

Warsaw, 2 July 2010

NBP

National Bank of Poland

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

Economic Institute



CHANGES IN
THE SCENARIO

- » Review of changes
- » Model re-estimation
- » Exogenous assumptions
- » Starting point

PROJECTION

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

UNCERTAINTY

- » Risk factors

THE JUNE PROJECTION AS COMPARED TO THE FEBRUARY PROJECTION

- Change in the projection scenario
- Re-estimation of the model
- Change of exogenous assumptions
- Starting point

CHANGES IN THE SCENARIO

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» GDP and components

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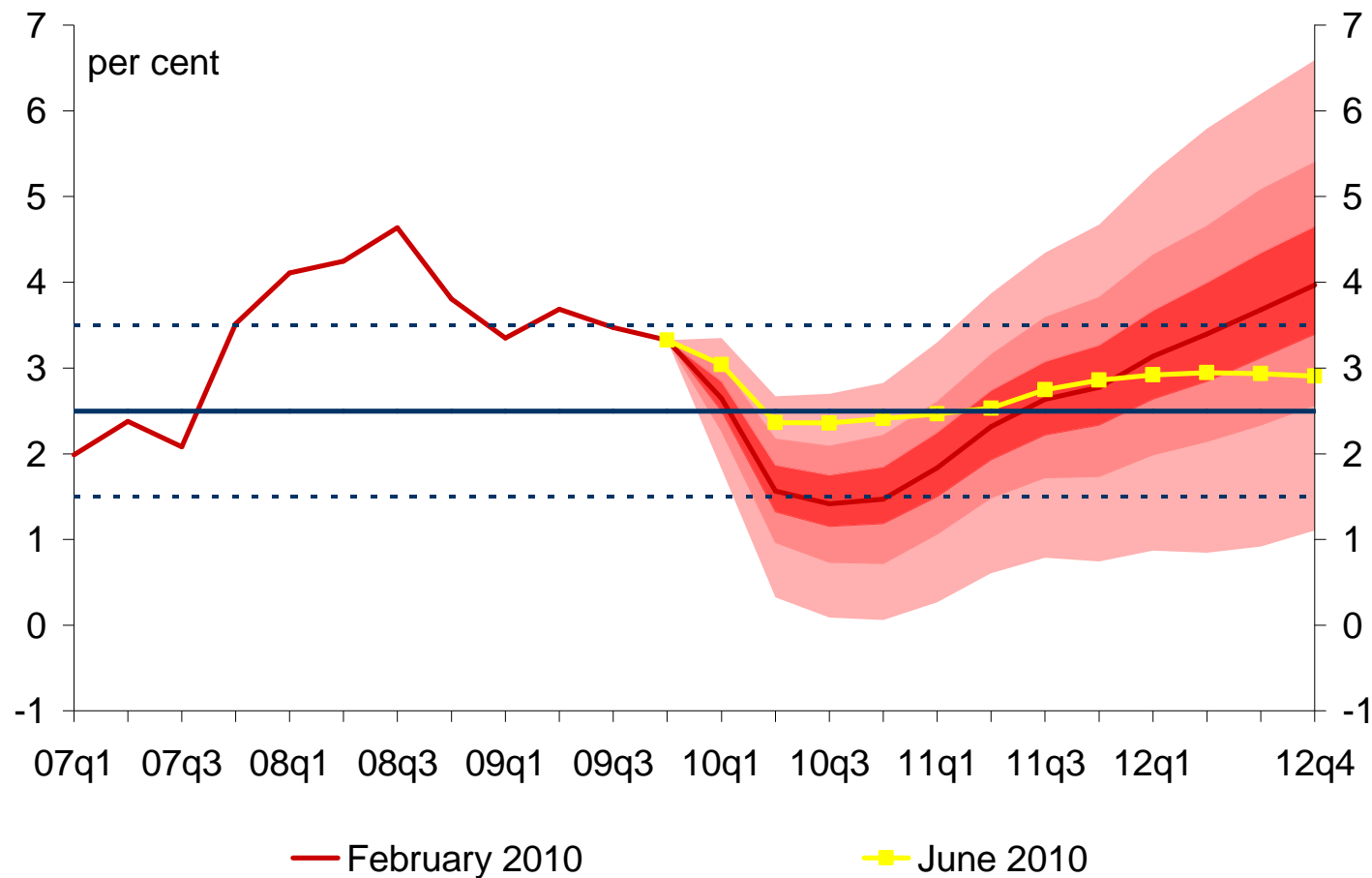
» Exchange rate

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The June projection of CPI inflation compared to the February projection



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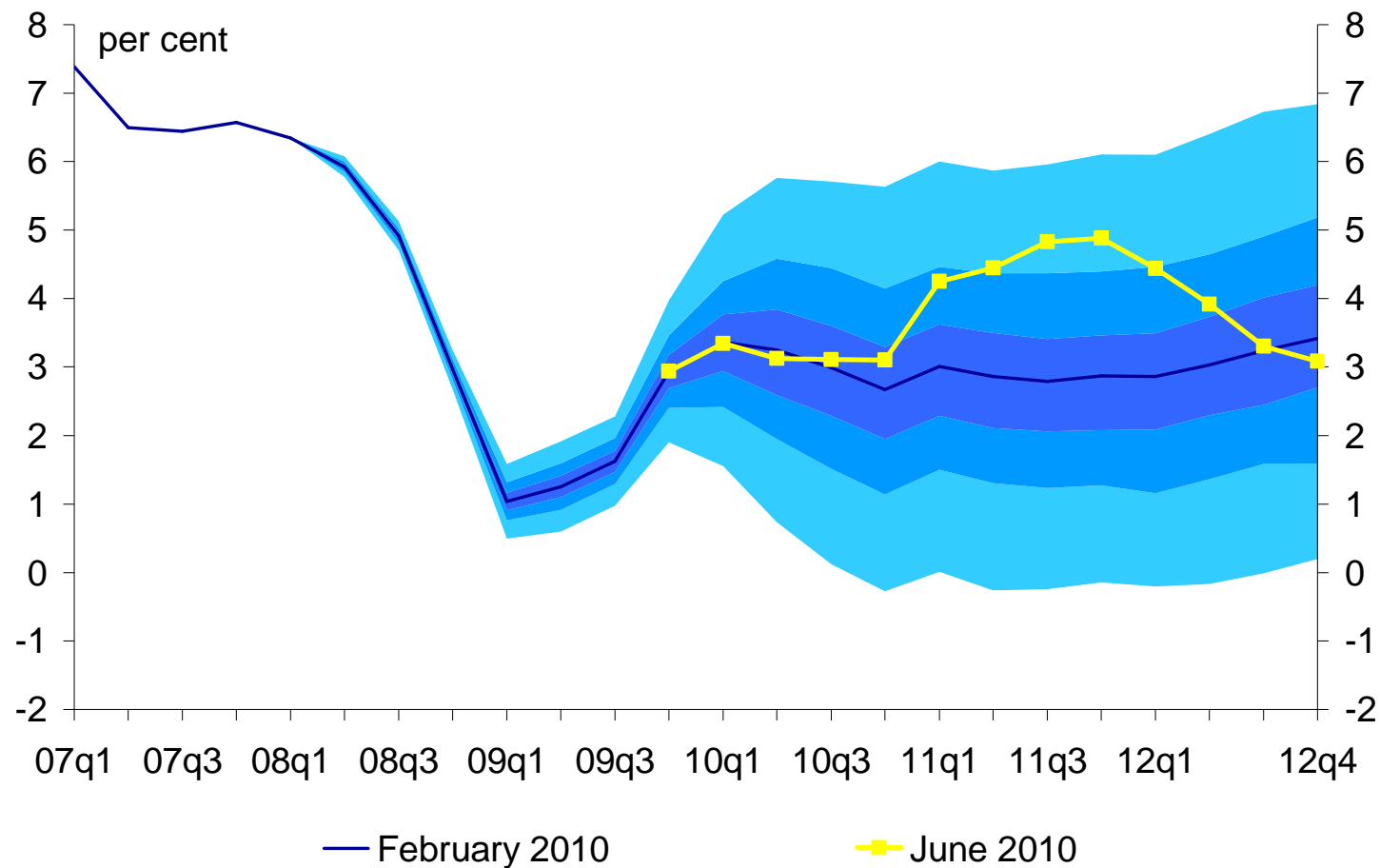
» Exchange rate

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The June projection of GDP compared to the February projection



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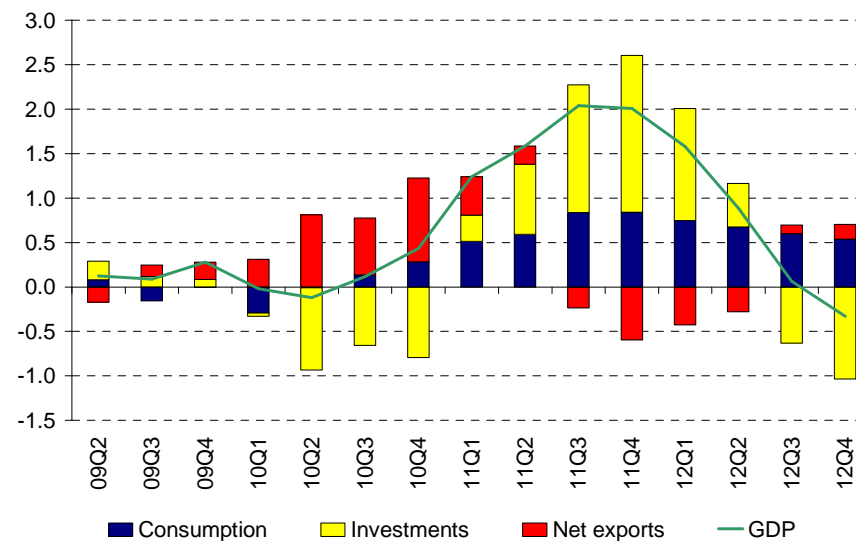
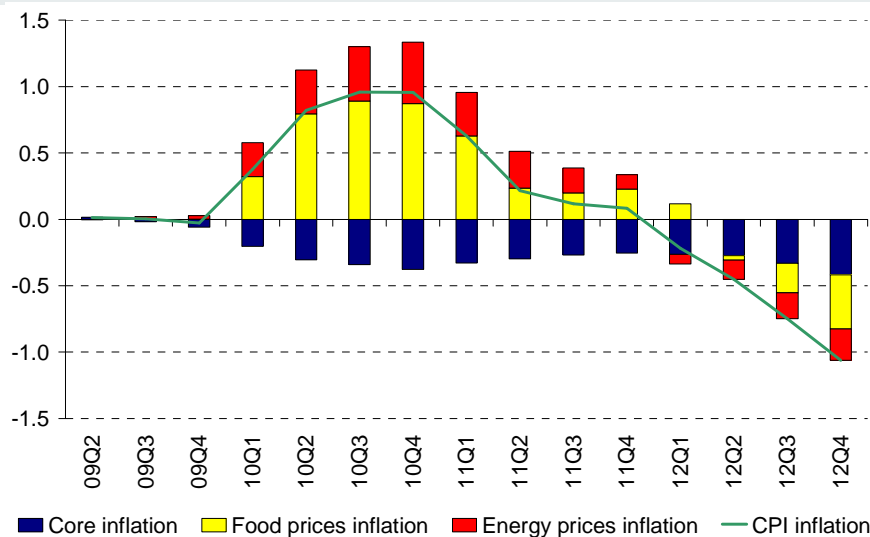
» Exchange rate

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Decomposition of the differences between the February and the June projections



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Change in the projection scenario

- Re-estimation of the model**
- Change of exogenous assumptions***
 - Weaker exchange rate of the euro against the dollar
 - Higher receipts from EU funds in 2011
- Starting point*
 - CPI: 0.4 percentage points above the February projection
 - Higher inflation of food and energy prices
 - Lower core inflation
 - GDP: in line with expectations
 - Lower domestic demand
 - Higher contribution of net exports

Scale of impact:	***	significant
	**	medium
	*	small

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Re-estimation of the model

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Re-estimation – main areas of change

- Intensification of mechanisms closing the output gap after the occurrence of disruptions.
- Reinforcement of impact of the output gap on prices.
- Re-specification of the equation of food and energy prices.
- Weakening of the effect of budget deficit and disparity of interest rates on the exchange rate.
- Change in the estimates of the income from operating surplus and income from property.
- Disaggregation of consumption.

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Change of exogenous assumptions

- Growth abroad
- Price growth abroad
- Interest rates abroad
- Energy commodity price index
- Agricultural commodity price index
- USD/EUR exchange rate
- EU funds

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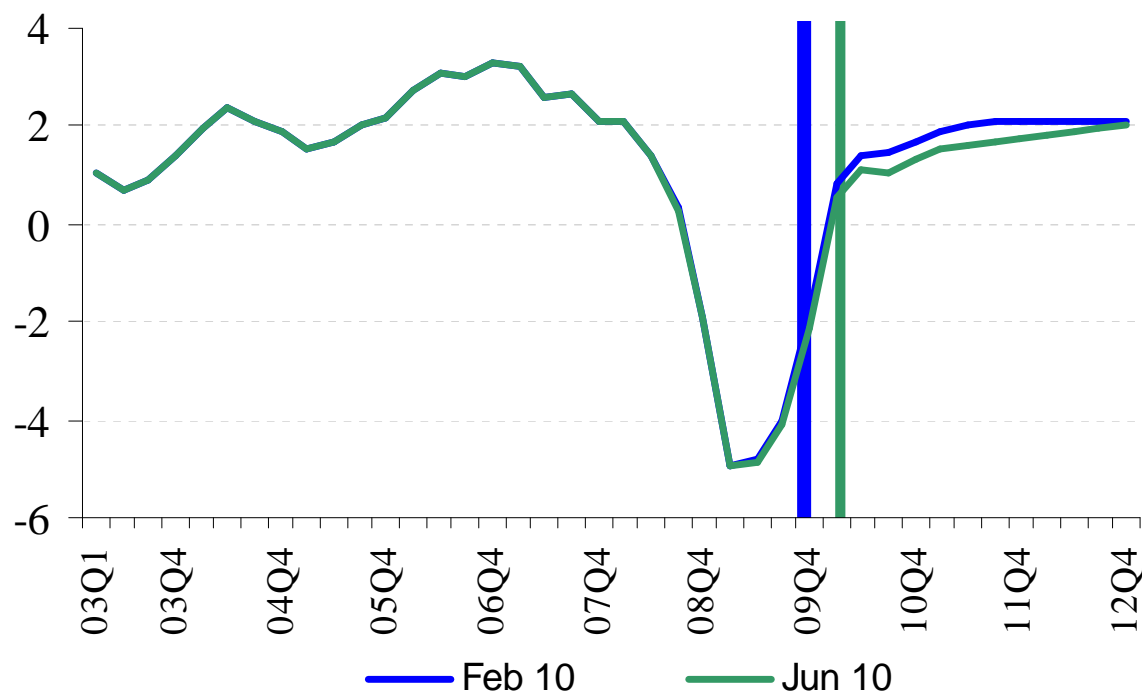
» Inflation

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Growth abroad (lower)

External GDP (y-o-y) (%)



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

- euro area (87.8%)
- Great Britain (7.2%)
- United States (5.0%)

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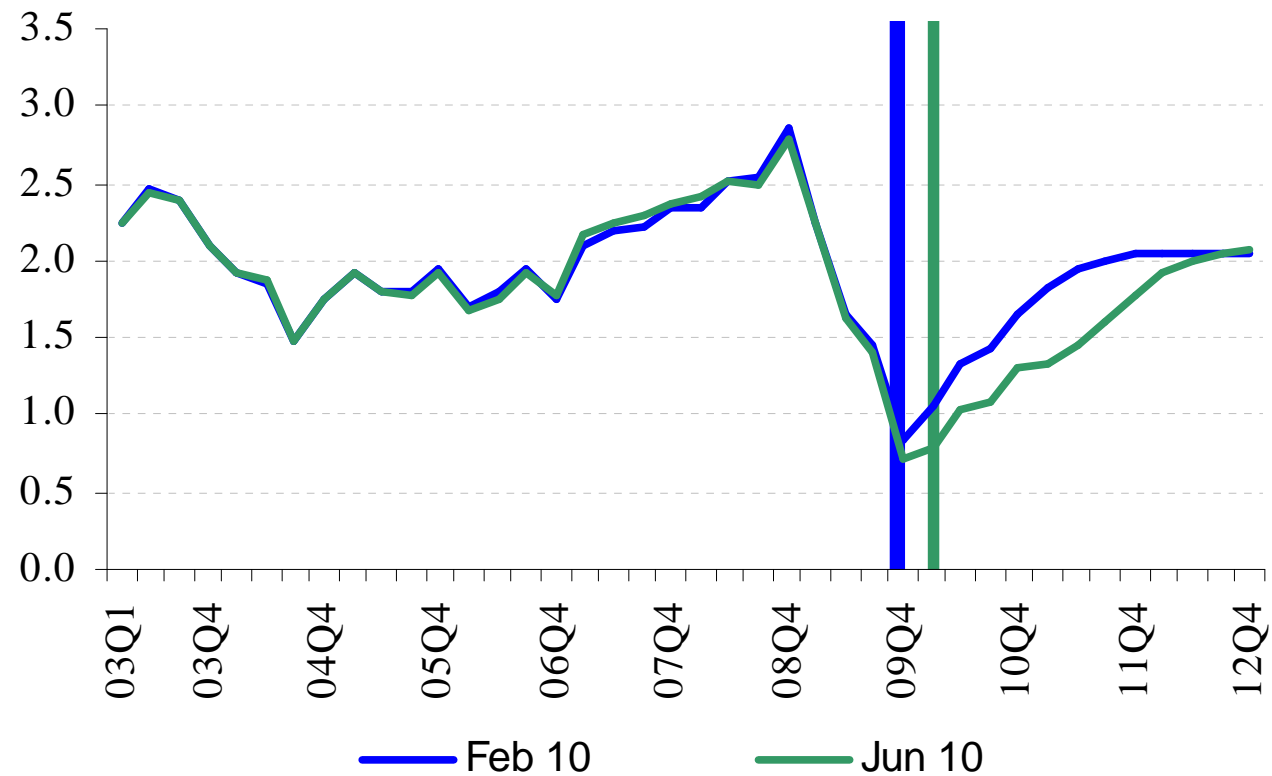
» Inflation

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Price growth abroad (lower till 2012 Q2)

External value added deflator (y-o-y) (%)



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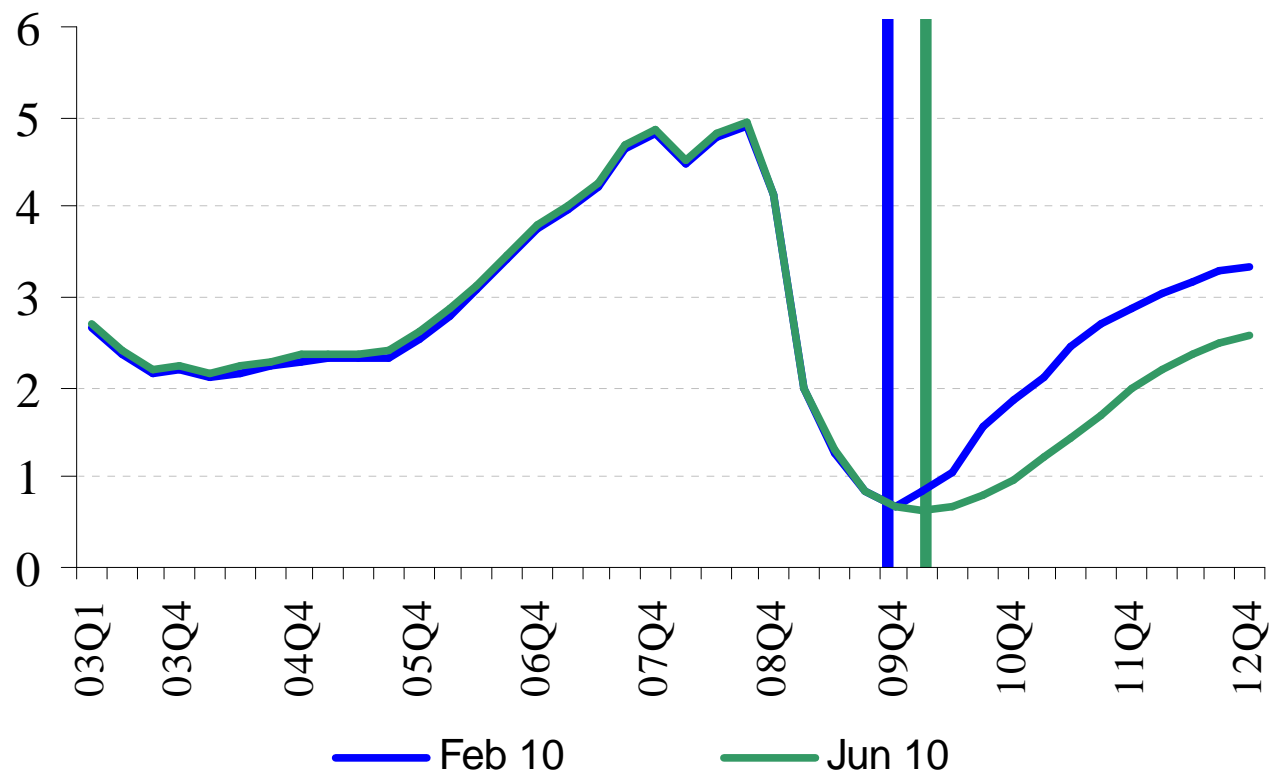
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Interest rates abroad (lower)

External interest rates



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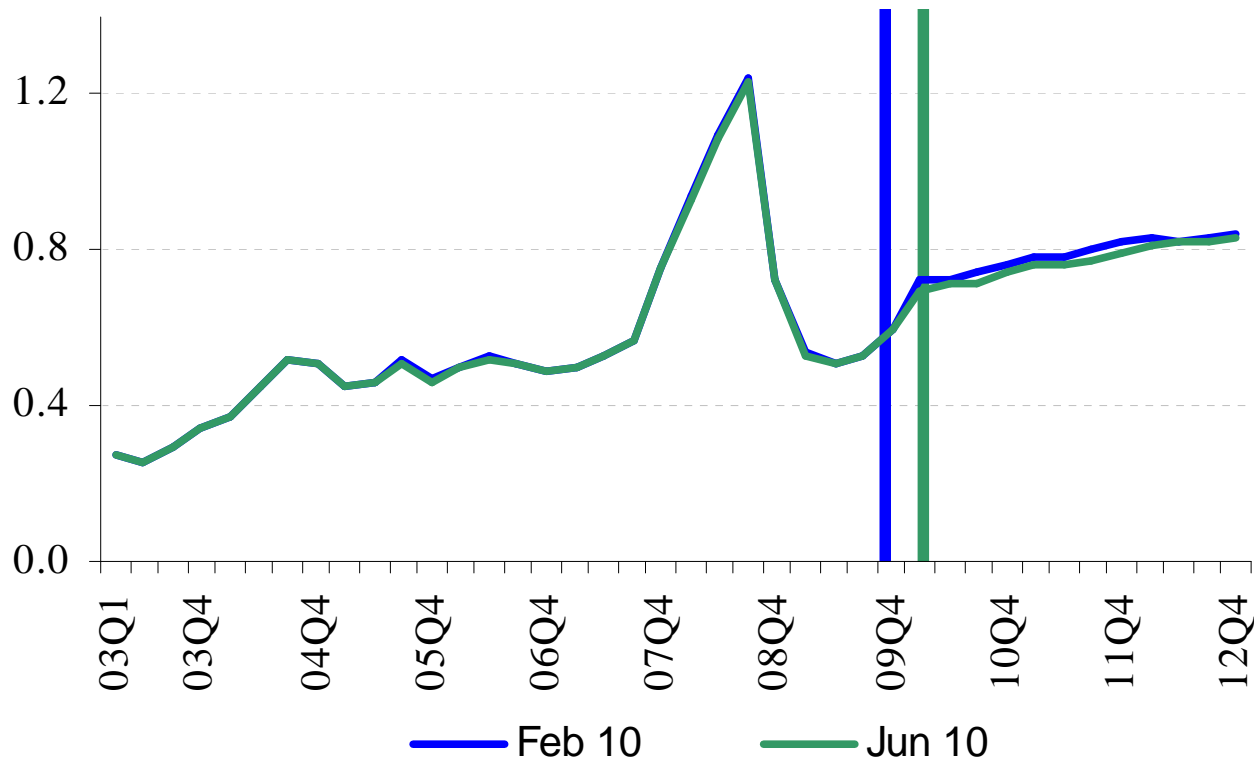
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Energy commodity price index* (slightly lower)

Energy commodity price index



* Global index of energy prices includes prices of coal, crude oil and natural gas.

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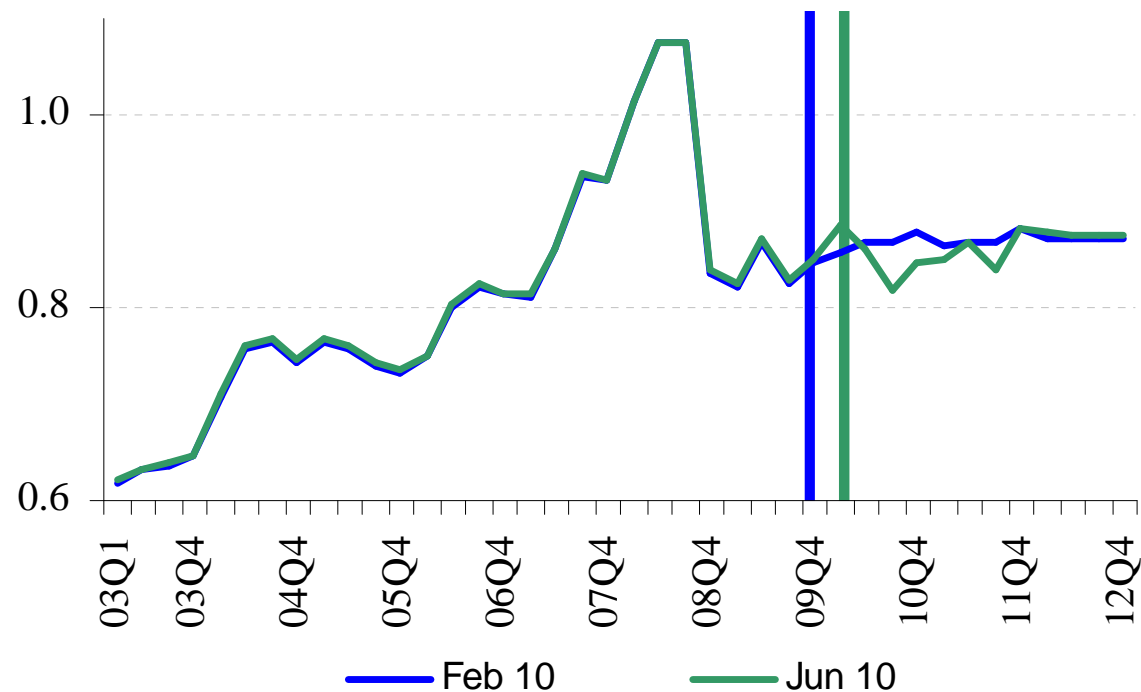
UNCERTAINTY

» Risk factors

Agricultural commodity price index *

(lower till 2011 Q3)†

Global prices of agricultural commodities



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

†Index weights represent the structure of consumer consumption (CPI basket) – the June projection consistent with the structure of 2010, the February projection – with that of 2009.

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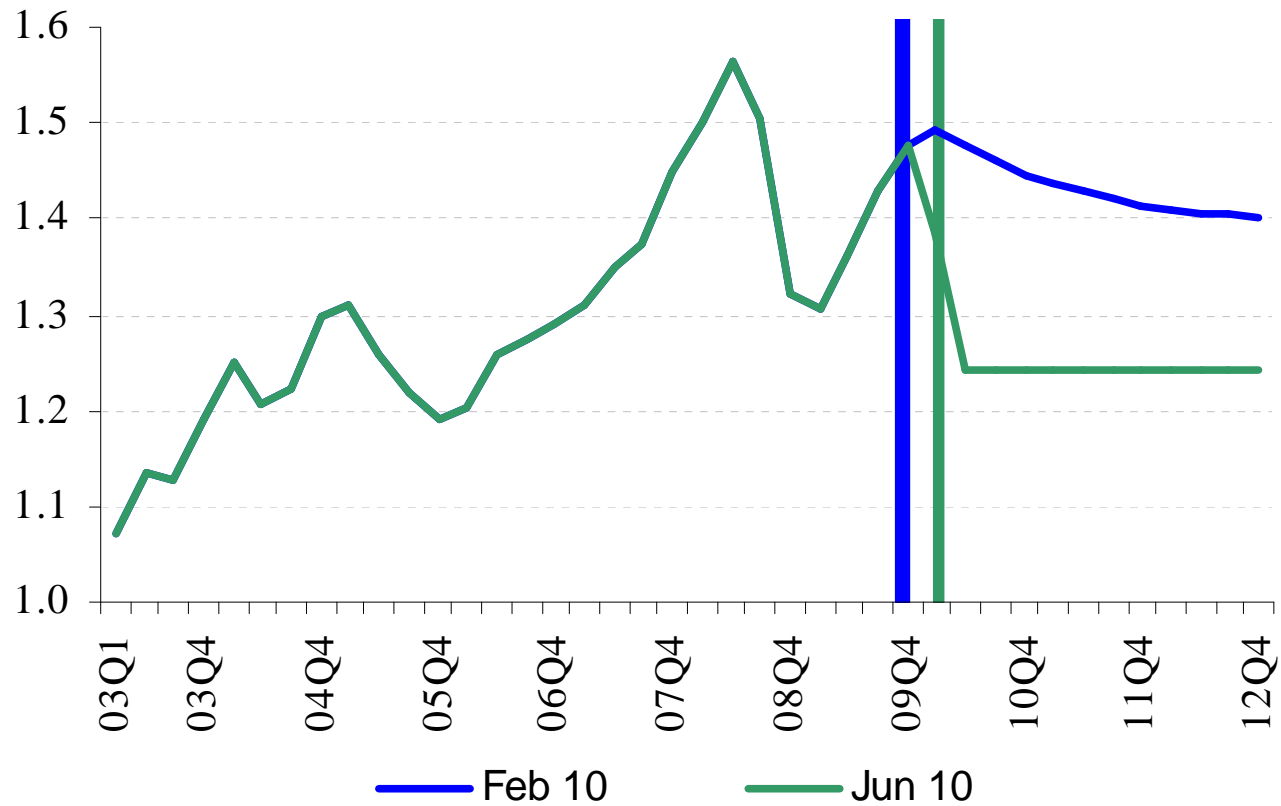
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EUR/USD exchange rate (EUR weaker against USD)

USD/EUR exchange rate



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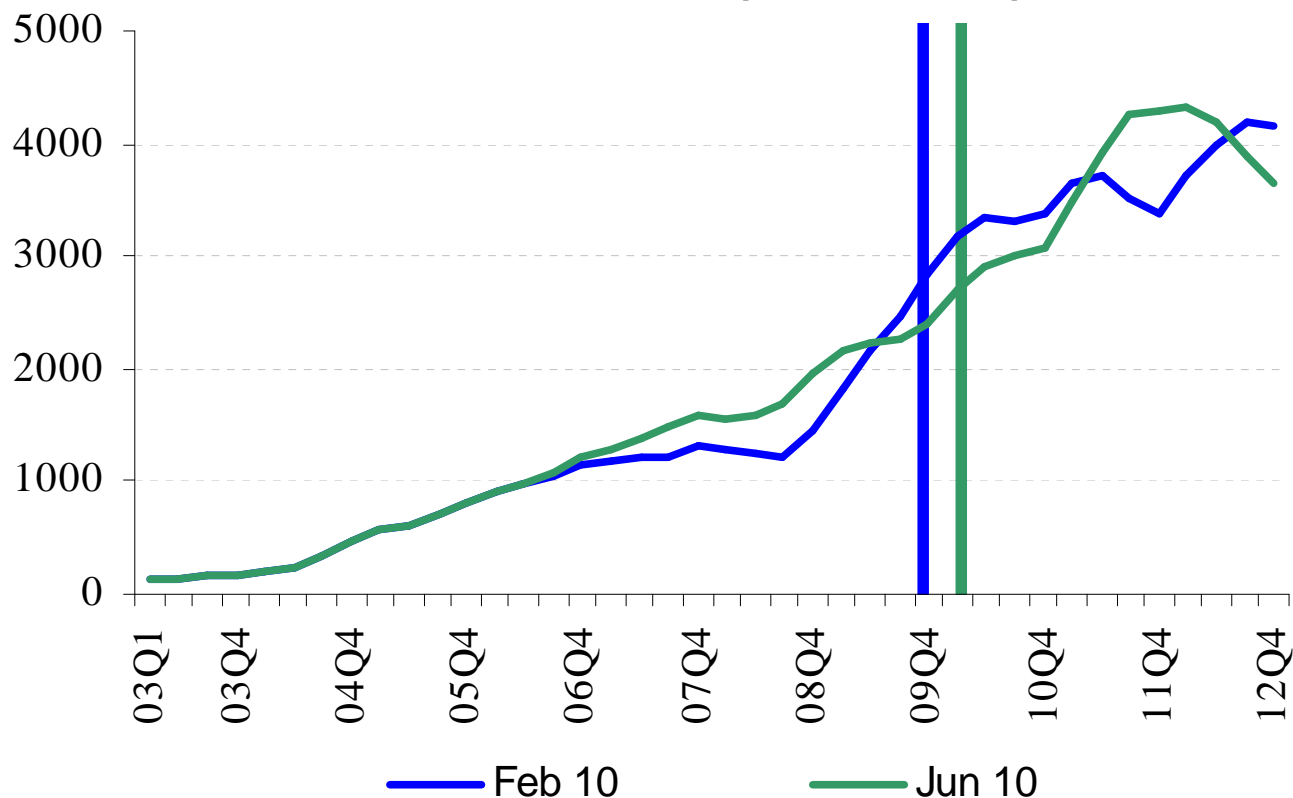
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Transfers from the EU (higher in 2011)

Funds from the EU (in Mio EUR)



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GDP and its components – starting point

	2010 Q1		
	February projection (s.a.)	June projection	GUS* estimates (31.05)
GDP (y-o-y) (%)	3.4	3.4	3.0
· Domestic demand (y-o-y) (%)	2.5	2.2	2.2
- Individual consumption (y-o-y) (%)	2.3	1.6	2.2
- Collective consumption (y-o-y) (%)	1.5	1.5	2.2
- Gross fixed capital formation (y-o-y) (%)	-0.5	-4.4	-12.4
· Contribution of net exports (pp)	0.9	1.2	0.7
- Exports (y-o-y) (%)	-0.3	10.4	9.8
- Imports (y-o-y) (%)	-2.4	7.4	7.9

* Central Statistical Office

Labour market – starting point

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	2010 Q1		
	February projection (s.a.)	June projection*	BAEL (LFS) data (26.05)
ULC (s.a.) (y-o-y) (%)	-0.4	0.2	-
Labour productivity (y-o-y) (%)	4.0	3.2	-
Wages (y-o-y) (%)	4.2	4.1	-
Number of working persons according to BAEL (y-o-y) (%)	-0.6	0.1	-0.9
Unemployment according to BAEL (s.a.) (%)	9.6	8.5	10.6
Labour market participation rate (s.a.) (%)	55.0	55.1	55.2

* In the June projection, due to significant differences between the adopted starting point and LFS data, the data for 2010 Q1 have been adjusted (the number of working persons and the economically active).

Inflation – starting point

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	2010 Q1	
	February projection (s.a.)	June projection
CPI inflation (y-o-y) (%)	2.6	3.0
Core inflation (y-o-y) (%)	2.7	2.2
Inflation of food prices (y-o-y) (%)	1.1	2.4
Inflation of energy prices (y-o-y) (%)	5.1	7.0

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JUNE PROJECTION for 2010-2012

- GDP and its components
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Investment outlays (alternately)

CHANGES IN THE SCENARIO

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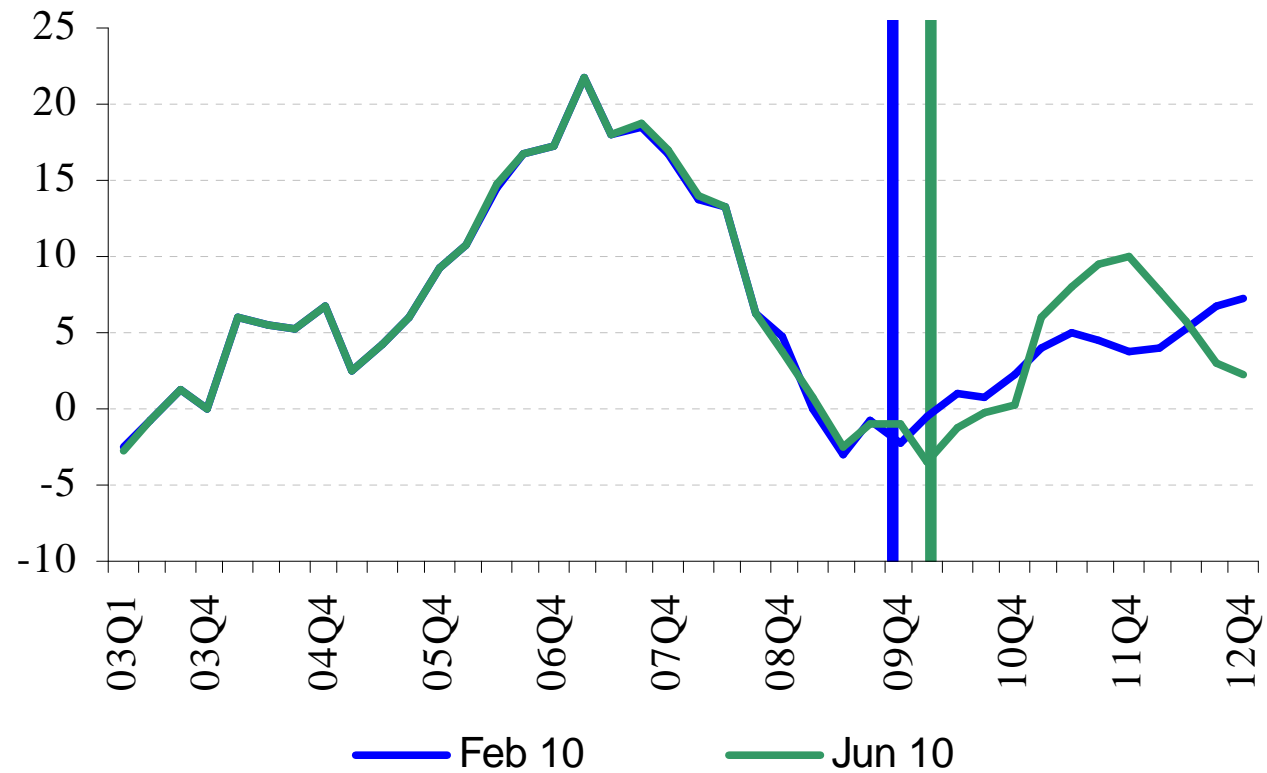
PROJECTION

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Gross fixed capital formation (y-o-y) (%)



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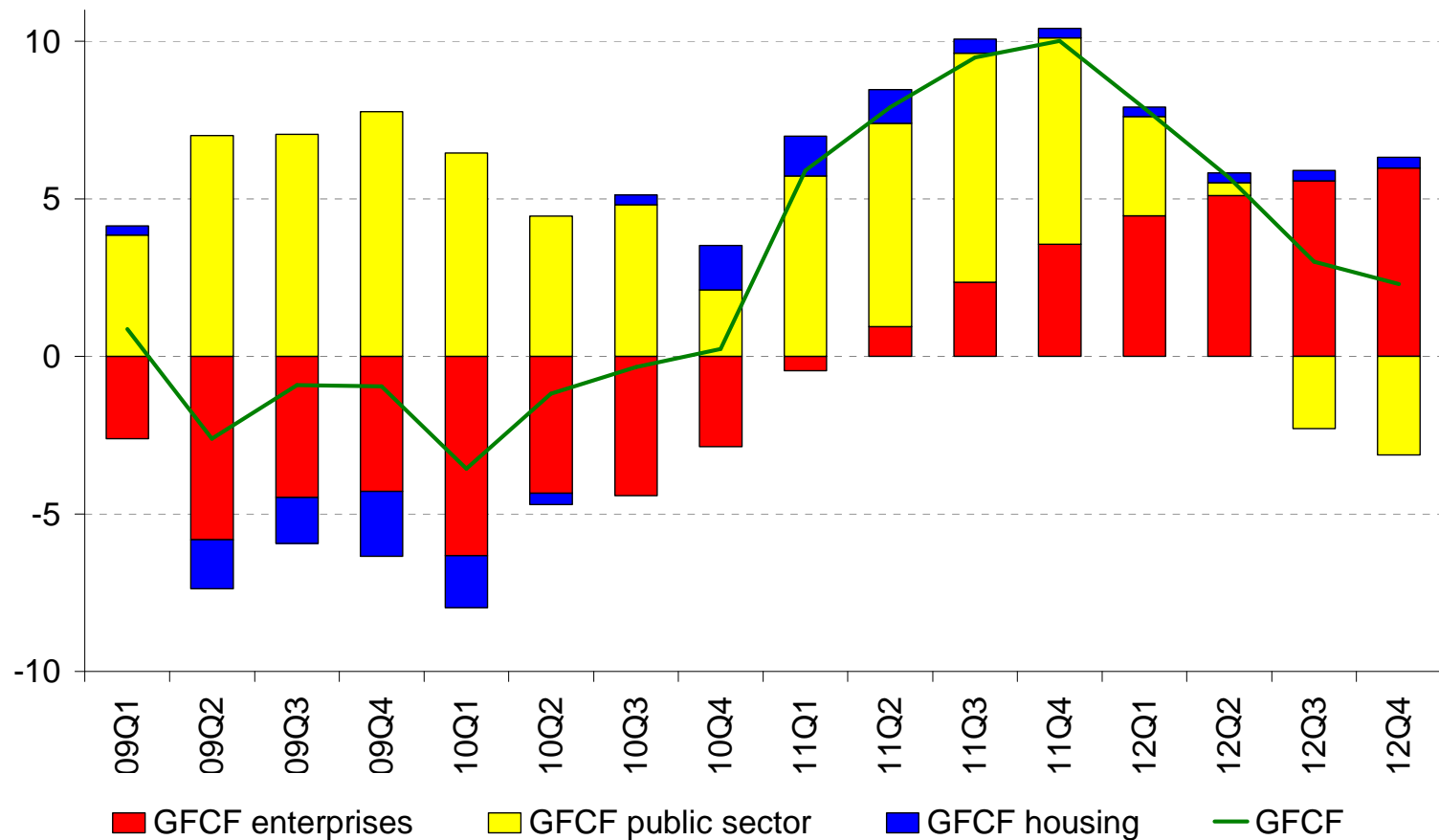
PROJECTION

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Gross fixed capital formation: decomposition



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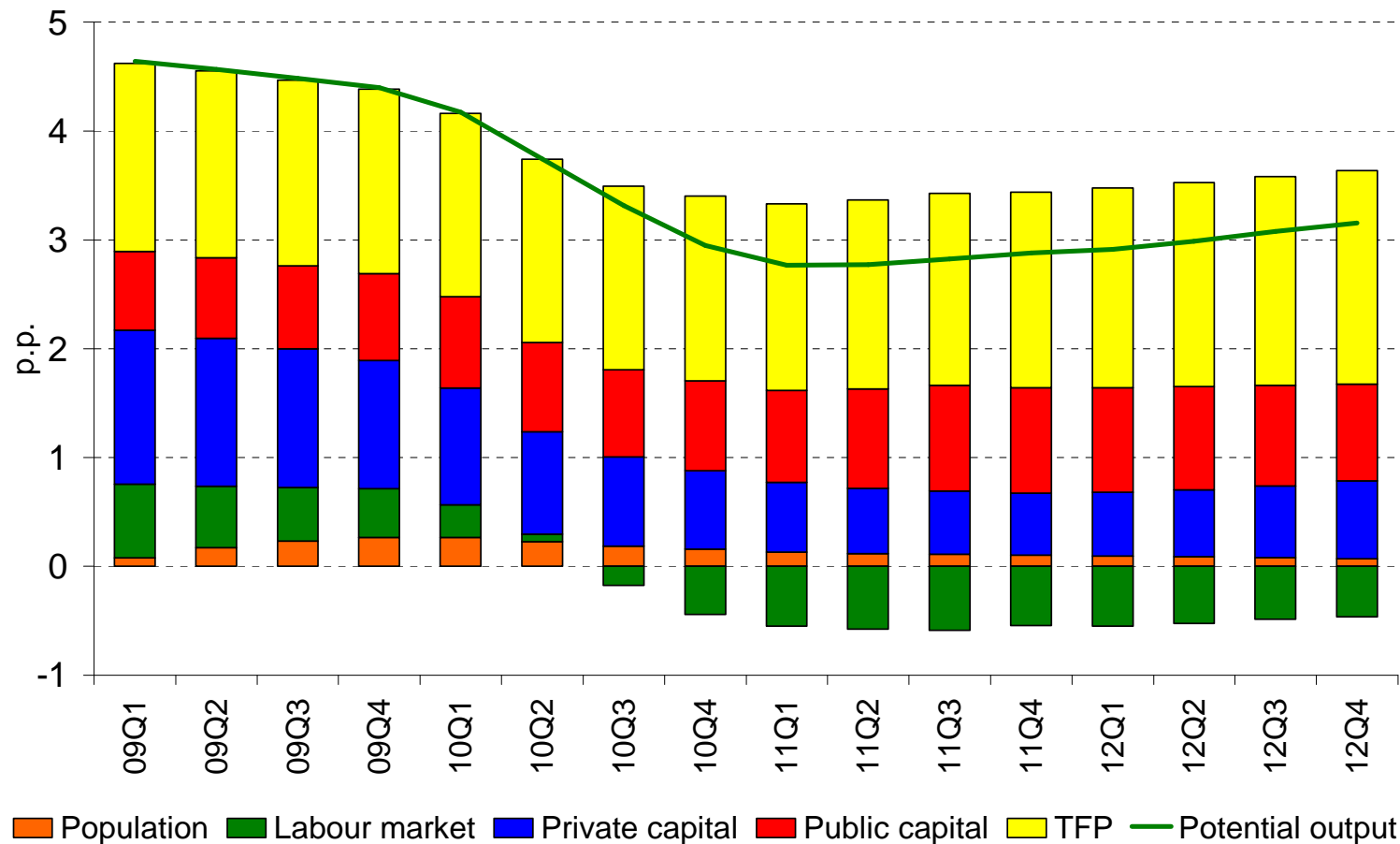
PROJECTION

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Decomposition of potential output growth



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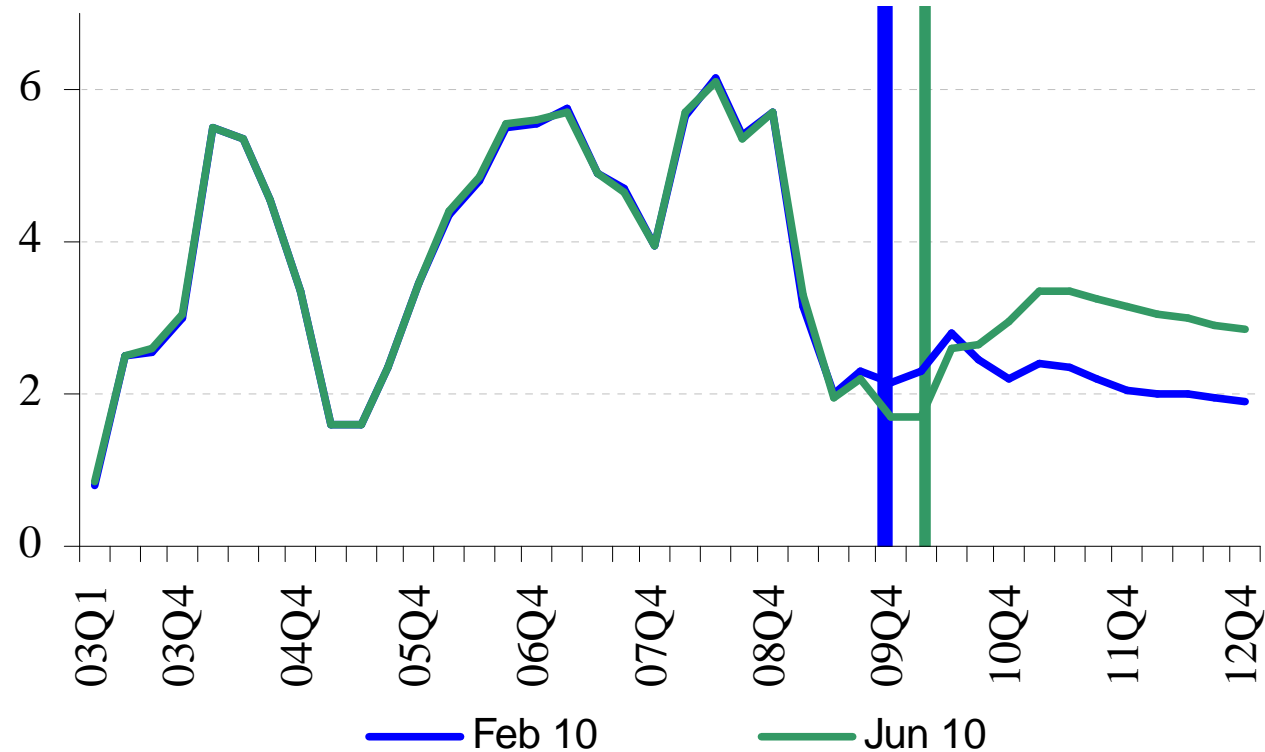
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- » Risk factors

Individual consumption (higher from 2010 Q3)

Individual consumption (y-o-y) (%)



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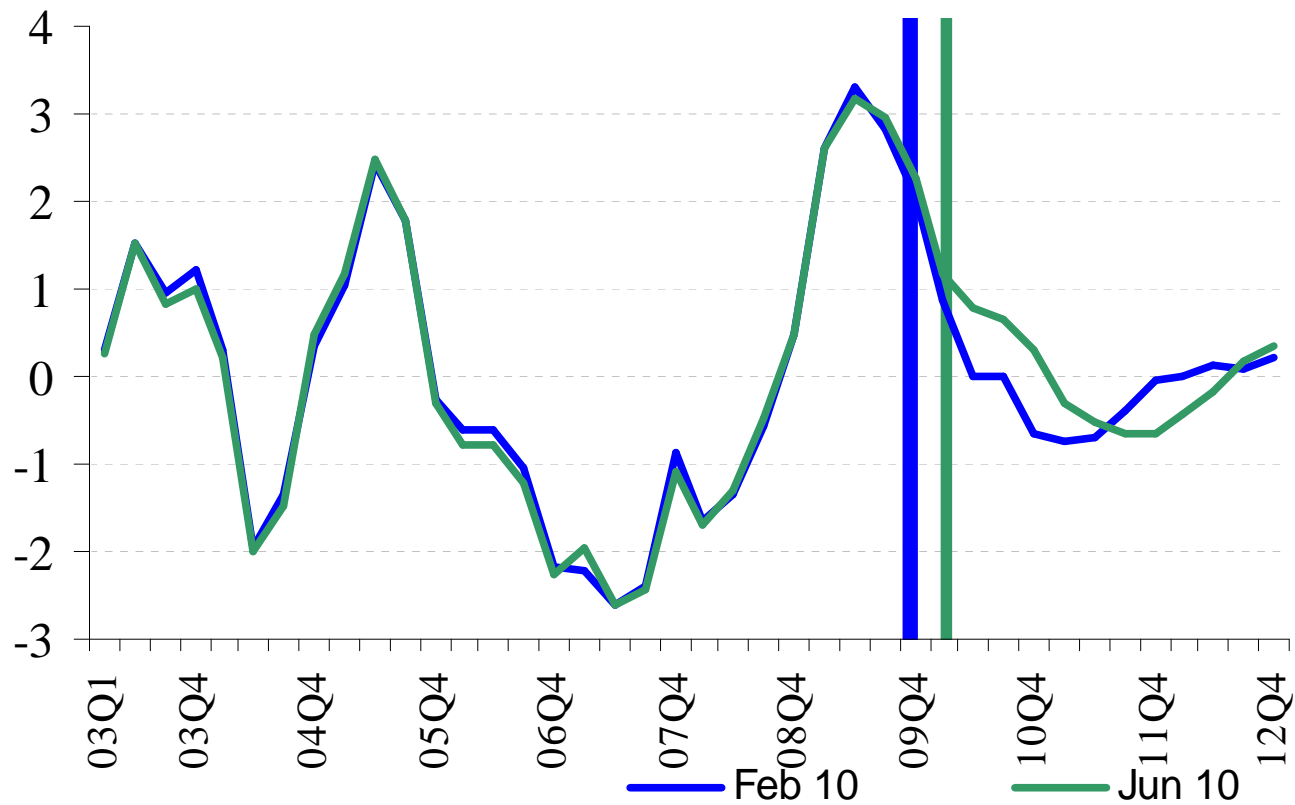
- » GDP and components
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UNCERTAINTY

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Contribution of net exports (higher till 2011 Q2)

Contribution of net exports (pp)



GDP

(higher from 2010 Q3 till 2012 Q2)

CHANGES IN THE SCENARIO

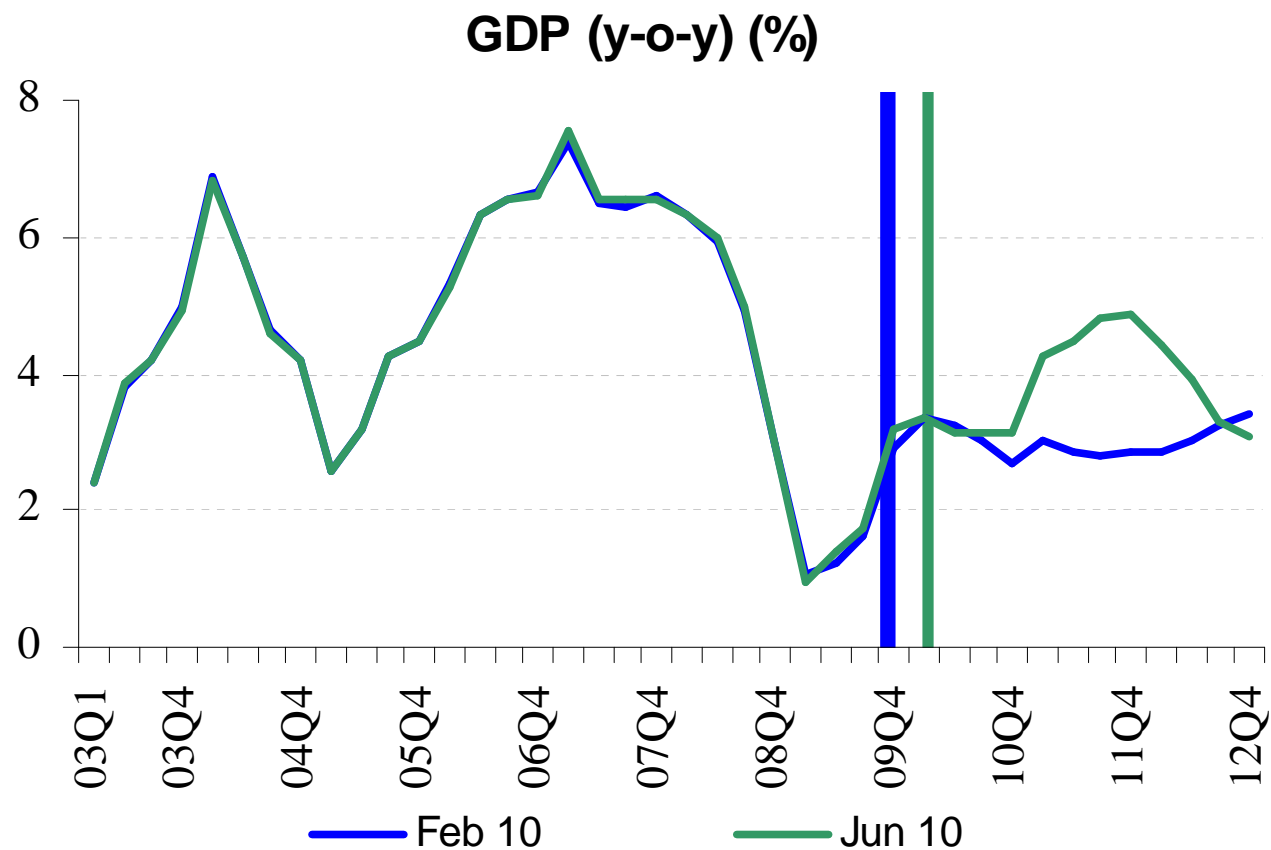
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UNCERTAINTY

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Labour market

(similar change rate in the number of working persons and the unemployment rate, lower growth rate of wages till 2011 Q1, lower ULC)

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PROJECTION

» GDP and components

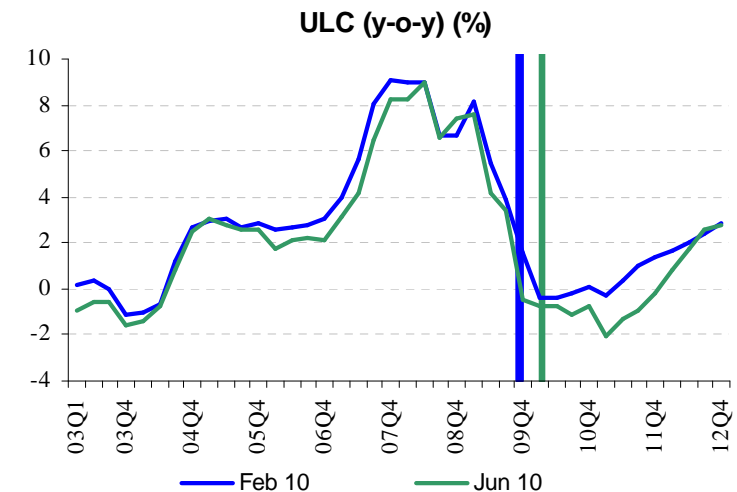
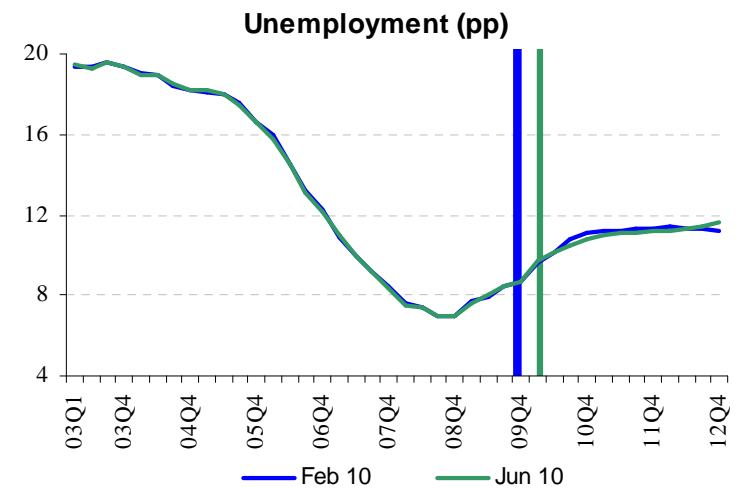
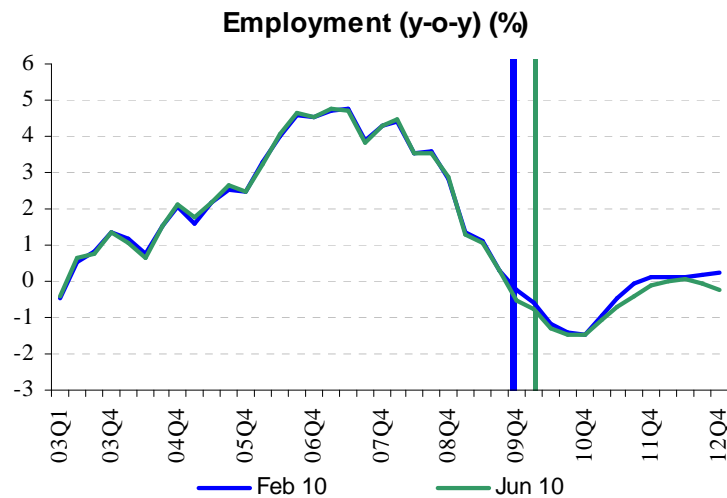
» Labour market

» Exchange rate

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Exchange rate (stronger)

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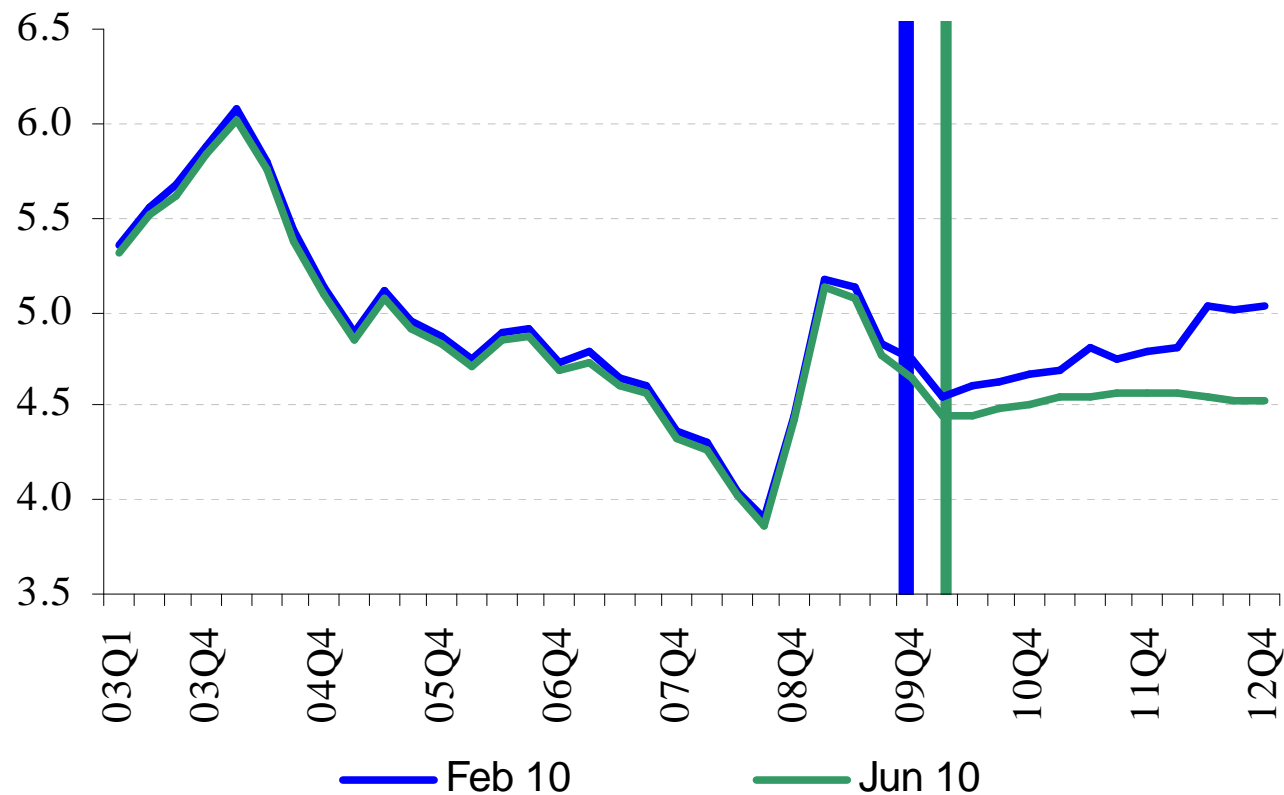
PROJECTION

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Real effective exchange rate (REER)



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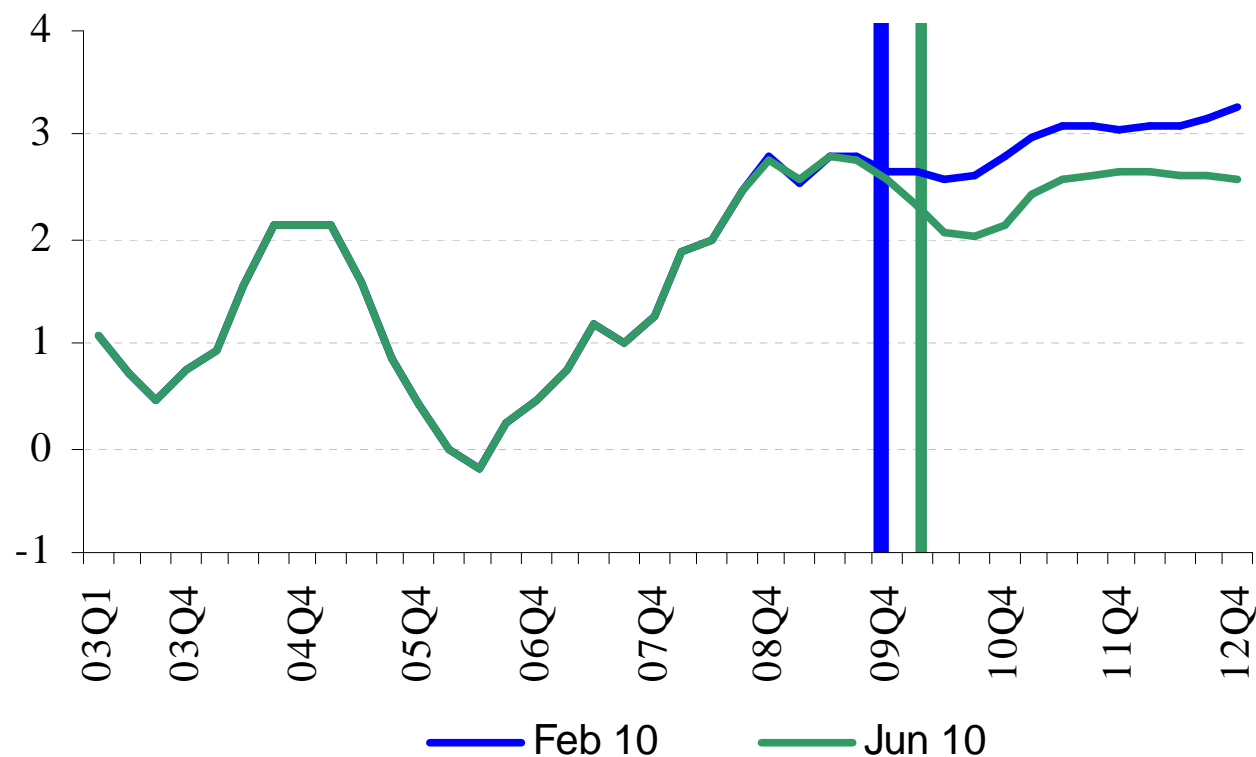
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Core inflation * (lower)

Core inflation (%)



* Core inflation does not include prices of food and non-alcoholic beverages or energy prices

Determinants of core inflation

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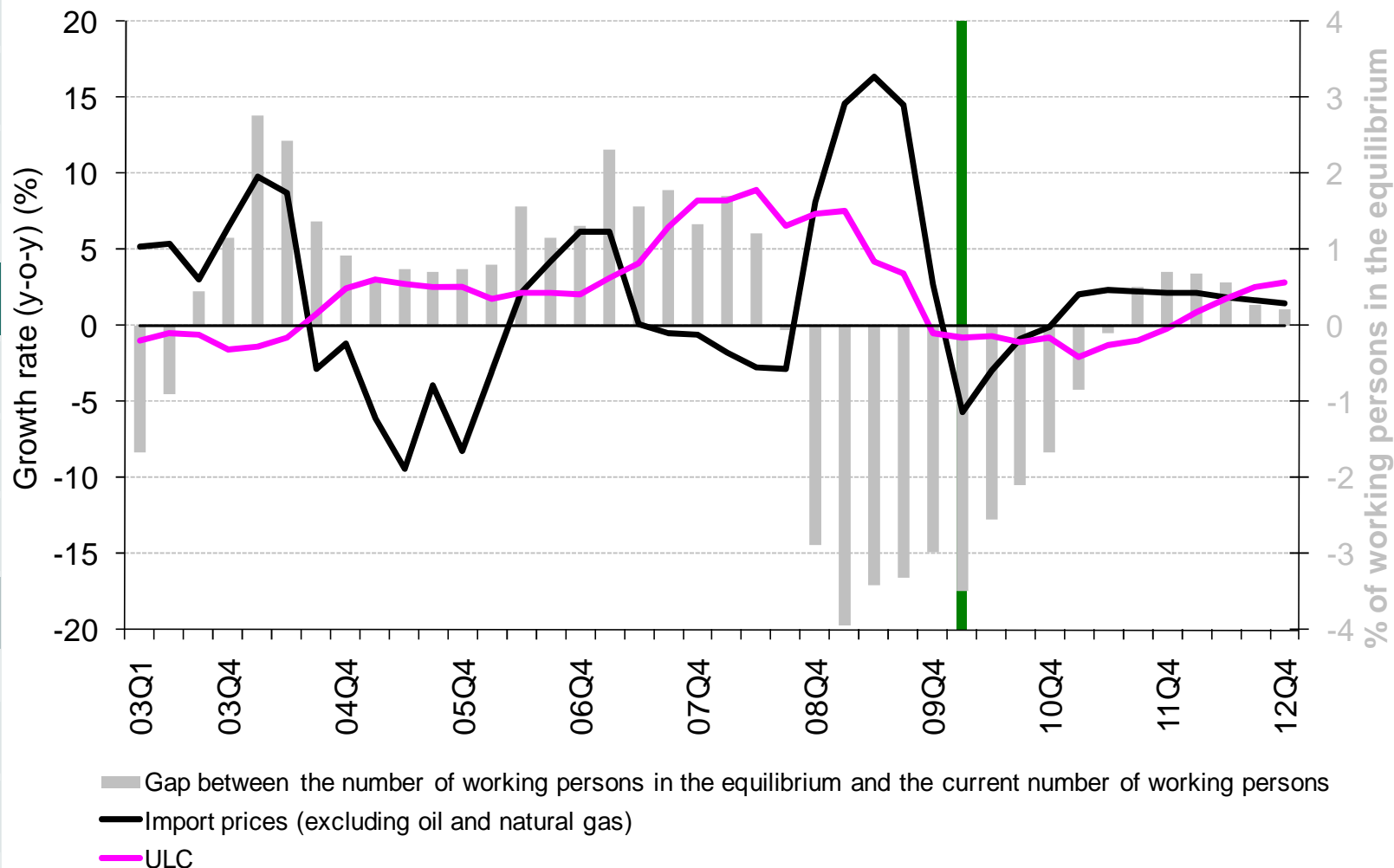
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Inflation of food and energy prices (food growth rate higher till 2012 Q1, higher growth rate of energy prices till 2011 Q4)

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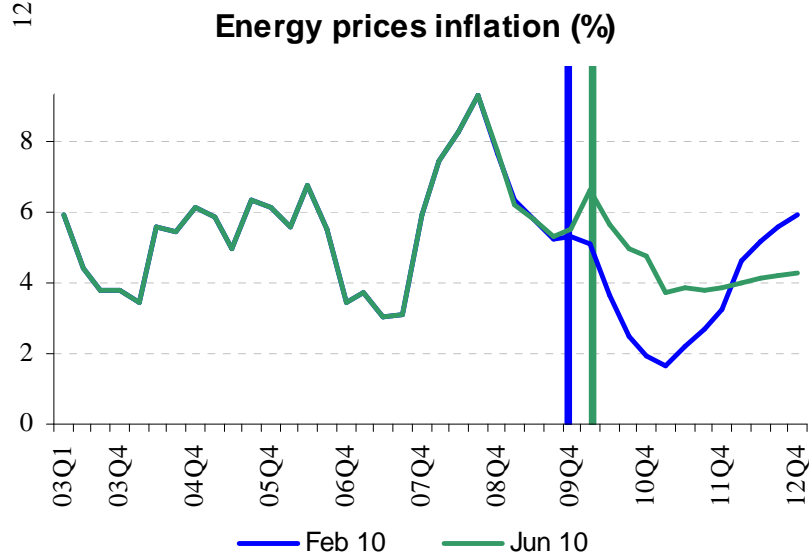
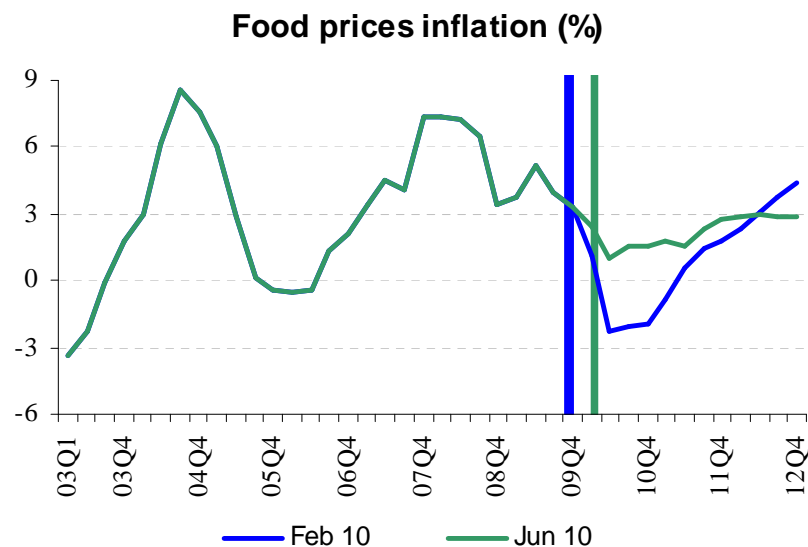
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CPI inflation

(higher till 2011 Q4)

CHANGES IN THE SCENARIO

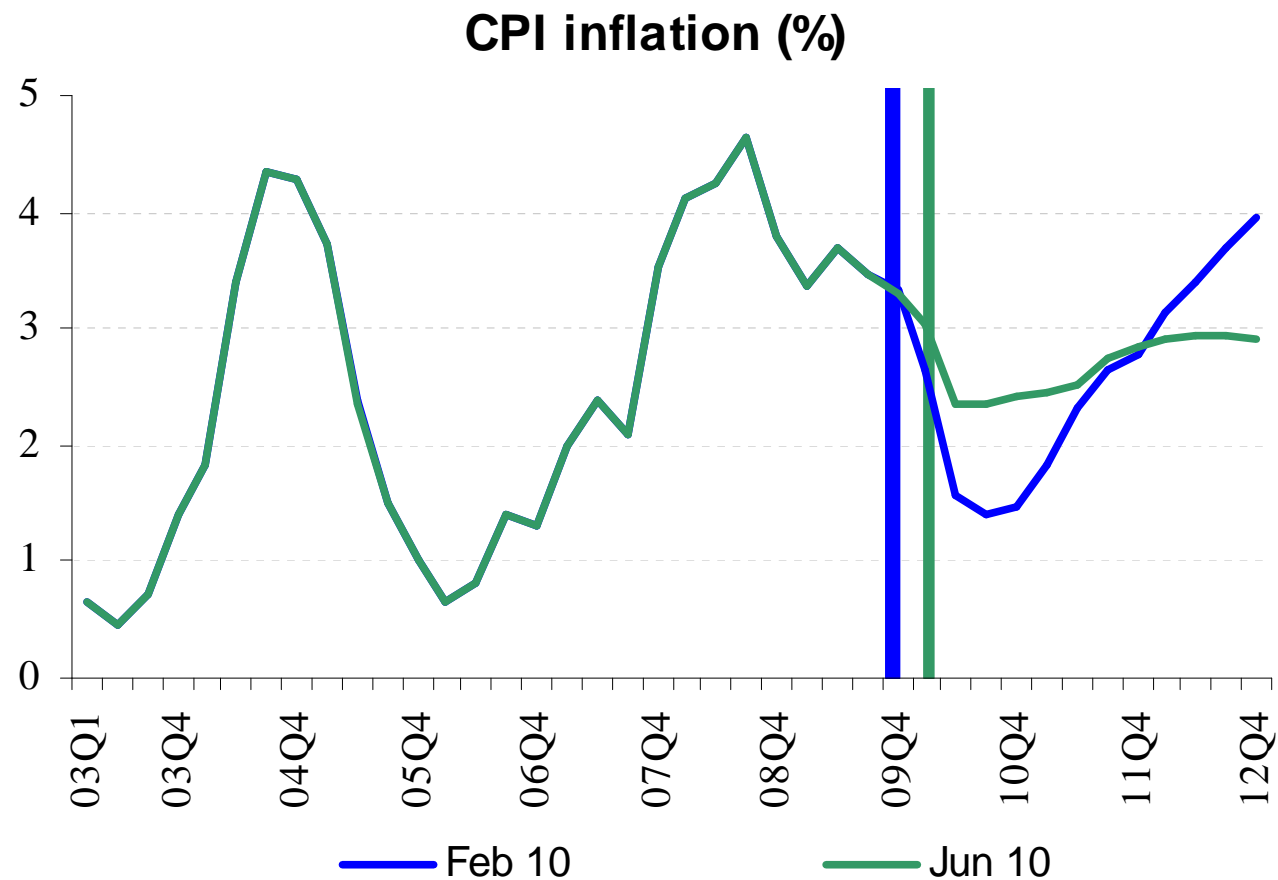
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Inflation projection – June 2010

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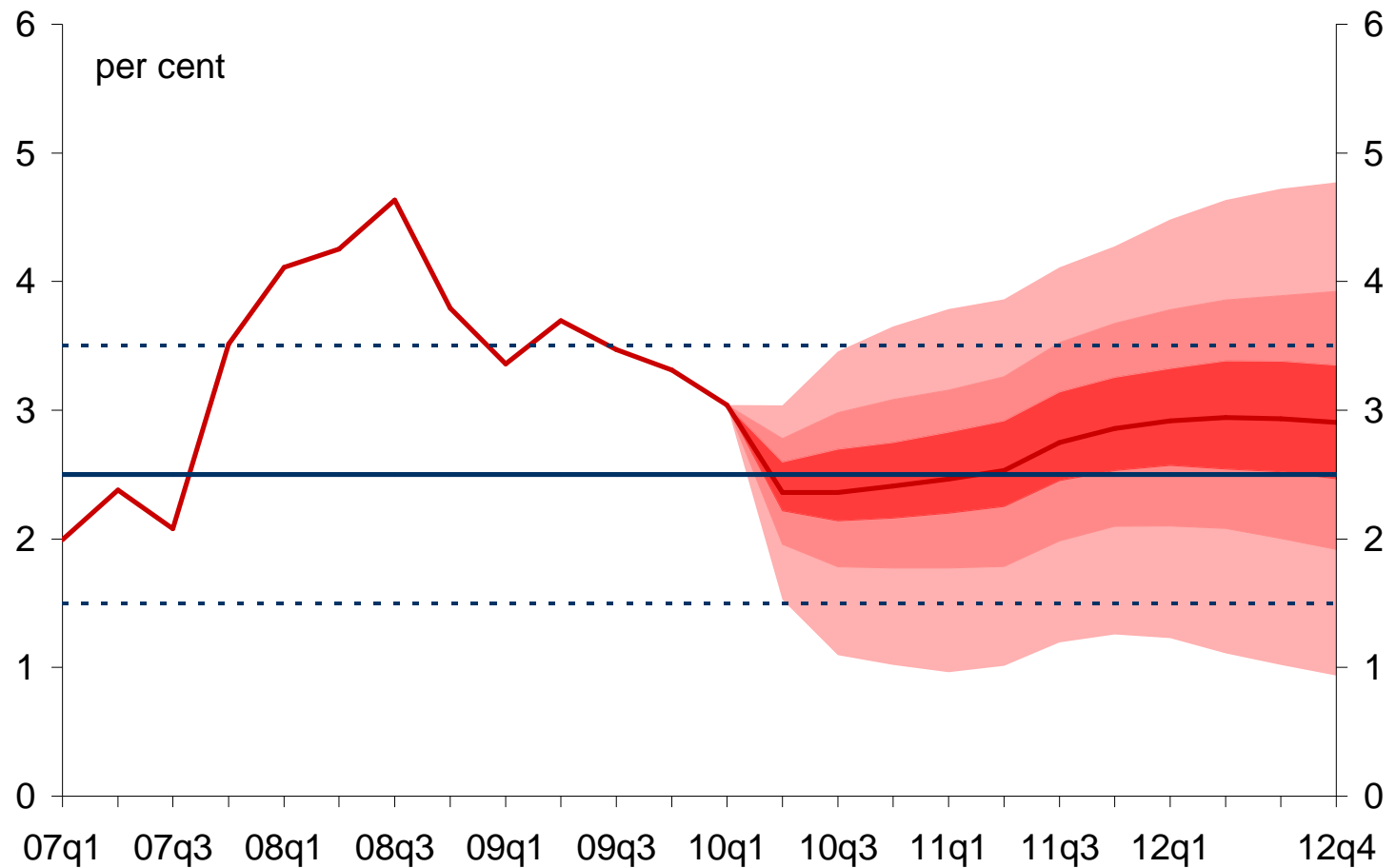
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Probability distribution of inflation

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Probability of inflation running					
	below 1.5%	below 2.5%	below 3.5%	below the central path	in the range (1.5%; 3.5%)
2010 Q2	0.05	0.57	1.00	0.46	0.95
2010 Q3	0.12	0.55	0.96	0.47	0.84
2010 Q4	0.13	0.52	0.93	0.47	0.80
2011 Q1	0.13	0.49	0.90	0.47	0.76
2011 Q2	0.12	0.46	0.88	0.47	0.76
2011 Q3	0.09	0.37	0.79	0.48	0.70
2011 Q4	0.08	0.34	0.74	0.48	0.67
2012 Q1	0.08	0.32	0.72	0.49	0.64
2012 Q2	0.09	0.33	0.70	0.49	0.61
2012 Q3	0.10	0.34	0.69	0.50	0.59
2012 Q4	0.12	0.36	0.69	0.49	0.57

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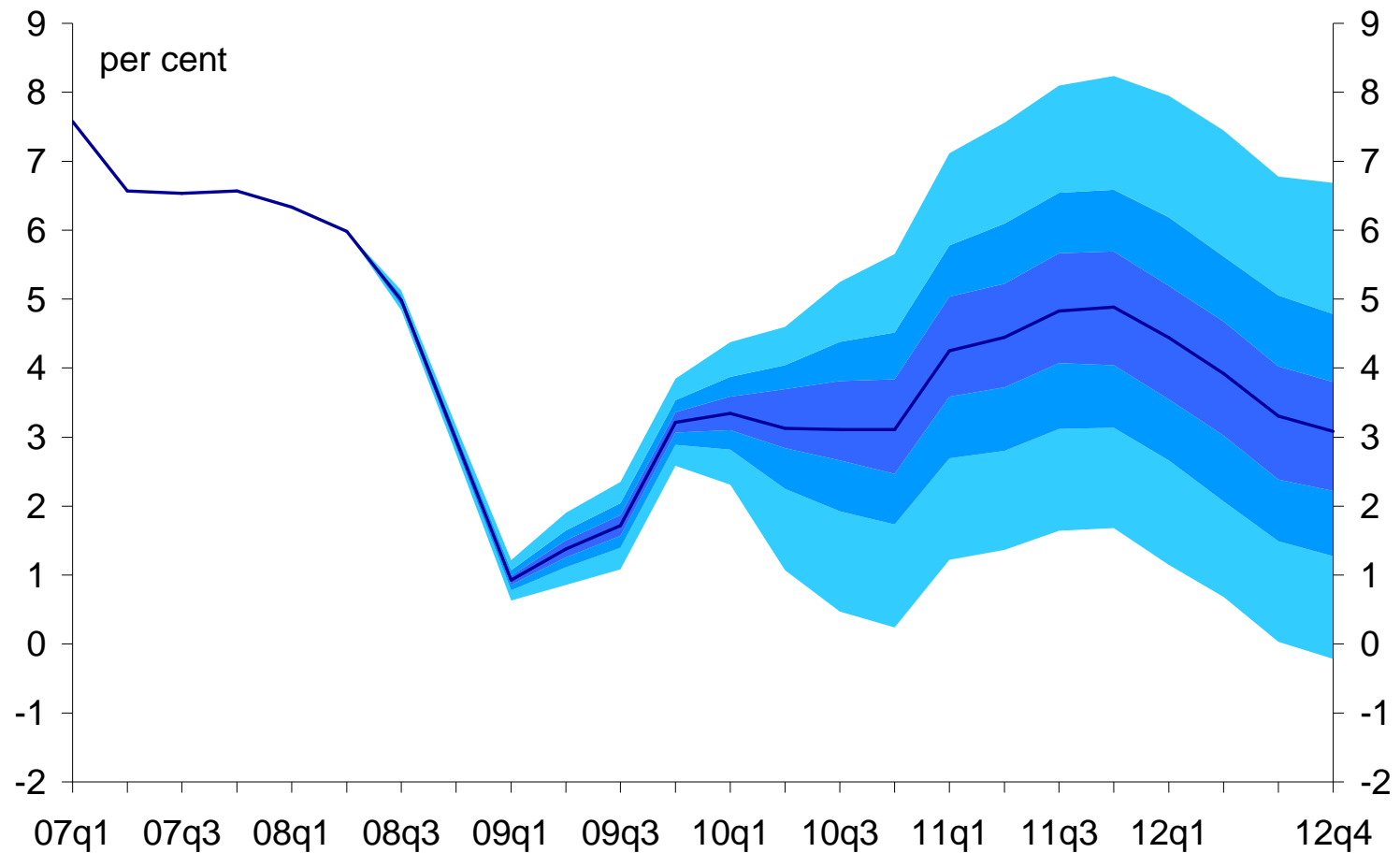
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GDP projection – June 2010



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UNCERTAINTY OF THE PROJECTION

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Risk factors not accounted for in the projection

Scale of impact:	***	significant
	**	medium
	*	small

CHANGES IN THE SCENARIO	Risk area	Description	Impact	Scale of impact
» Review of changes				
» Model re-estimation	External environment	<ul style="list-style-type: none"> ▪ The uncertainty with respect to the rate of monetary and fiscal policy tightening in the euro area and the ensuing risks for growth and inflation in Poland's main trade partners. ▪ High uncertainty in the world financial markets connected with the effects of increasing indebtedness of some euro-area countries. ▪ Developments of commodity prices and cross exchange rates (including, in particular, USD/EUR exchange rate). 	inflation ↔ GDP ↔	***
» Exogenous assumptions				
» Starting point				
PROJECTION				
» GDP and components	Recovery in domestic demand	<ul style="list-style-type: none"> ▪ Lower than accounted for in the projection level of EU fund utilisation. ▪ Fiscal policy adjustments (on the revenue and expenditure side) in connection with consolidation measures announced by the government (among others, spending rule, freezing public sector wages in 2011). ▪ Nature of adjustments in the private sector in Poland as the economy enters the recovery phase – developments in inventories and investments 	inflation ↓ GDP ↓	**
» Labour market				
» Exchange rate				
» Inflation				
UNCERTAINTY				
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National Bank of Poland

CHANGES IN THE SCENARIO	Risk area	Description	Impact	Scale of impact
» Review of changes				
» Model re-estimation	Food and energy prices of Poland	<ul style="list-style-type: none"> ▪ Significant uncertainty of the future effective exchange rate of the zloty, connected, among others, with real and nominal economic developments around the world and in Poland, the rate of accumulation of general government sector debt and international financial flows. ▪ Unknown scale of regulatory measures in the energy market in Poland. ▪ Uncertainty as to the impact EU regulation on prices in Poland (connected, among others, with natural environment protection, including carbon dioxide emissions, and regulatory measures in the food market). 	inflation ↔ GDP ↔	**
» Exogenous assumptions				
» Starting point				
PROJECTION				
» GDP and components				
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» Exchange rate	Data after the cut-off date	<ul style="list-style-type: none"> ▪ GUS estimate of GDP 0.4 percentage points lower than assumed at the starting point of the projection. ▪ Higher than expected data on the path of agricultural commodity prices in the world markets in May 2010. 	inflation ↑ GDP ↓	*
» Inflation				
UNCERTAINTY				
» Risk factors	Summary		inflation ↔ GDP ↓	