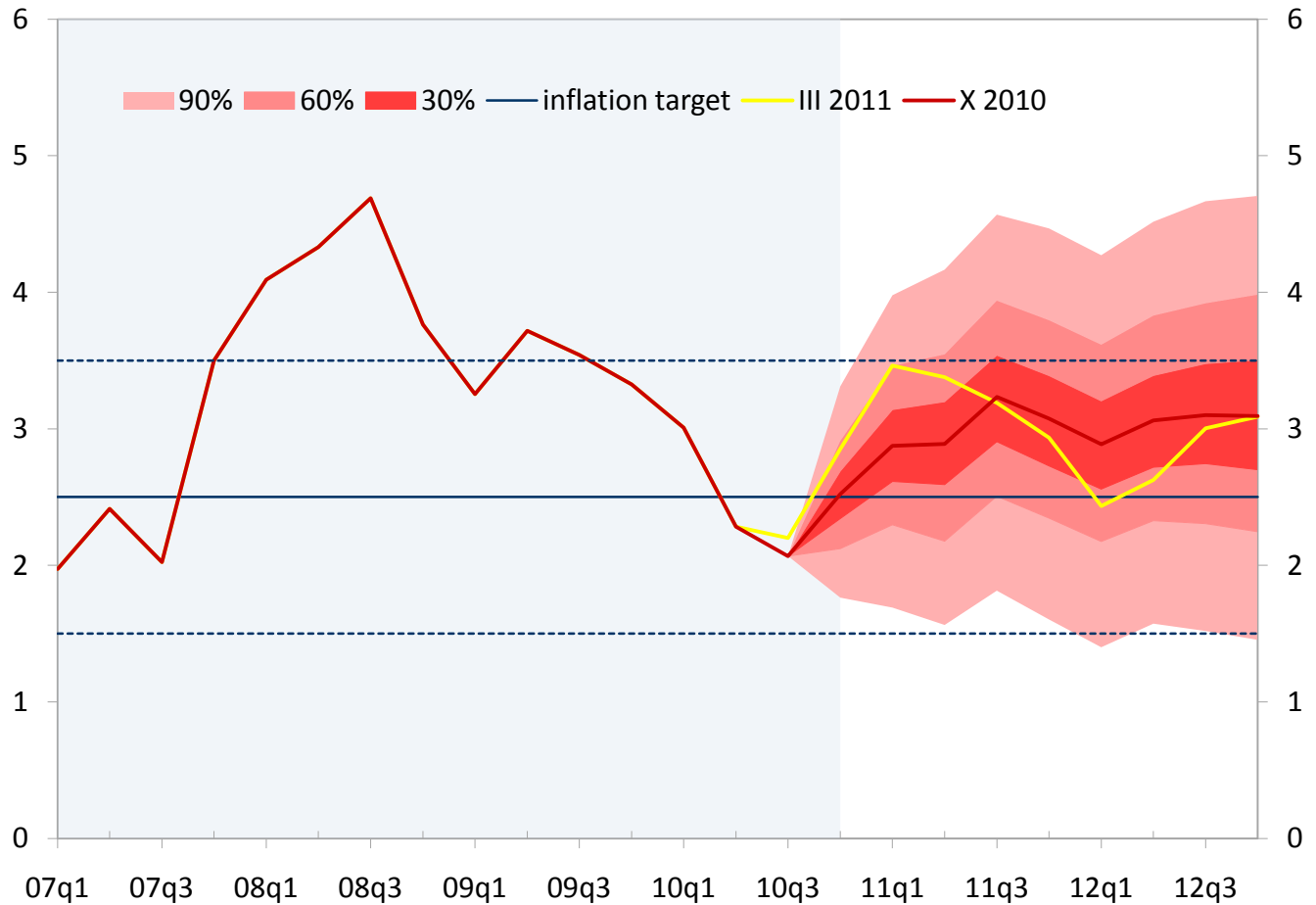
» Inflation

UNCERTAINTY

## MARCH PROJECTION COMPARED TO OCTOBER PROJECTION

- Changes in the projection
- External environment
- Polish economy in 2010 Q4

## March projection compared to October projection: CPI inflation



### CHANGES IN THE SCENARIO

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## Decomposition of deviations between March and October projections

CHANGES IN THE SCENARIO

» Changes in the projection

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PROJECTION

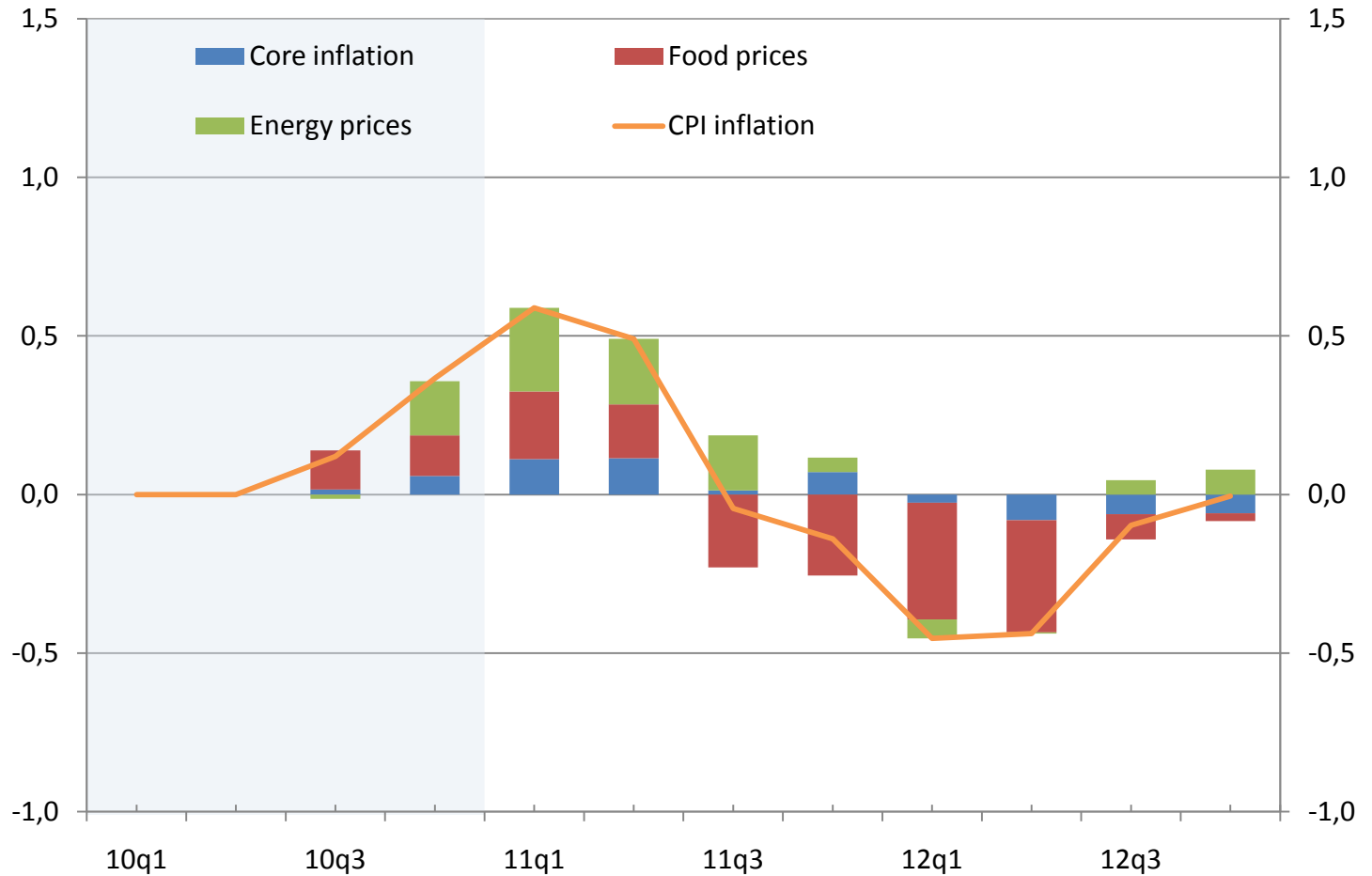
» GDP and its components

» Labour market

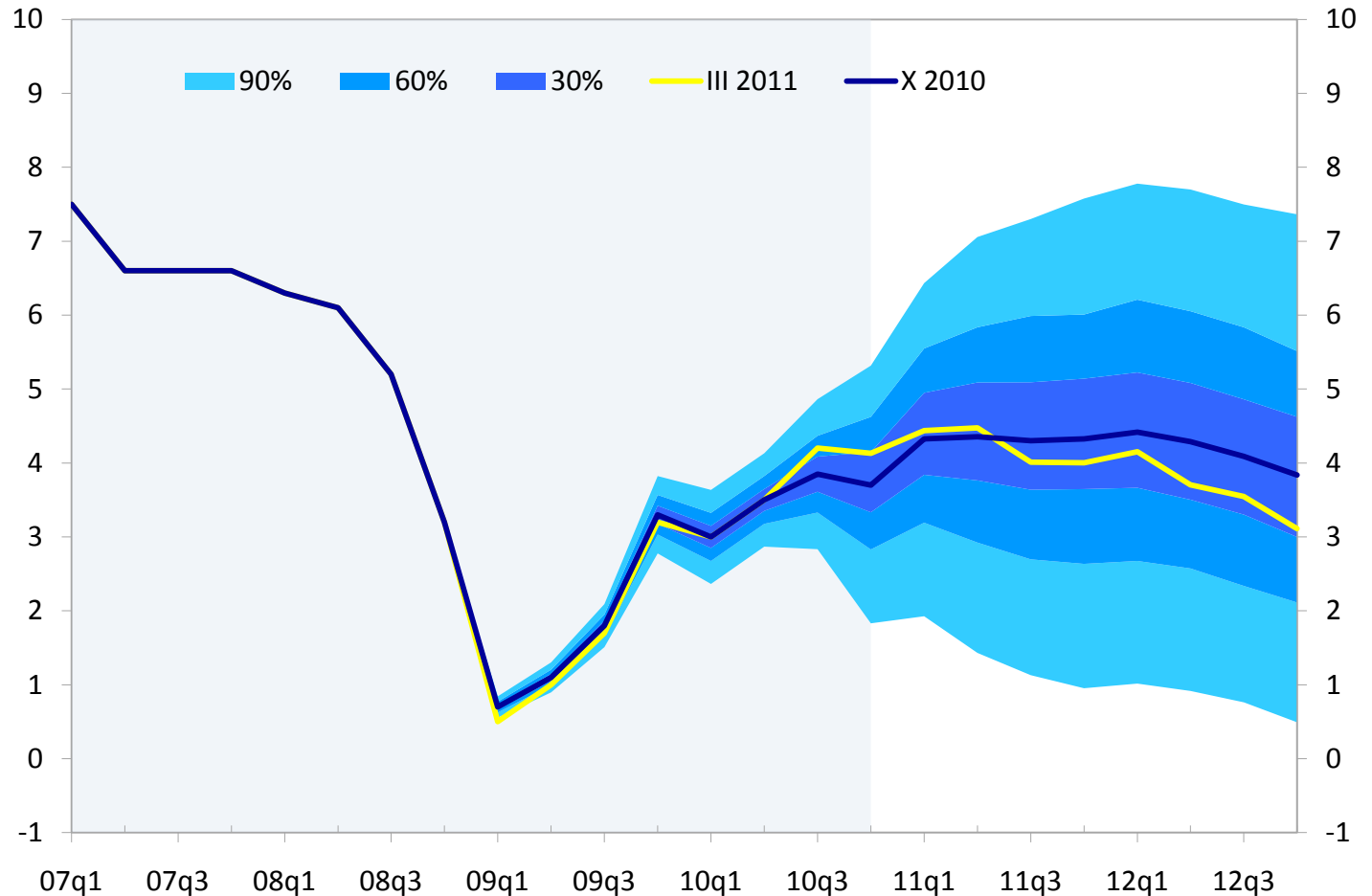
» Exchange rate

» Inflation

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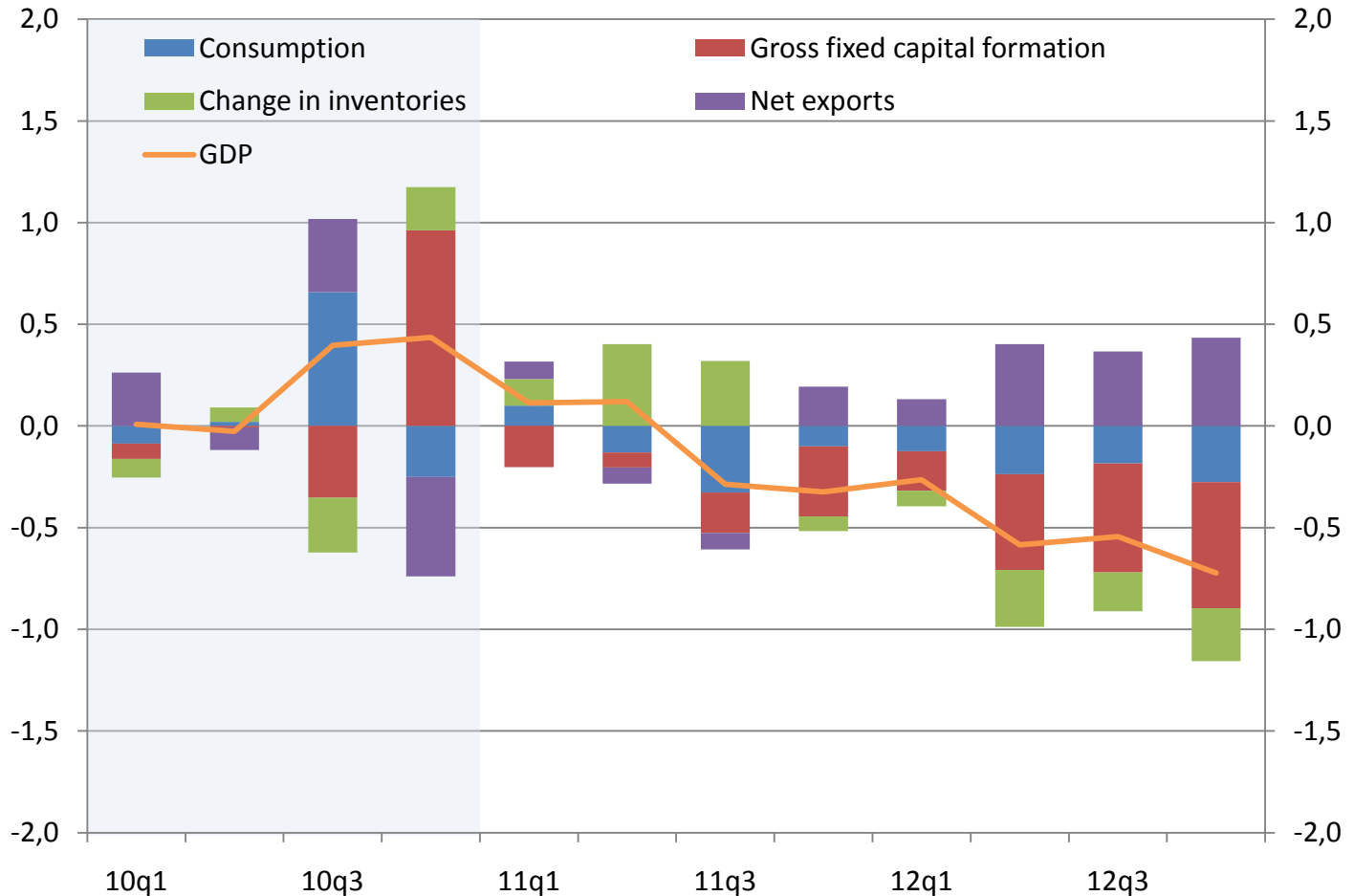
## March projection compared to October projection: GDP



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# Decomposition of deviations between March and October projections

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## Changes in the projection scenario

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### UNCERTAINTY

- External environment
  - Higher index of agricultural and energy commodities prices in the world markets
  - Lower inflow of EU funds
- Polish economy in 2010 Q4
  - CPI inflation: 0.4 pp above October projection
    - Similar core inflation
    - Higher food price inflation and energy price inflation
  - GDP: 0.4 pp above October projection
    - Higher rate of growth of investment
    - Lower contribution of net exports and slower growth of public consumption



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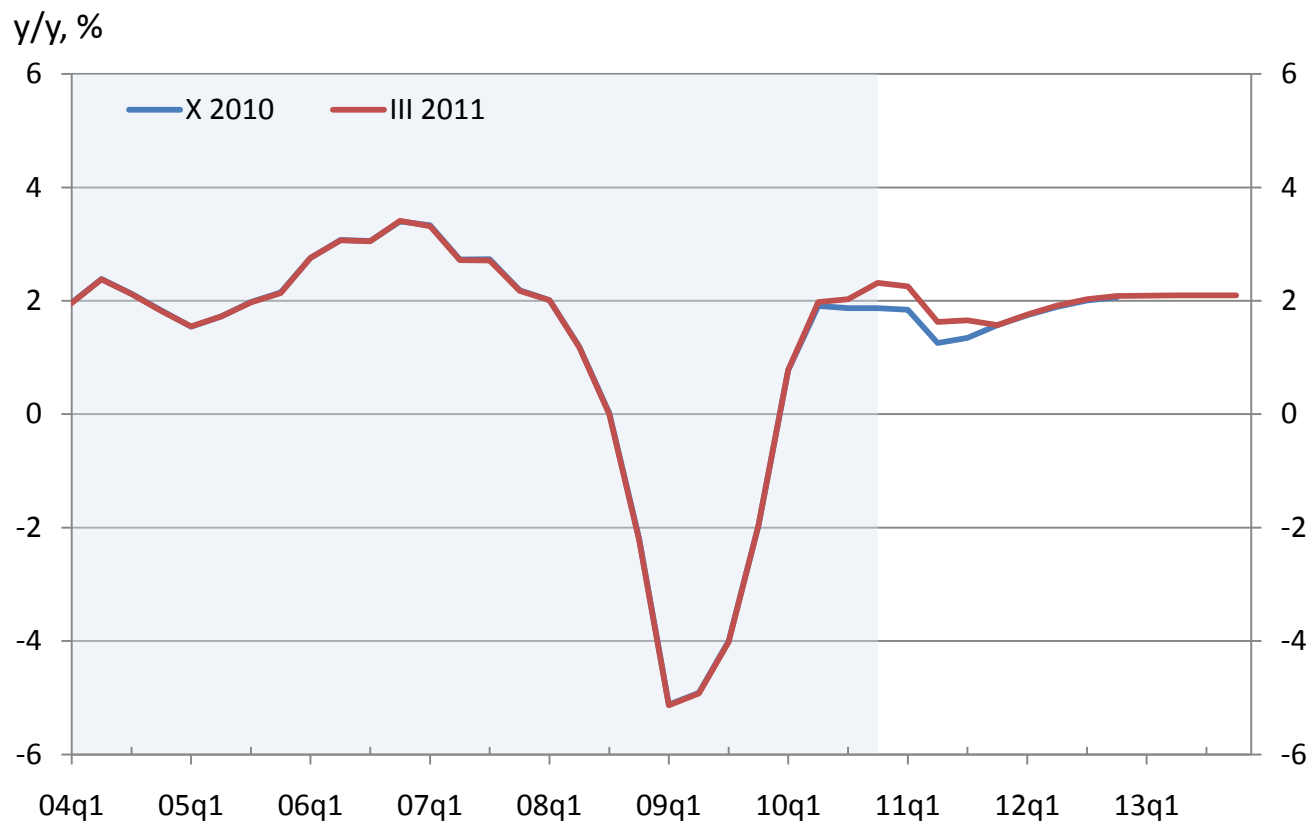
» Inflation

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## External environment

- GDP growth abroad
- Price growth abroad
- Interest rates abroad
- Energy commodity price index
- Agricultural commodity price index
- EUR/USD exchange rate
- Transfers from EU

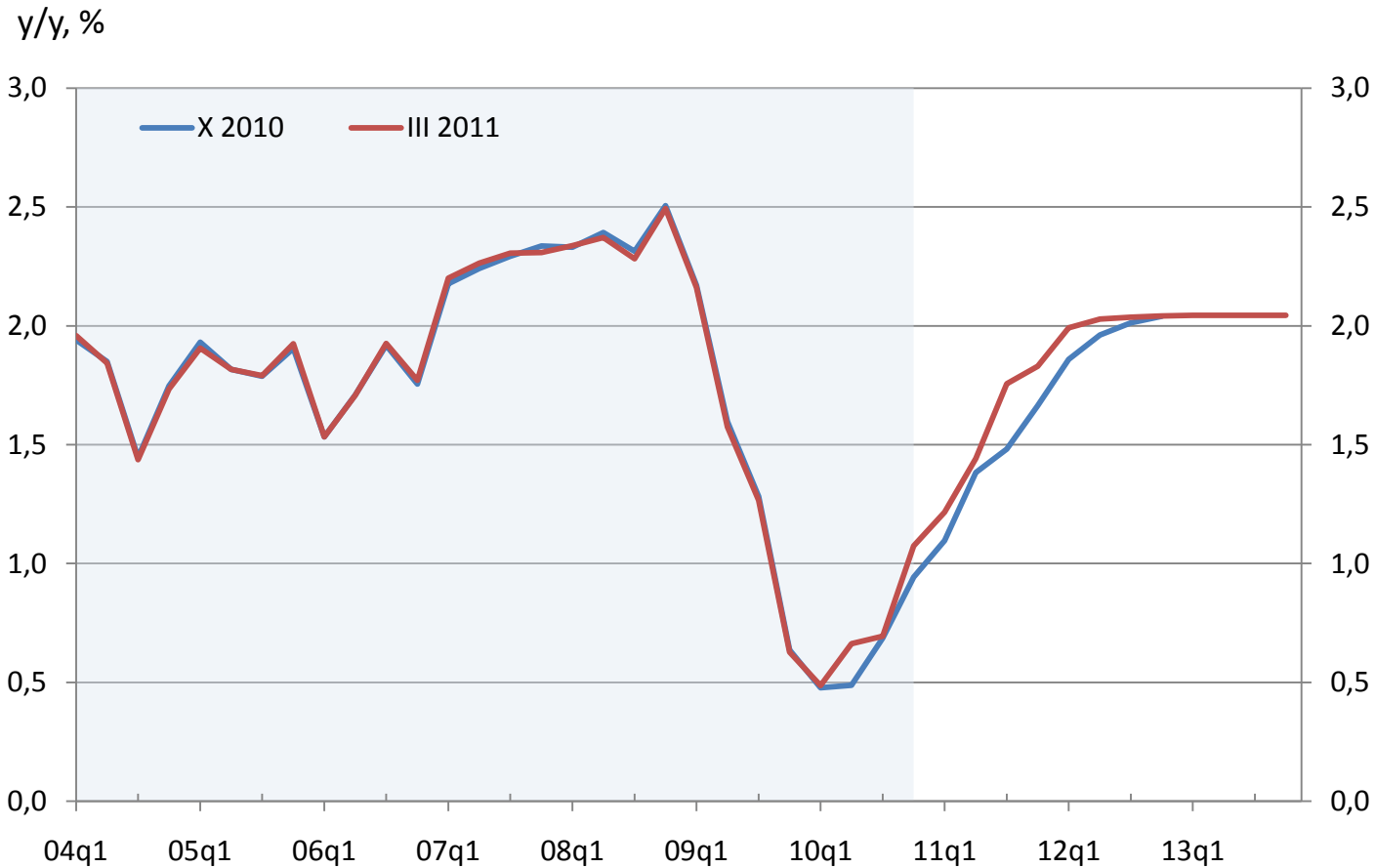
## Economic growth abroad (higher in short term)



In NECMOD model, the foreign sector is represented by three economies (with weights, respectively):

- Euro area (87,8%)
- United Kingdom (7,2%)
- United States (5,0%)

## Inflation abroad (slightly higher)



### CHANGES IN THE SCENARIO

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» GDP and its components

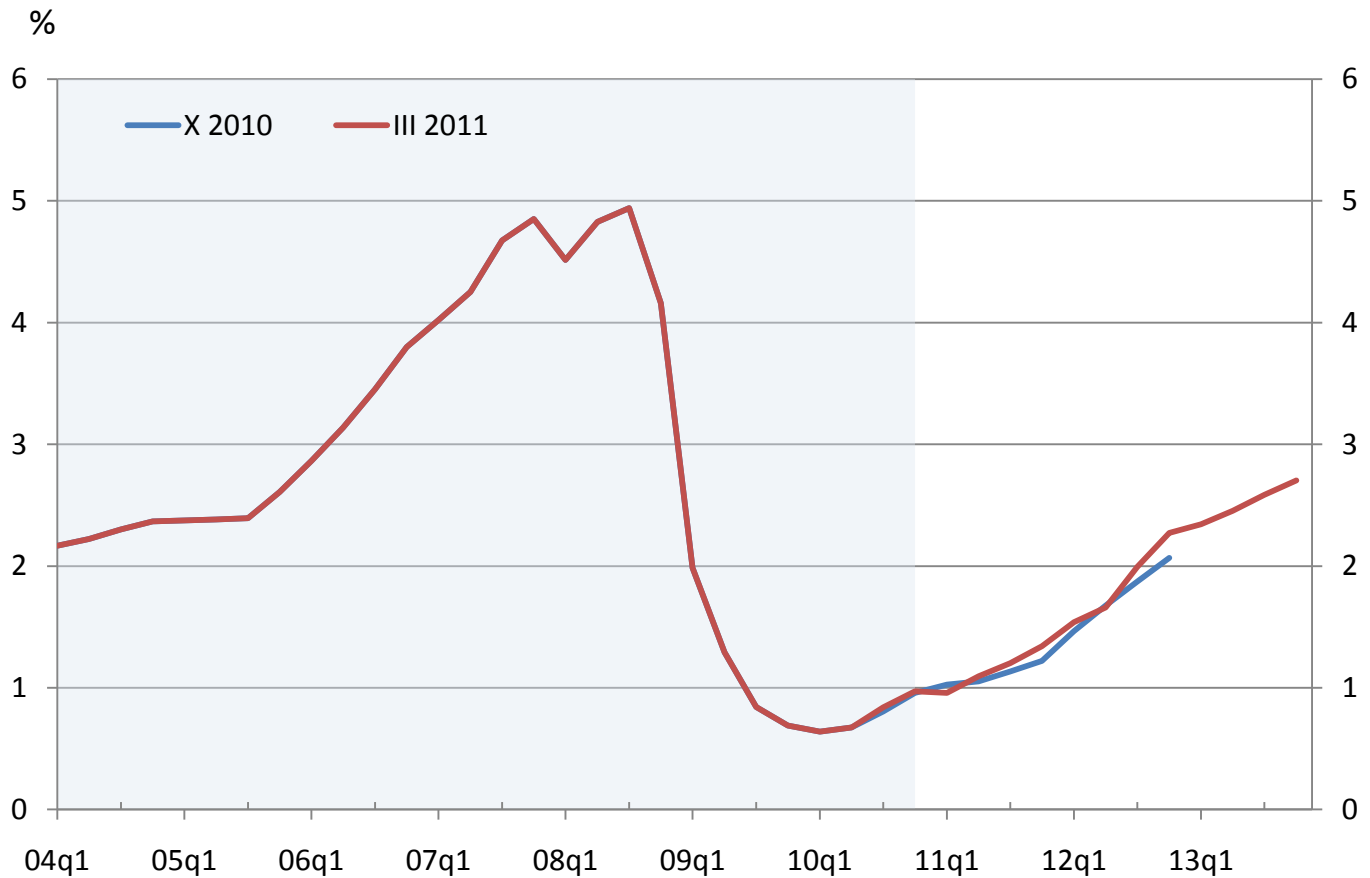
» Labour market

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## Interest rates abroad (similar)



### CHANGES IN THE SCENARIO

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» GDP and its components

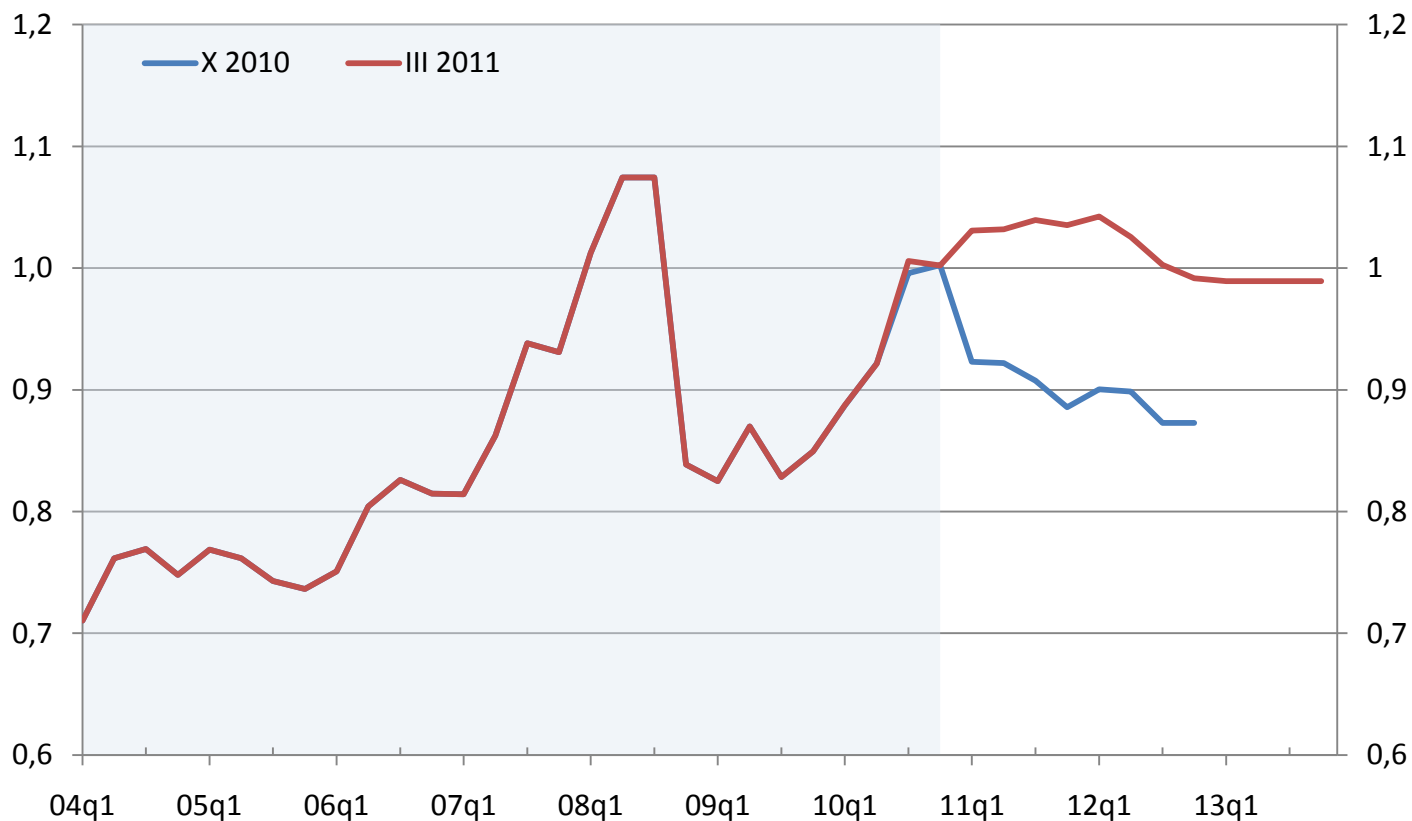
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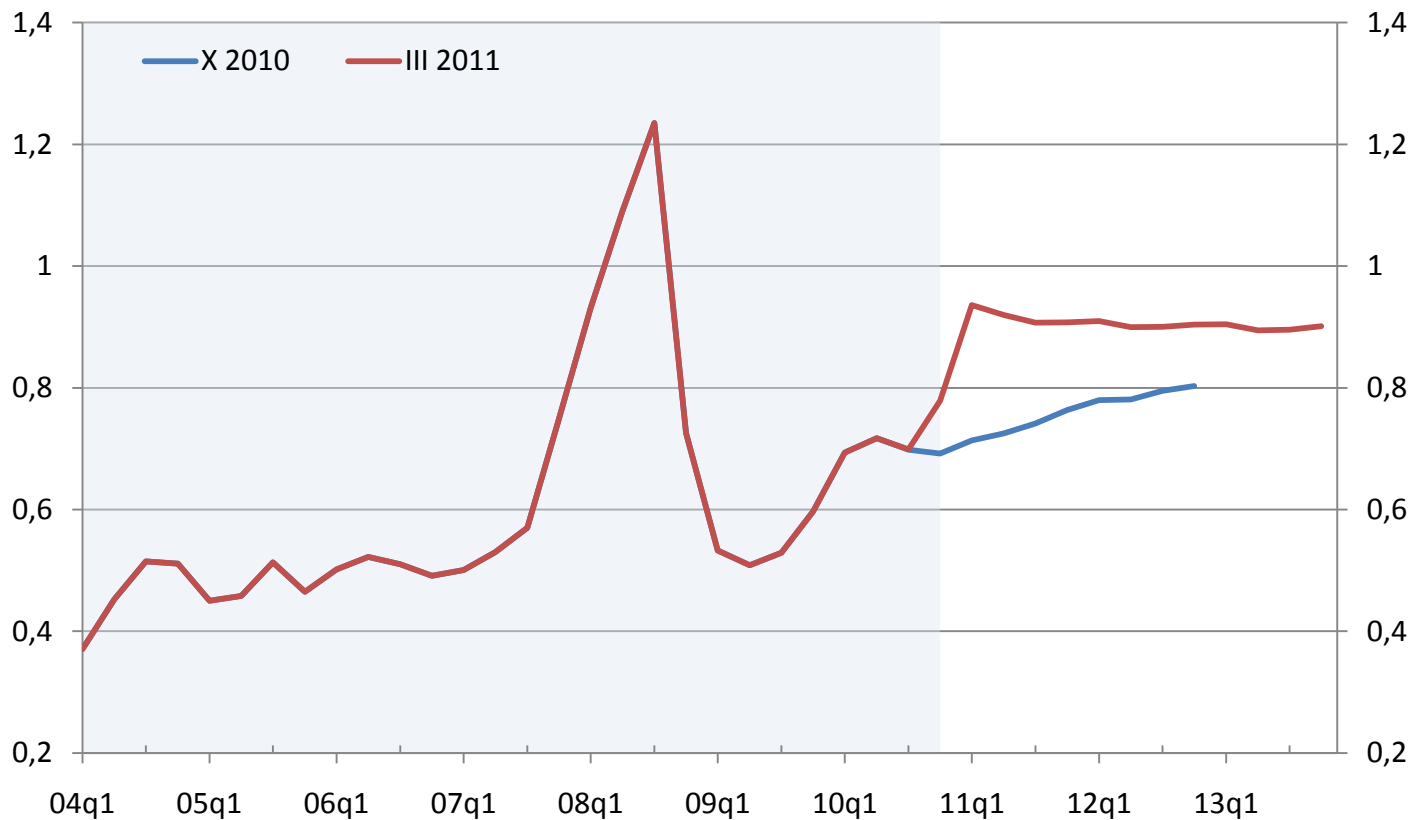
# Agricultural commodity price index\* (higher)



\*Global index of agricultural commodity prices consists of prices of: wheat, pork, beef, poultry, fish, rape oil, sugar, oranges, bananas, and the beverages index.

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## Energy commodity price index\* (higher)



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

## USD/EUR exchange rate (stronger EUR in relation to USD)

### CHANGES IN THE SCENARIO

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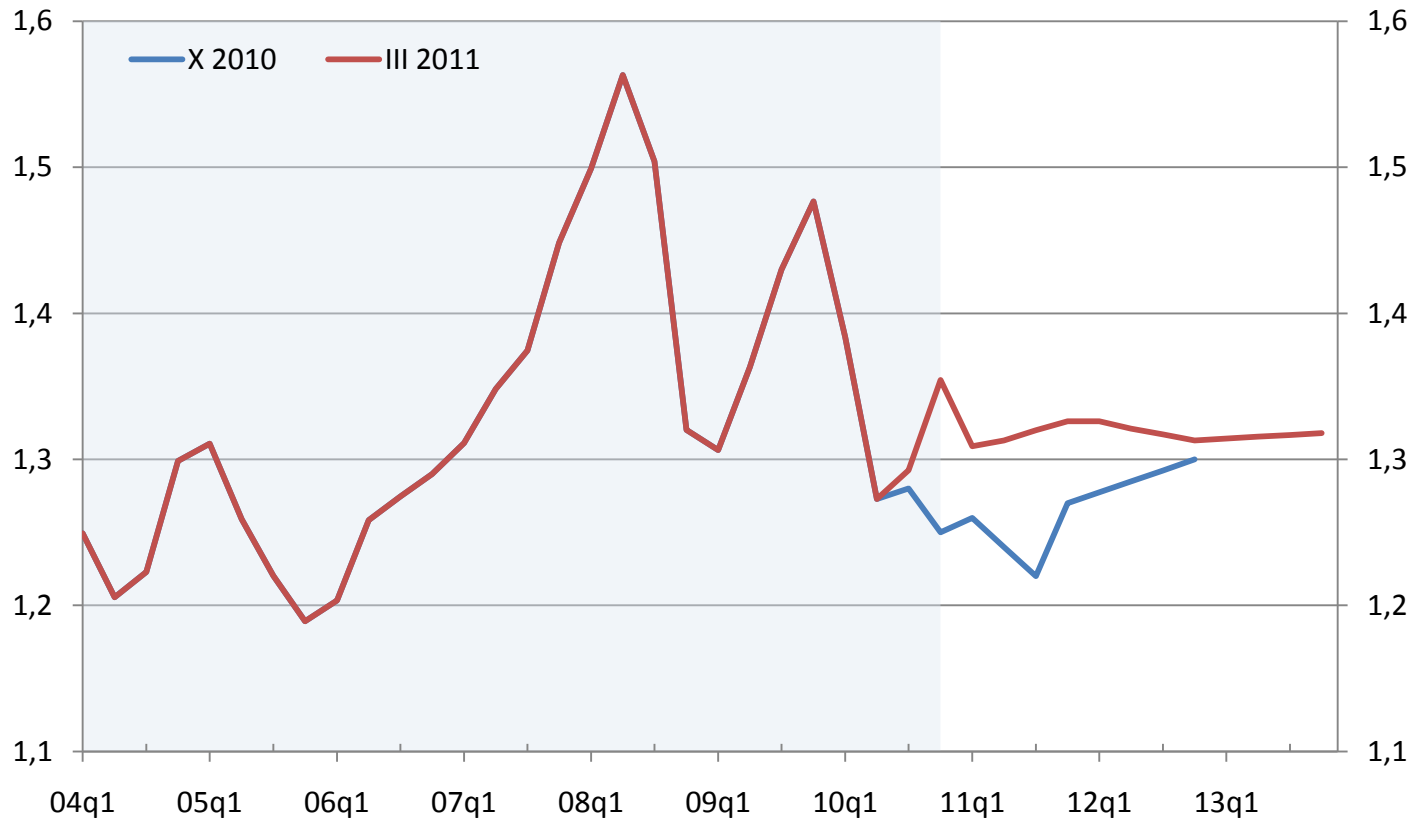
» GDP and its components

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» Exchange rate

» Inflation

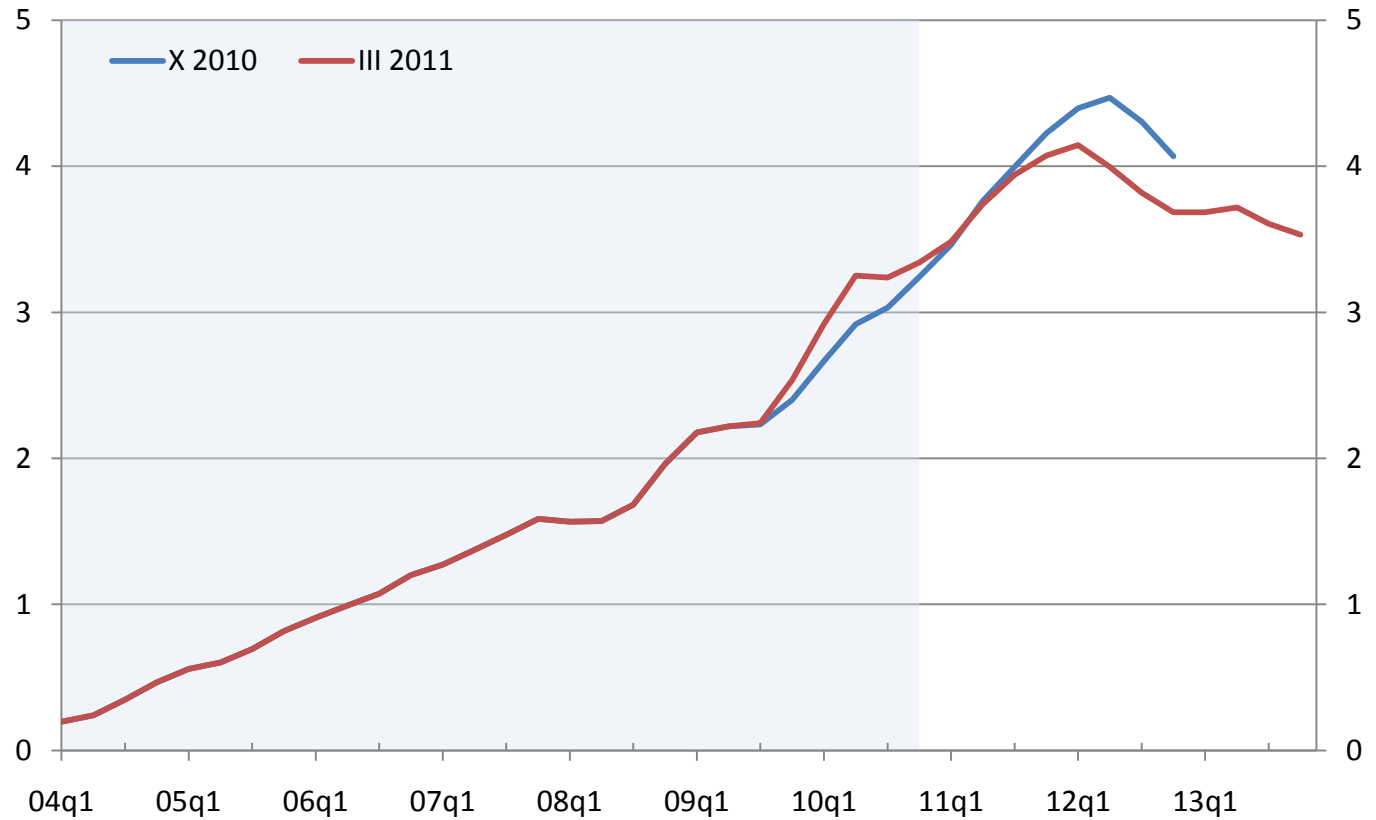
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## EU transfers (lower inflow)

billion EUR



### CHANGES IN THE SCENARIO

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# Transfers from the EU: decomposition

CHANGES IN THE SCENARIO

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PROJECTION

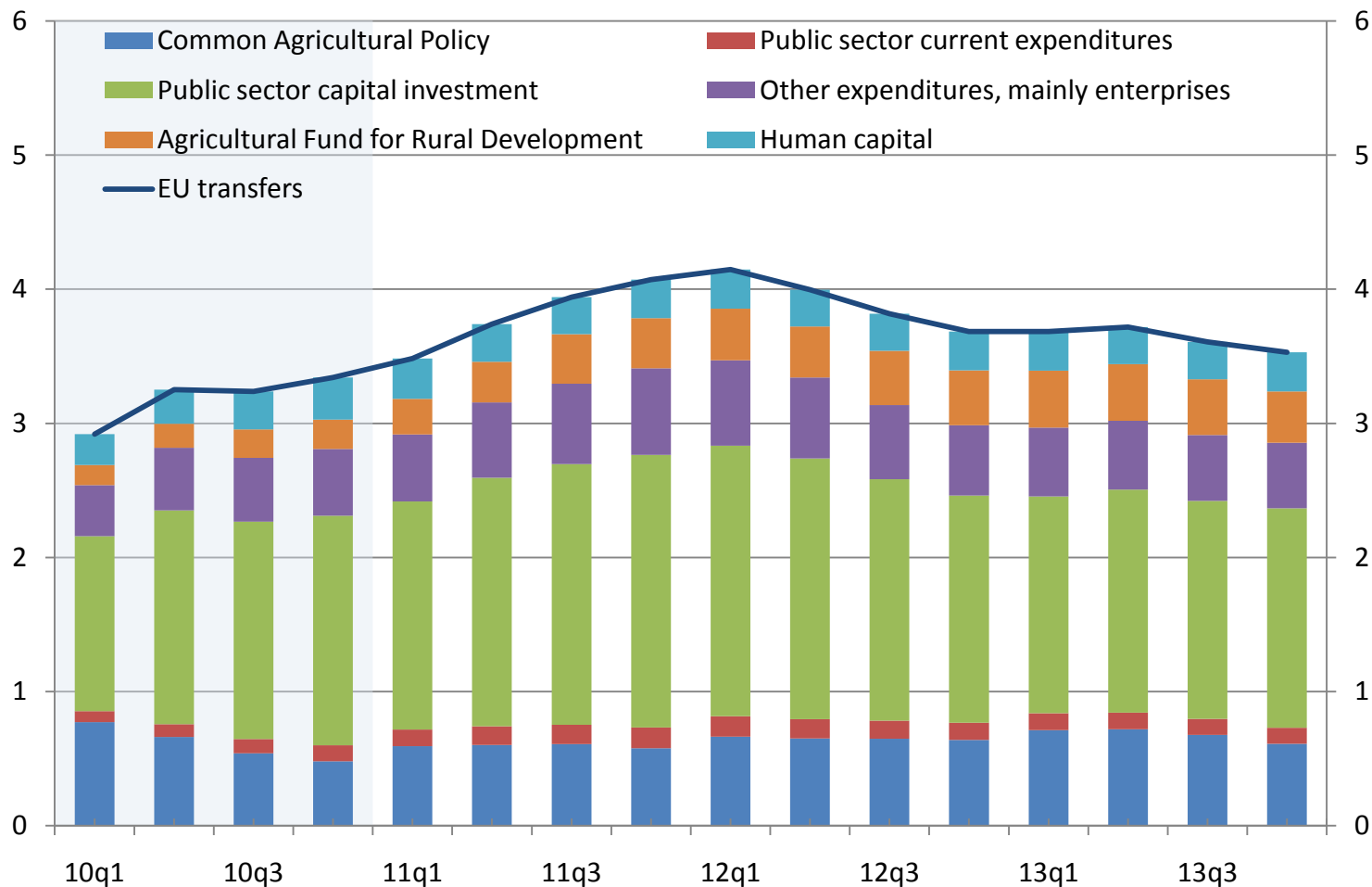
» GDP and its components

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## Polish Economy in 2010 Q4

- GDP and components
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## GDP and components

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	10Q3	10Q4
GDP (y/y, %)	4,2 (3,8)	4,1 (3,7)
Domestic demand (y/y, %)	4,2 (4,2)	5,0 (4,1)
Private consumption (y/y, %)	3,5 (2,9)	3,7 (3,4)
Public consumption (y/y, %)	4,3 (2,3)	2,5 (3,3)
Gross Fixed Capital Formation (y/y, %)	0,4 (2,1)	4,2 (1,4)
Export (y/y, %)	9,6 (11,9)	10,1 (10,5)
Import (y/y, %)	9,5 (12,8)	12,4 (11,3)
Net exports contribution (pp)	0,0 (-0,4)	-0,8 (-0,4)

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

## Labour market

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## UNCERTAINTY

	10Q3	10Q4
ULC (y/y, %)	-0,5 (0,9)	1,2 (2,2)
Labour productivity (y/y, %)	3,1 (2,6)	2,7 (2,3)
Gross wages (y/y, %)	2,9 (4,0)	3,9 (4,3)
Total employment LFS (y/y, %)	1,1 (1,2)	1,4 (1,4)
Unemployment LFS (%)	9,8 (9,7)	10,1 (9,6)
Participation rate (%)	55,9 (55,9)	56,2 (55,9)

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

## Inflation

	10Q3	10Q4
CPI inflation (y/y, %)	2,2 (2,1)	2,9 (2,5)
Core inflation (y/y, %)	1,2 (1,2)	1,3 (1,2)
Food price inflation (y/y, %)	3,0 (2,5)	4,4 (3,9)
Energy price inflation (y/y, %)	4,7 (4,8)	6,6 (5,5)

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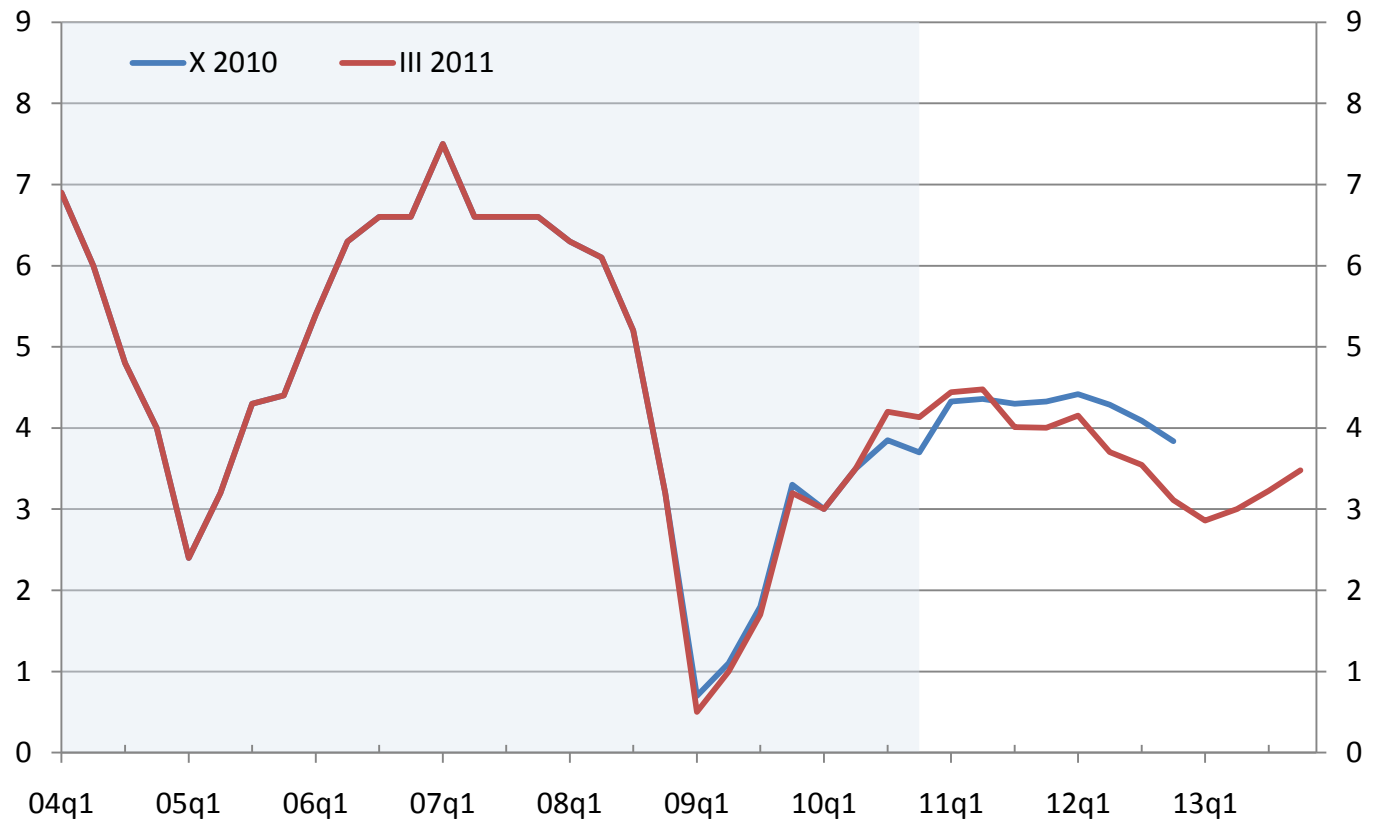
## March projection for 2011-2013

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



## GDP (lower)

y/y, %



### CHANGES IN THE SCENARIO

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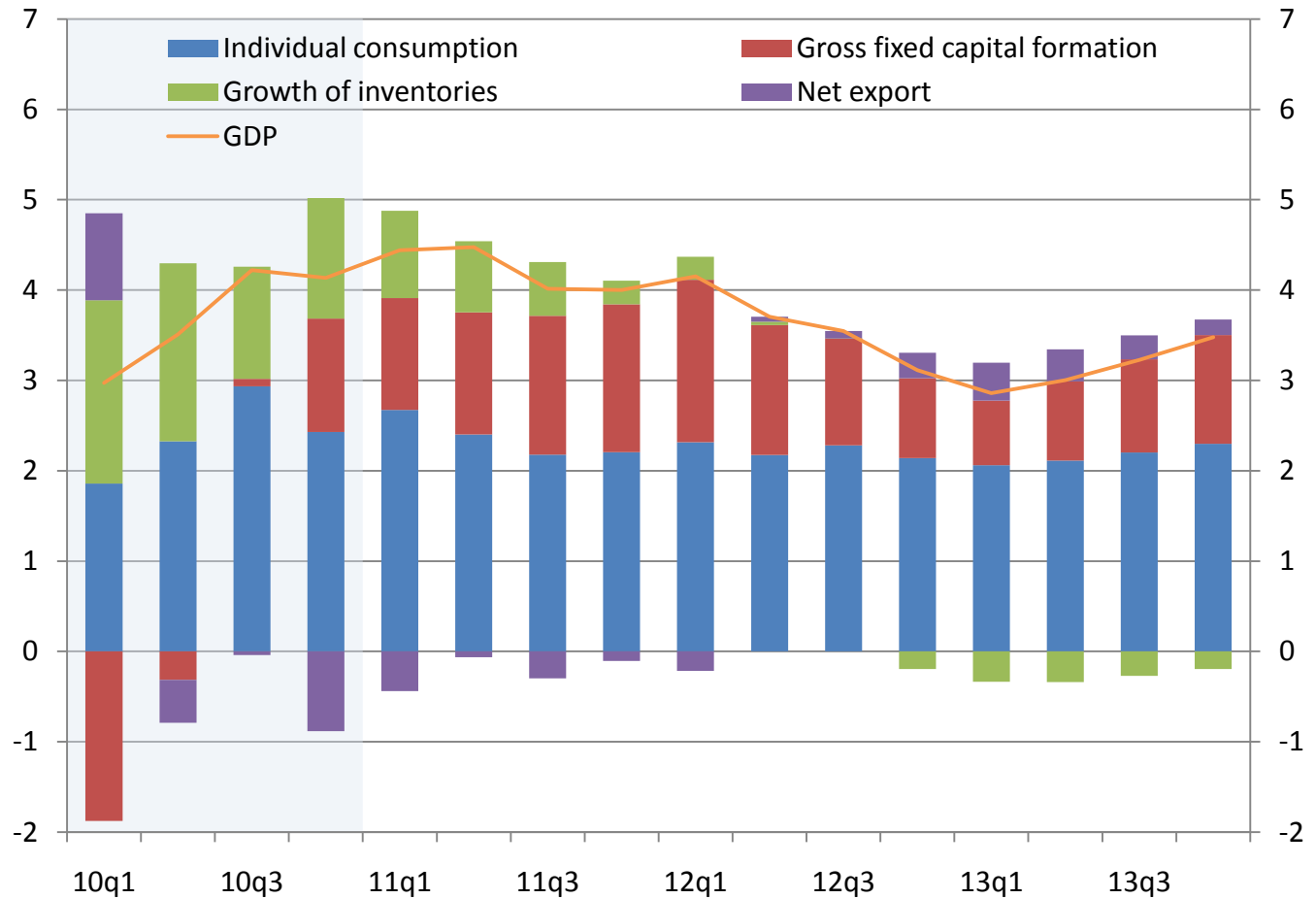
» Exchange rate

» Inflation

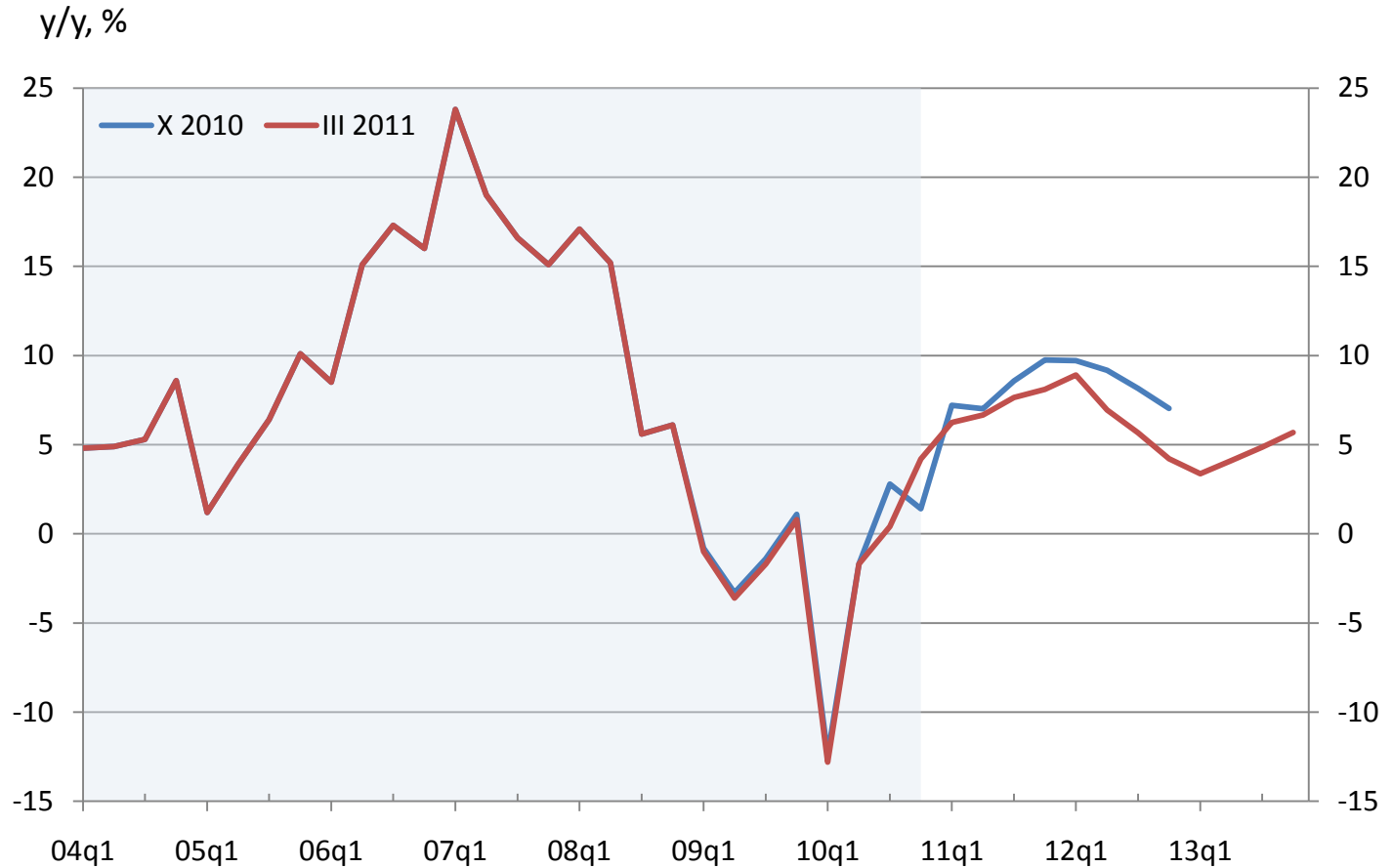
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# GDP: decomposition

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# Gross fixed capital formation (lower)



CHANGES IN THE SCENARIO

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PROJECTION

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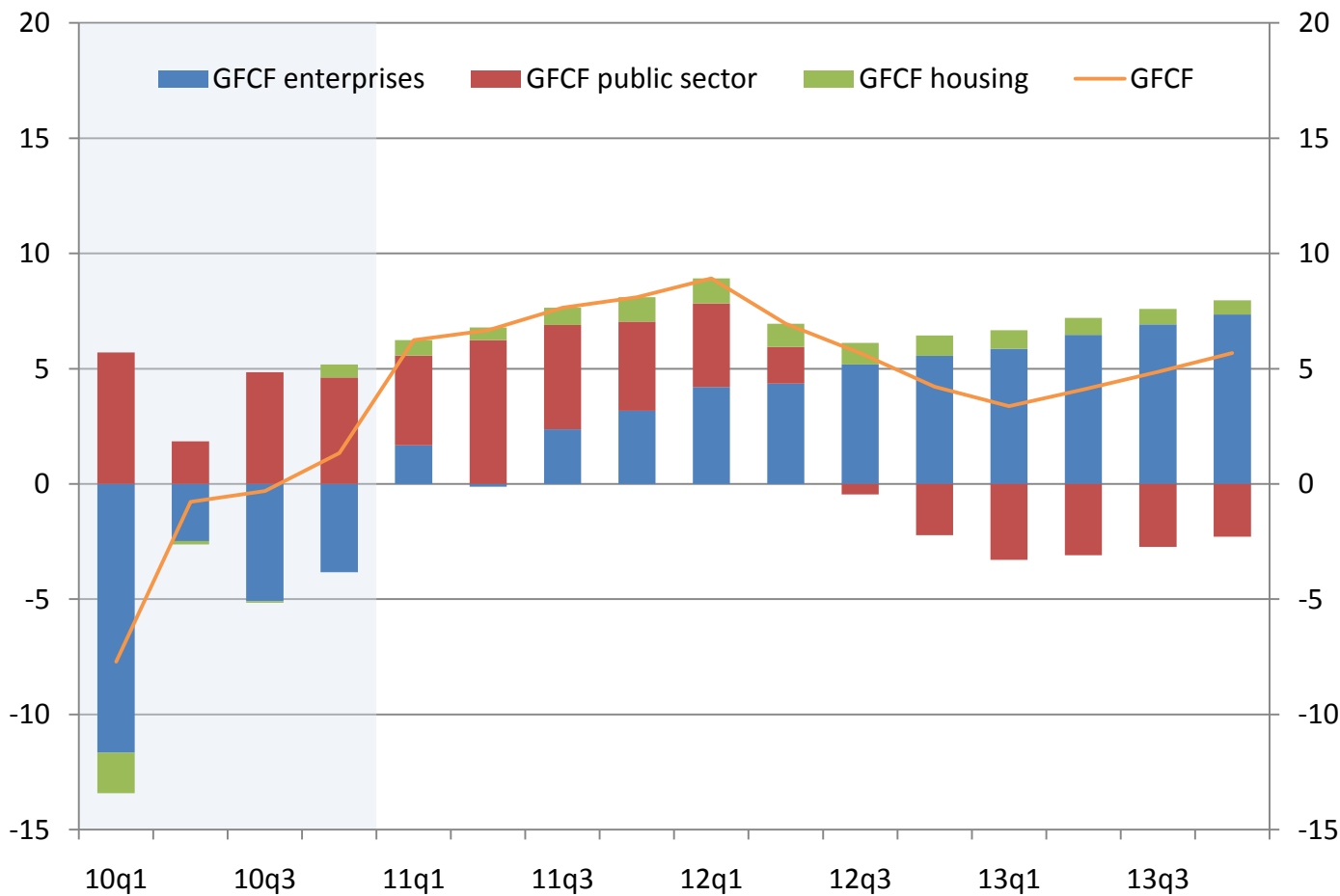
» Exchange rate

» Inflation

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# Gross fixed capital formation: decomposition

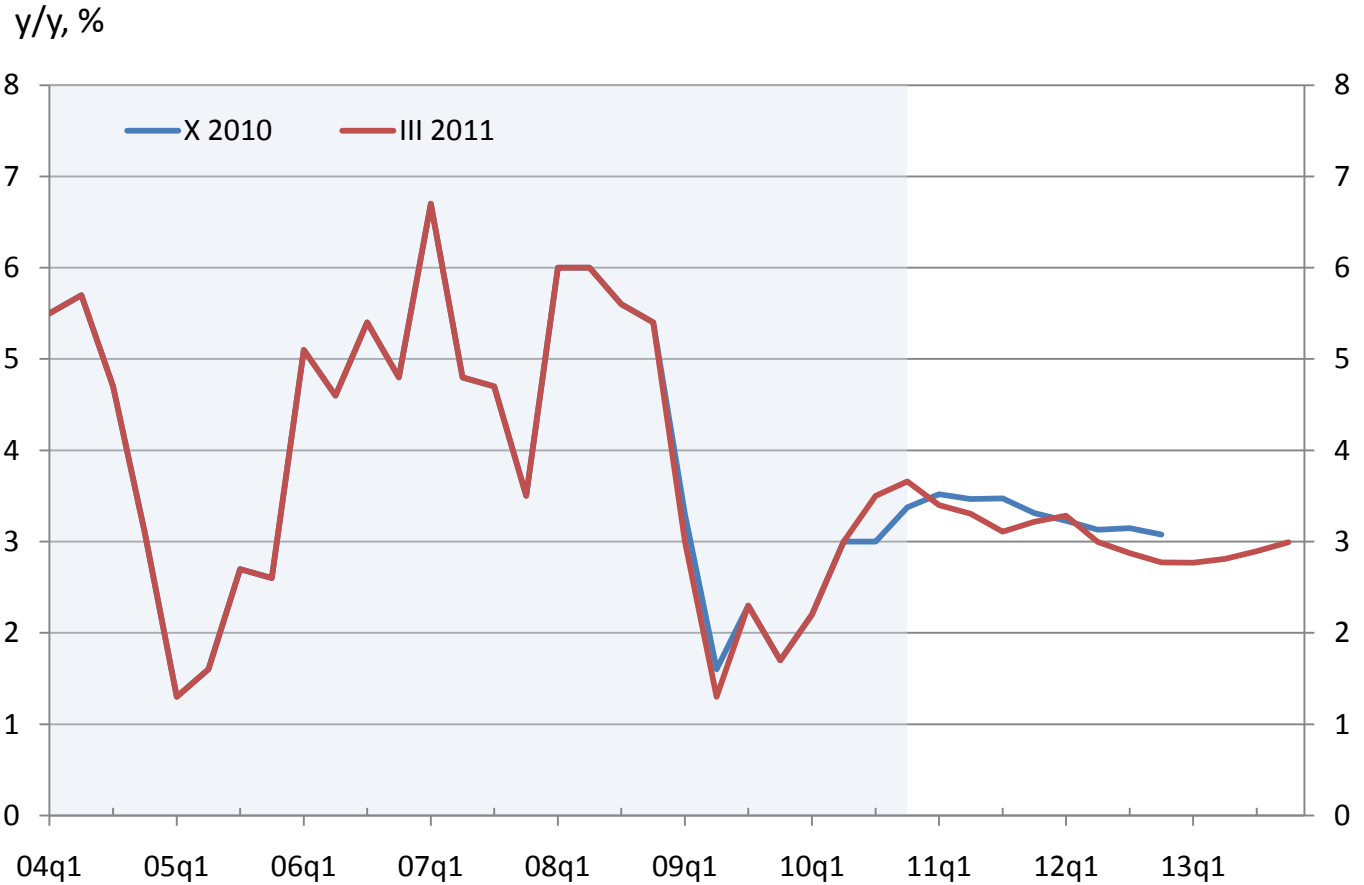
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# Private consumption

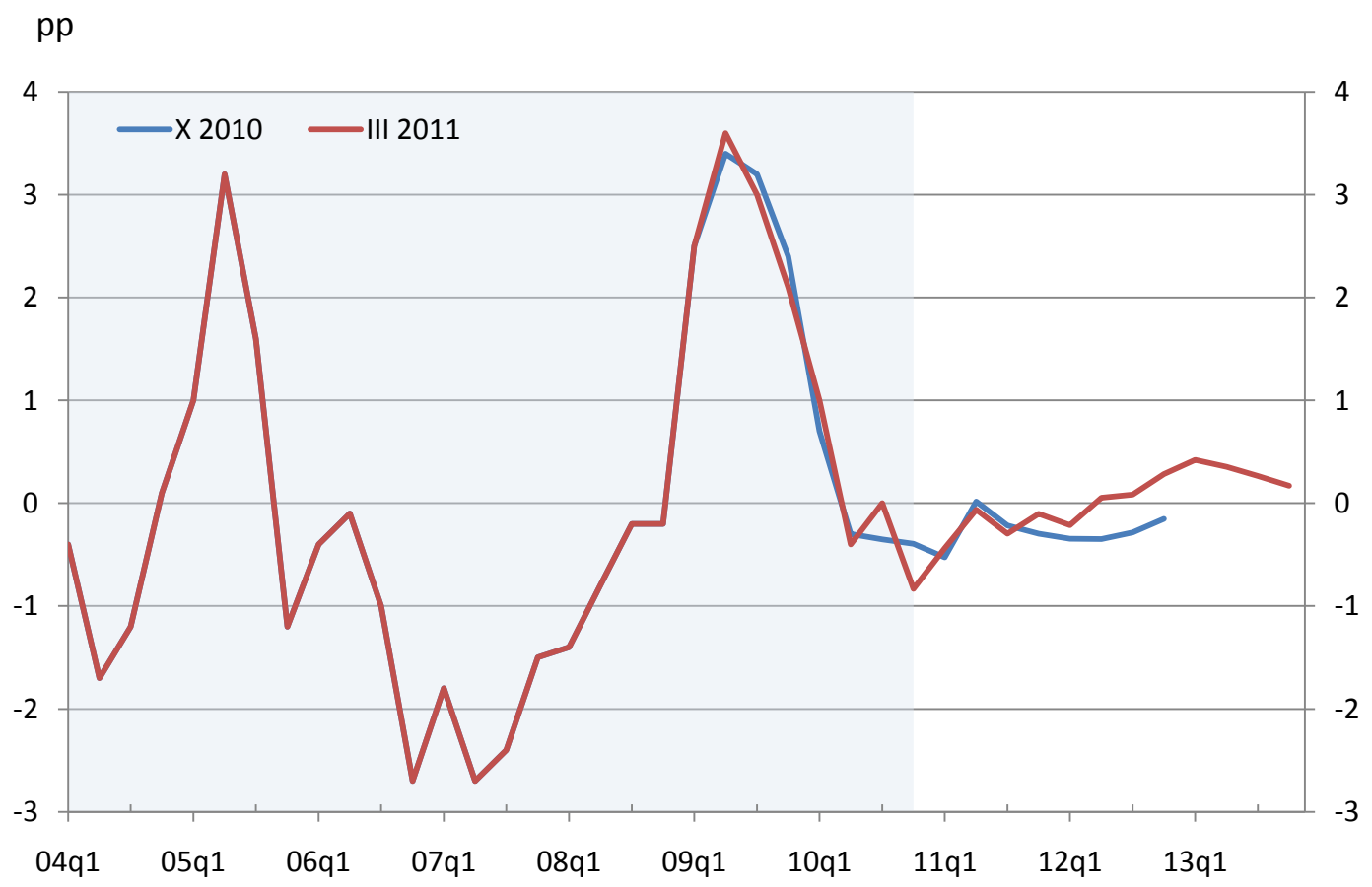
(slightly lower)

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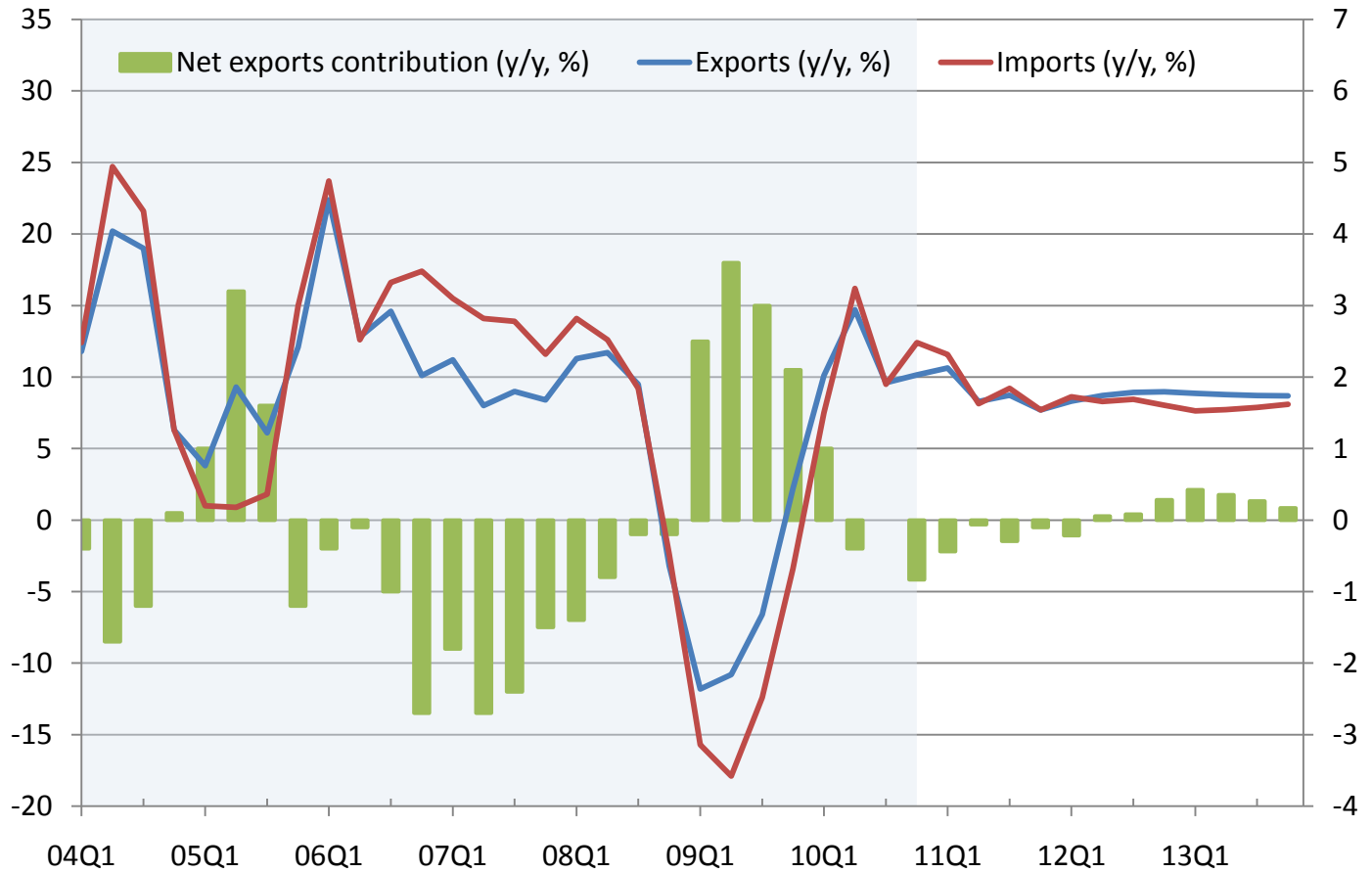
# Net exports contribution (similar)

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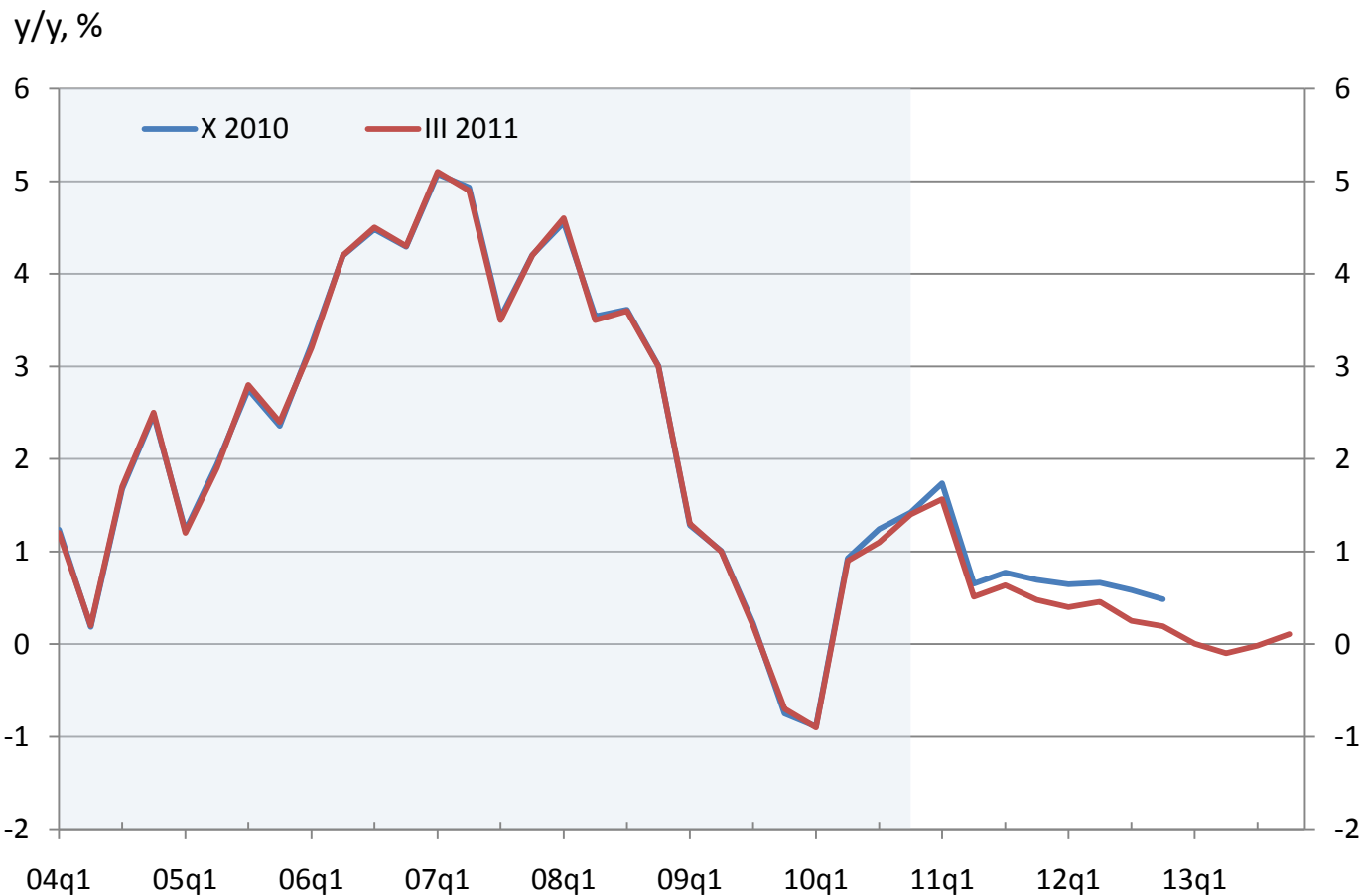
## Trade with other countries

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## Employment (lower)



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» GDP and its components

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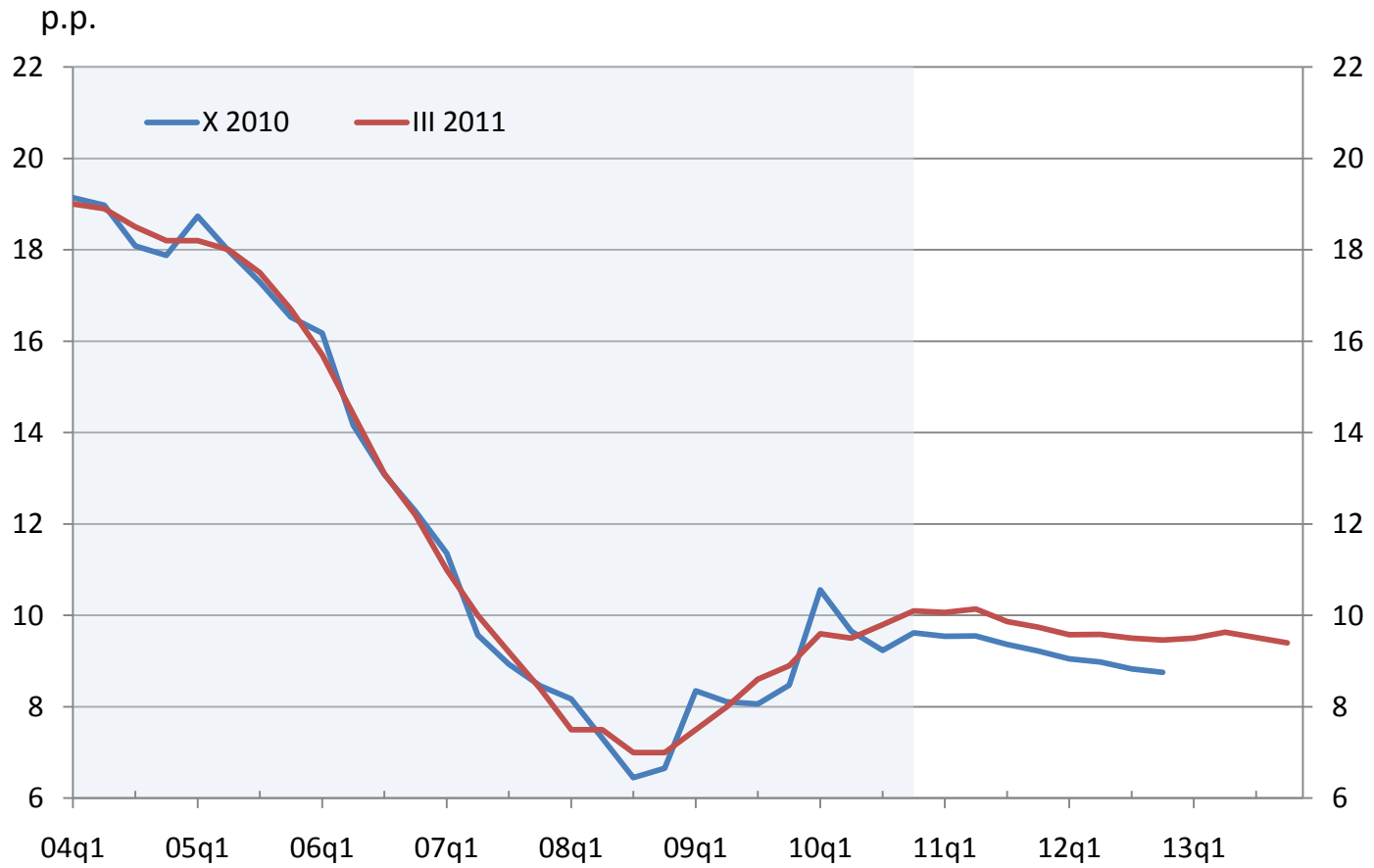
» Exchange rate

» Inflation

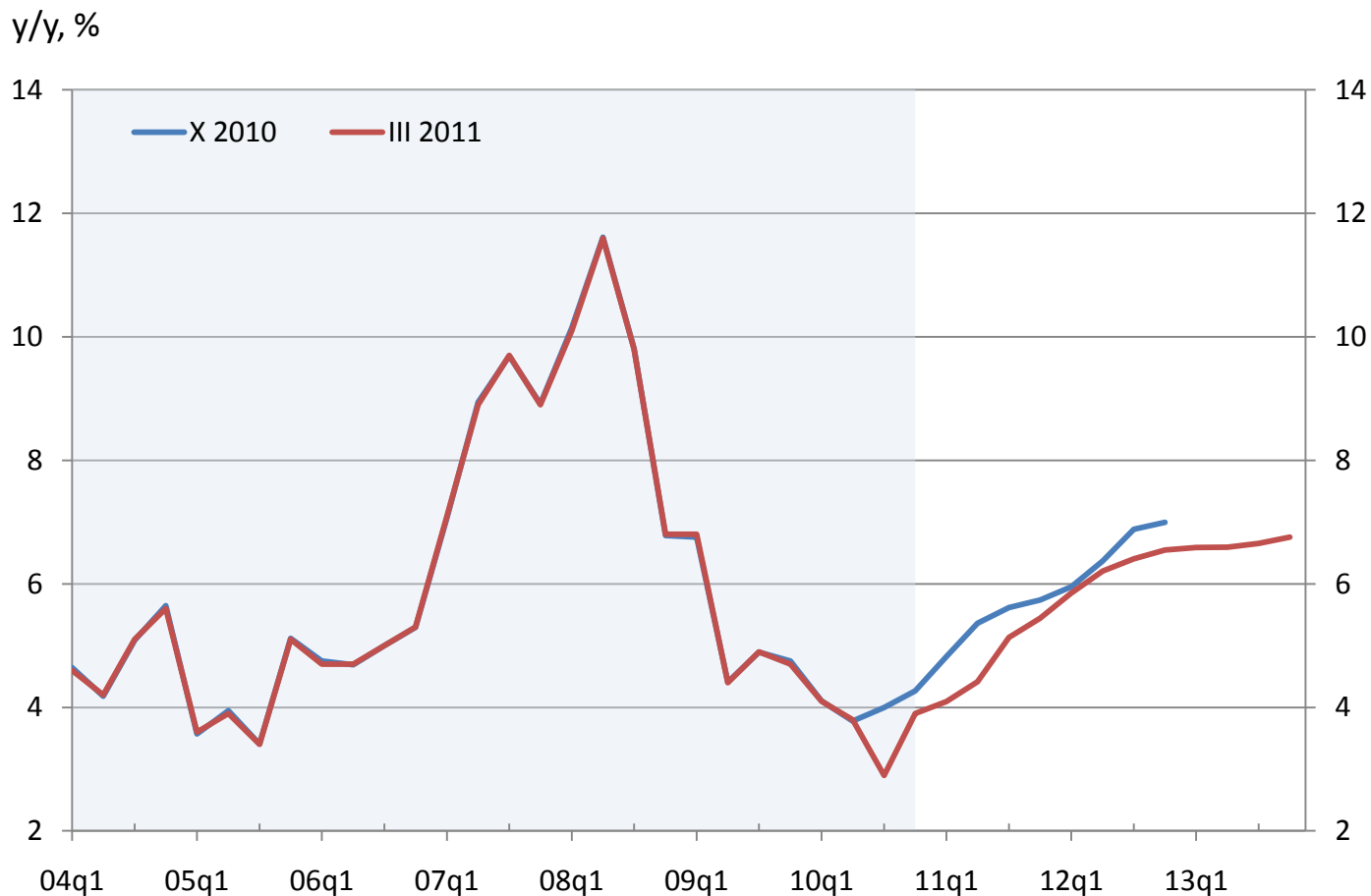
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# Unemployment (higher)

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## Gross wages (lower)



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» GDP and its components

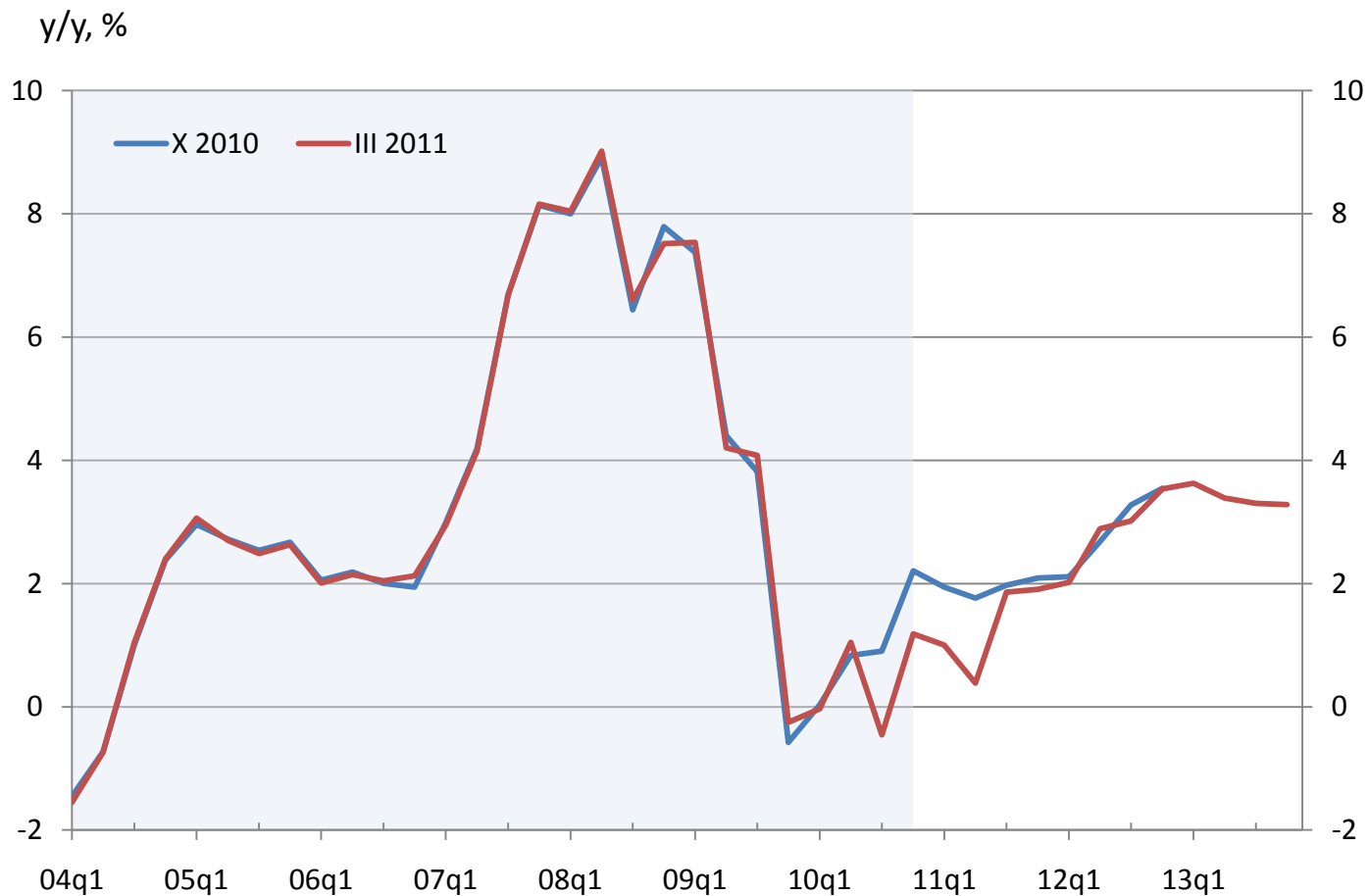
» Labour market

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### UNCERTAINTY

## Unit labour costs (lower / similar)



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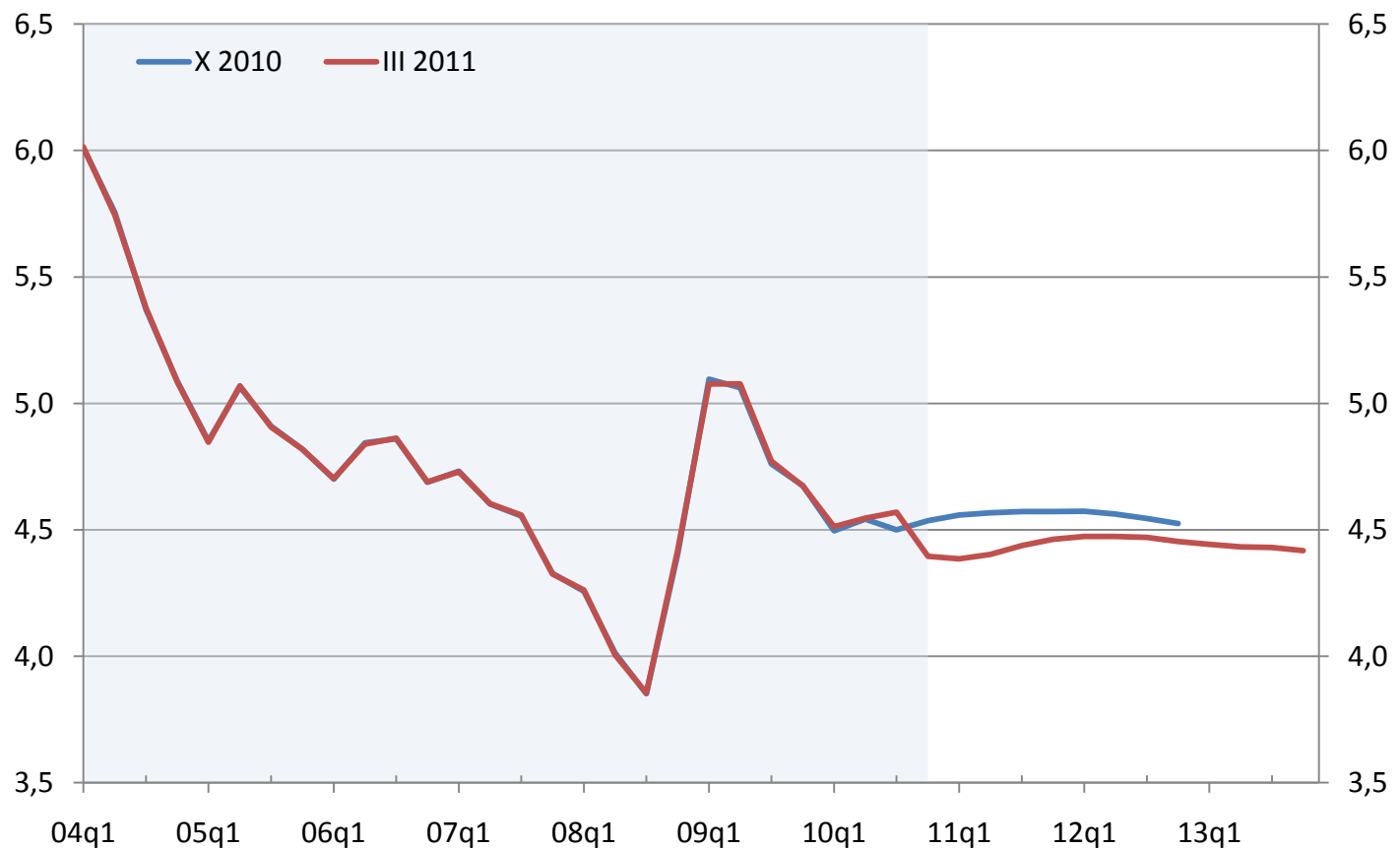
» Exchange rate

» Inflation

### UNCERTAINTY

## Exchange rate

Real effective exchange rate (REER)



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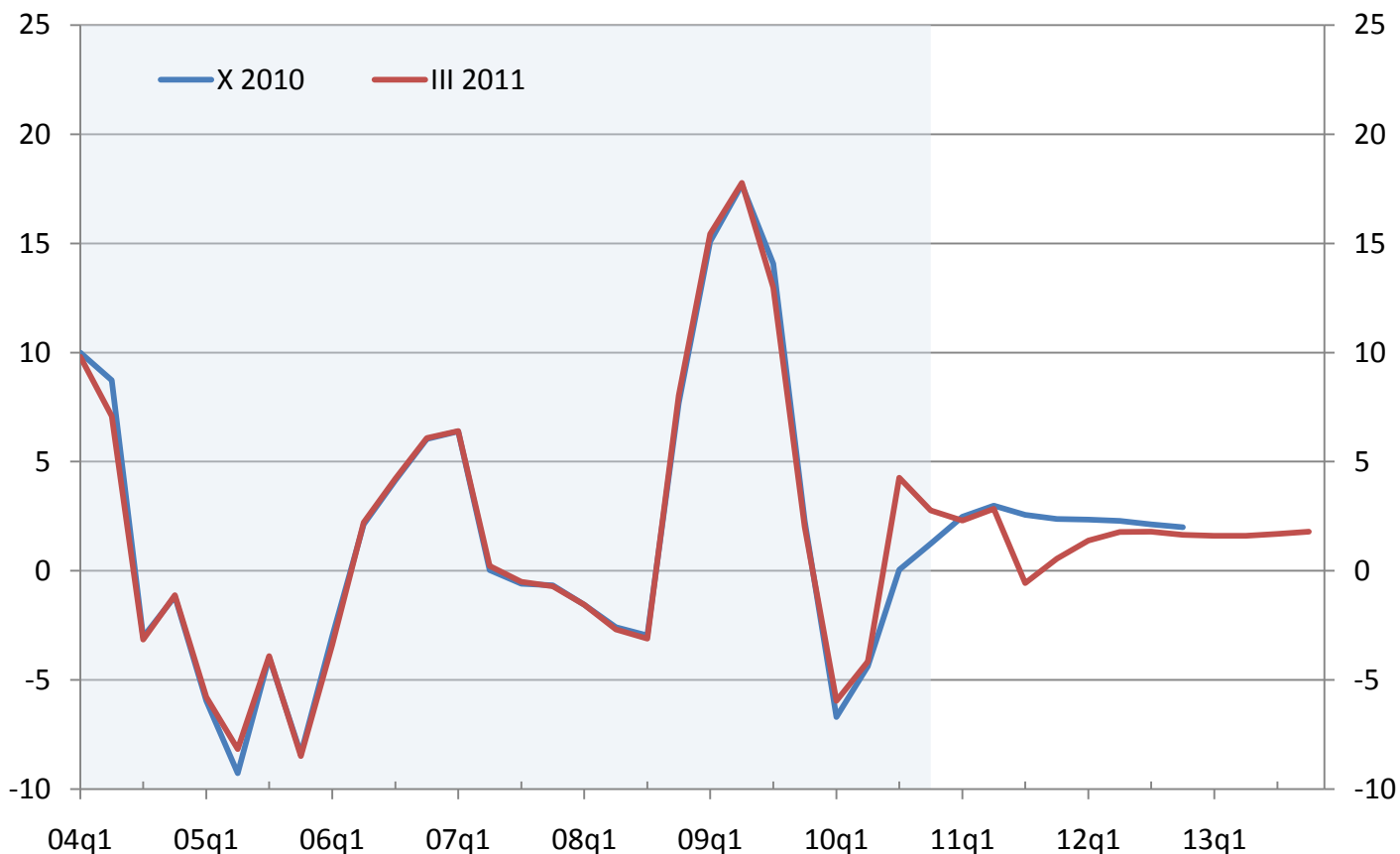
» Exchange rate

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### UNCERTAINTY

## Import prices (excluding oil and natural gas)

y/y, %



CHANGES IN THE SCENARIO

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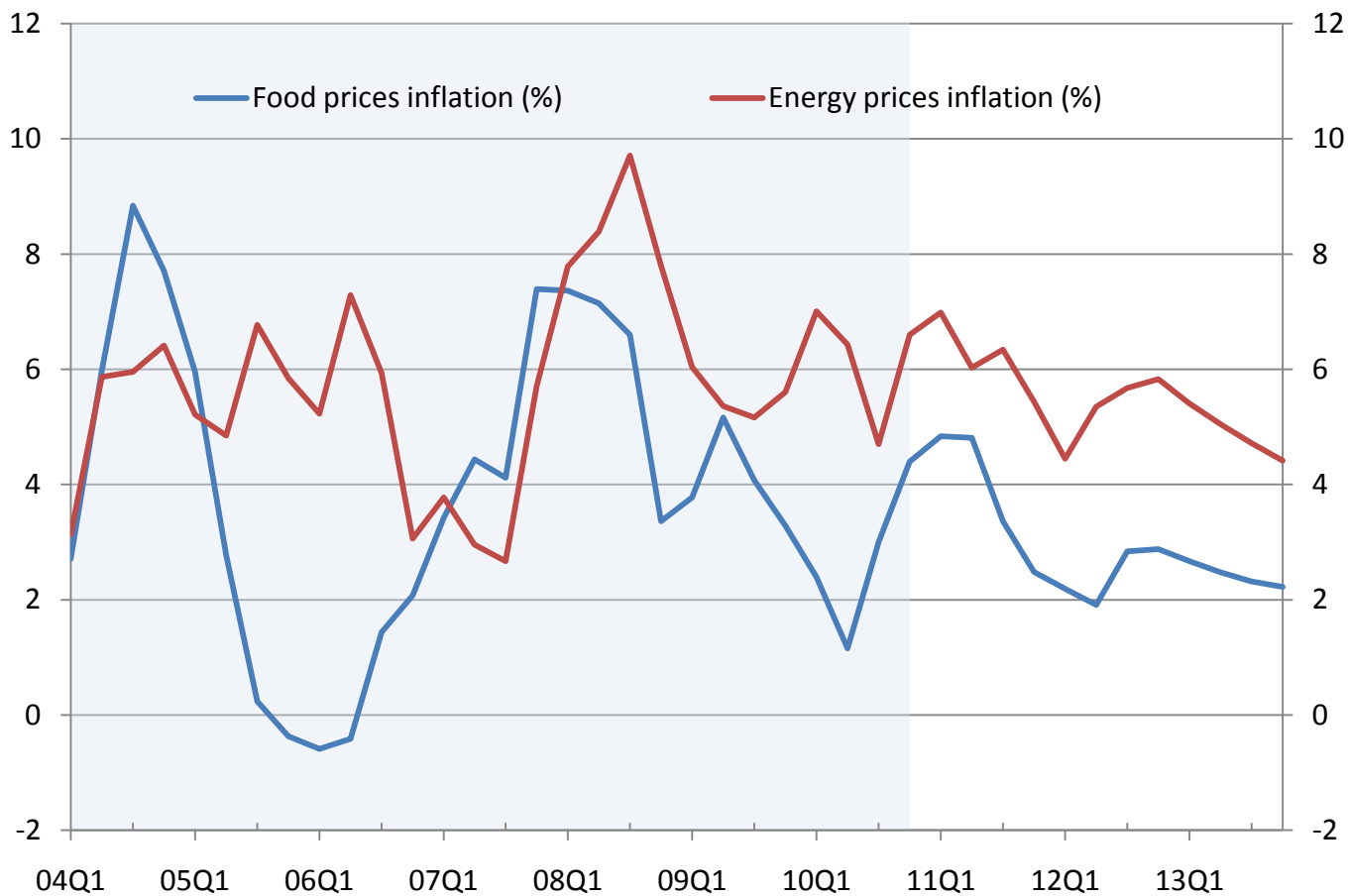
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# Food and energy prices inflation



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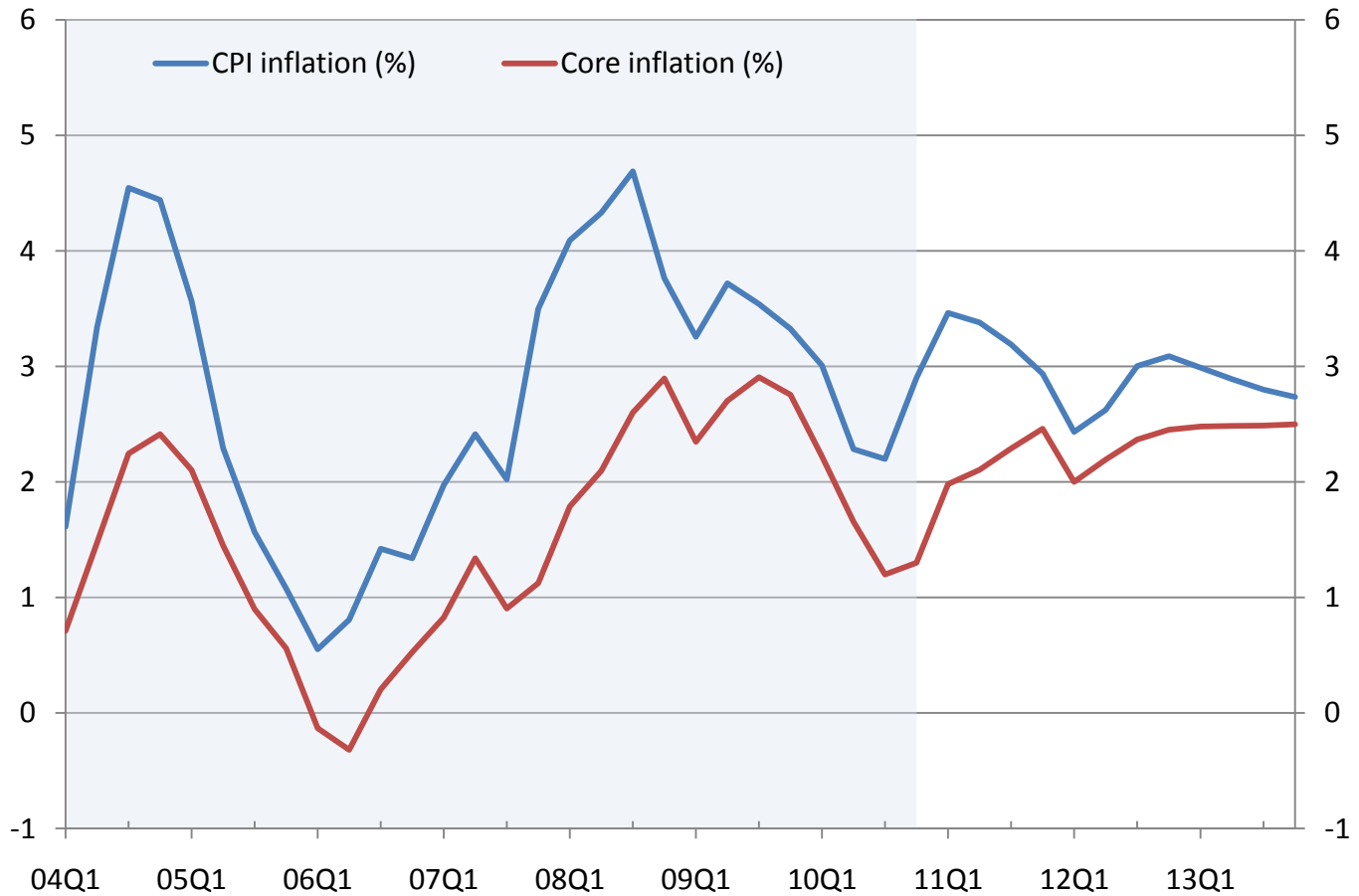
» Labour market

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## Core inflation and CPI inflation\*



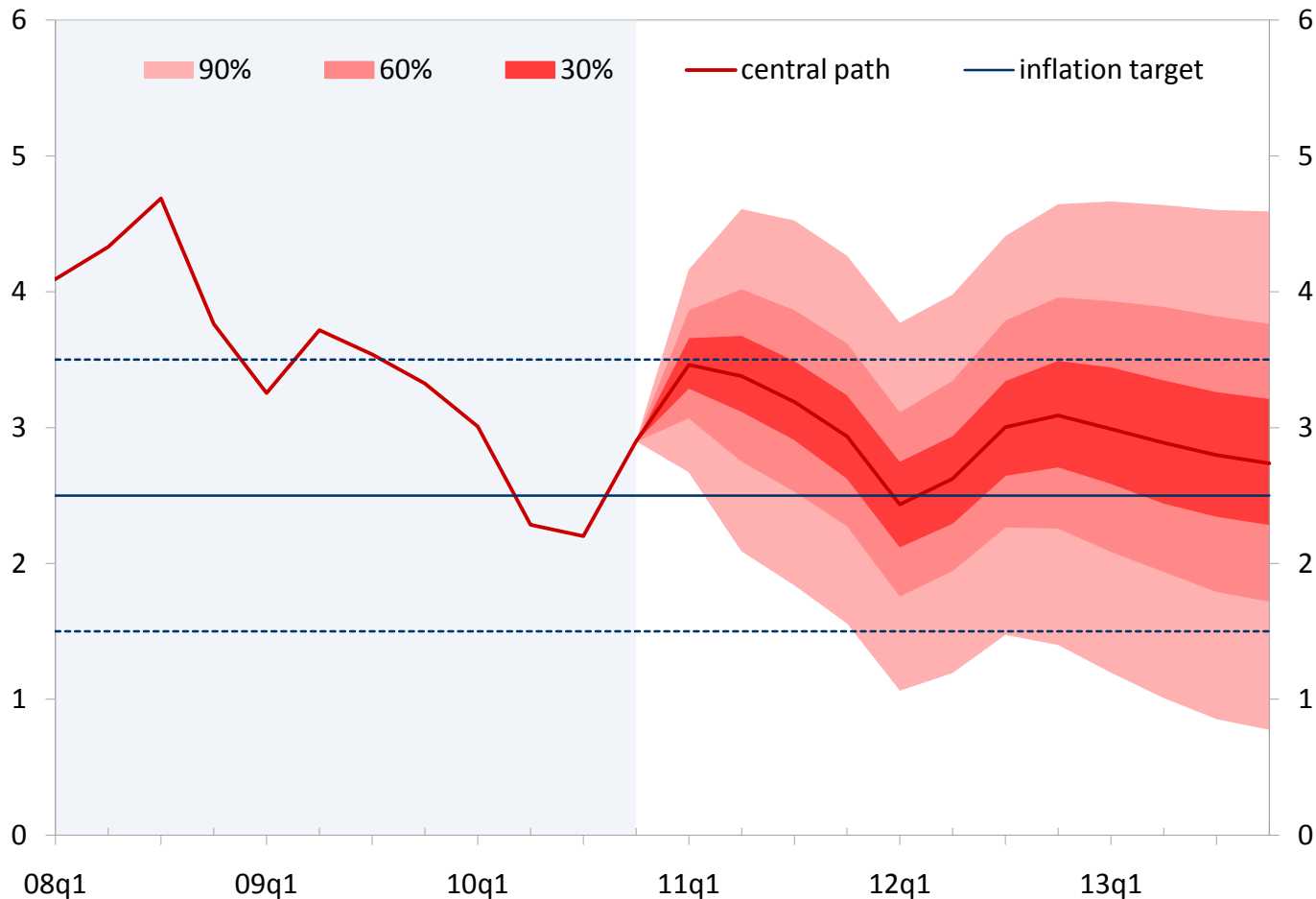
\* Core inflation does not include food, beverages and energy prices.

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# Inflation projection – March 2011

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## Probability distribution for inflation

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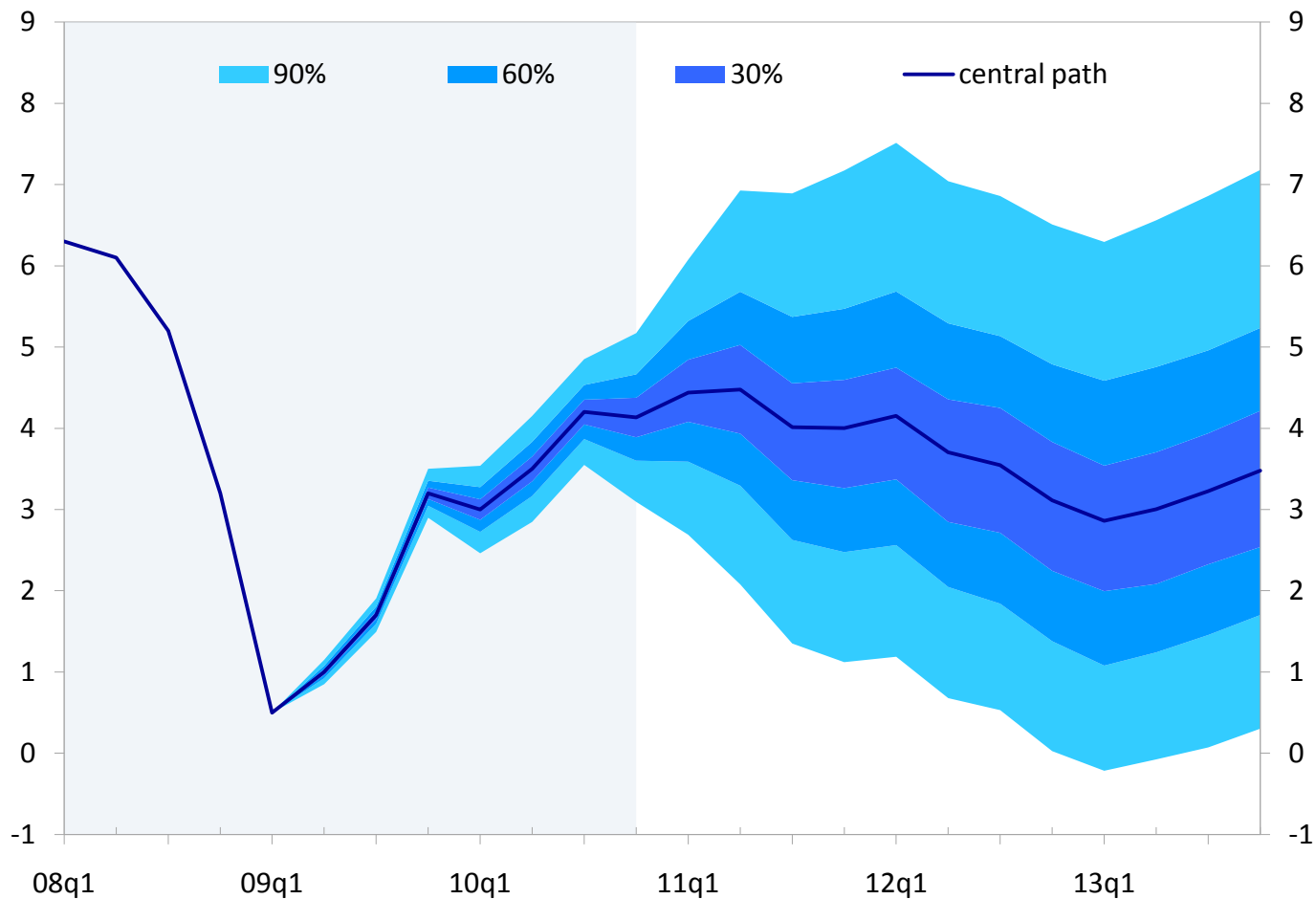
» Inflation

## UNCERTAINTY

	below 1,5%	below 2,5%	below 3.5%	below the central path	In the range (1,5%; 3,5%)
11q1	0,00	0,02	0,52	0,49	0,52
11q2	0,01	0,12	0,55	0,48	0,54
11q3	0,02	0,19	0,65	0,50	0,63
11q4	0,04	0,28	0,75	0,50	0,71
12q1	0,13	0,53	0,90	0,50	0,77
12q2	0,09	0,45	0,84	0,50	0,75
12q3	0,05	0,29	0,70	0,50	0,65
12q4	0,06	0,28	0,65	0,50	0,59
13q1	0,09	0,32	0,67	0,50	0,59
13q2	0,11	0,37	0,70	0,50	0,60
13q3	0,13	0,41	0,72	0,49	0,59
13q4	0,15	0,43	0,73	0,50	0,58

# GDP projection – March 2011

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# UNCERTAINTY

Scale of impact: \*\*\* significant  
\*\* moderate  
\* slight

CHANGES IN THE SCENARIO	Risk area	Description	Impact	Scale of impact
» Changes in the projection	External environment	<ul style="list-style-type: none"> <li>▪ Uncertainty as to the pace and scale of recovery of the world economy and response of developed economies to the withdrawal of governments and central banks from the policy of strong fiscal and monetary stimulation.</li> </ul>	inflation ↔ GDP ↔	***
» External environment		<ul style="list-style-type: none"> <li>▪ Developments in the world financial markets – including the effect of growing indebtedness of some developed countries.</li> <li>▪ Developments of agricultural and energy prices in world markets.</li> </ul>		
» Polish economy in 2010 Q4	Exchange rate	<ul style="list-style-type: none"> <li>▪ High public finance deficit – depreciation of PLN.</li> <li>▪ Inflow of foreign direct and portfolio investment – appreciation of PLN.</li> </ul>	inflation ↑ GDP ↑	**
» Inflation		PROJECTION	» GDP and its components	» Labour market
» GDP and its components	» Inflation	» Labour market	» Exchange rate	» Inflation
» Labour market	» Exchange rate	» Inflation	» Exchange rate	» Inflation
» Exchange rate	» Inflation	» Labour market	» Exchange rate	» Inflation
» Inflation	» Exchange rate	» Inflation	» Exchange rate	» Inflation
» Exchange rate	» Inflation	» Labour market	» Exchange rate	» Inflation
» Inflation	» Exchange rate	» Inflation	» Exchange rate	» Inflation
» Exchange rate	» Inflation	» Labour market	» Exchange rate	» Inflation
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» Exchange rate	» Inflation	» Labour market	» Exchange rate	» Inflation
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» Exchange rate	» Inflation	» Labour market	» Exchange rate	» Inflation
» Inflation	» Exchange rate	» Inflation	» Exchange rate	» Inflation
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» Inflation	» Exchange rate	» Inflation	» Exchange rate	» Inflation
» Exchange rate	» Inflation	» Labour market	» Exchange rate	» Inflation

CHANGES IN THE SCENARIO	Risk area	Description	Impact	Scale of impact
» Changes in the projection	Food and energy prices in Poland	<ul style="list-style-type: none"> <li>▪ Unknown scale of regulatory measures in the energy market in Poland.</li> <li>▪ Uncertainty about the impact of EU regulations on prices in Poland (connected, among others, with natural environment protection, including carbon dioxide emission level).</li> </ul>	inflation ↔ GDP ↔	**
» External environment		» Polish economy in 2010 Q4		
» GDP and its components	Fiscal policy	<ul style="list-style-type: none"> <li>▪ Fiscal policy adjustments aimed to increase revenues and reduce spending in 2012.</li> <li>▪ Uncertainty about the scale of utilization of the EU funds by the public finance system.</li> </ul>	inflation ↔ GDP ↓	**
» Labour market		» Exchange rate		
» Inflation	Data after <i>cut-off date</i>	<ul style="list-style-type: none"> <li>▪ Wages in national economy in 2010 Q4 above expectations.</li> <li>▪ Slightly higher agricultural commodities prices.</li> </ul>	Inflation ↑ GDP ↑	*
» Exchange rate		» Inflation		
» Inflation	Summary		inflation ↑ GDP ↔	
» Inflation	» Inflation	» Inflation		